

# **High School Longitudinal Study of 2009 (HSLs:09) Base Year to First Follow-Up Data File Documentation**

## **Appendixes**

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# High School Longitudinal Study of 2009 (HSLs:09) First Follow-Up Data File Documentation

October 2013

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**Appendix A.**  
**First Follow-up Questionnaires**

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**Student ..... A-3**

**Parent ..... A-97**

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## Student

### Section A: Screening and Schools Attended

#### Screen: S2AINTRO

**Question Wording:** Next, we'd like to ask some questions about the schools you have attended.

**Routing:** If respondent is participating in school and the school enrollment status information indicates they are a student, then define respondent as "regular student" and go to S2 A11; If respondent is participating in school and the school enrollment status information indicates they are a transfer, then define respondent as "transfer student" and go to S2 A03; Else if respondent is participating in school, go to S2 A02; Else go to S2 A01.

#### Screen: S2 A01

**Question Wording:** [Are you currently/At the end of the spring 2012 term, were you] attending high school, not attending high school, or being homeschooled?

If you [are/were] out for school break, illness, injury, or vacation, please consider yourself as attending school.

*Note: Question wording was customized such that "are you currently" and "are" displayed if the school enrollment status indicated they were still in school, otherwise "At the end of the spring 2012 term, were you" and "were" displayed.*

**Variable:** S2ENROLLHS12

1=Attending high school

2=Not attending high school

3=Being homeschooled

**Routing:** If respondent is attending high school, go to S2 A02; Else if homeschooled, define respondent as "homeschooler" and go to S2 A04; Else if not attending high school or no answer, go to S2 A05.

**Administered to:** Respondents participating out of school.

#### Screen: S2 A02

**Question Wording:** [Are you currently/At the end of the spring 2012 term, were you] attending [base year high school name] or another high school?

*Note: Question wording was customized such that "are you currently" displayed if the respondent indicated they were currently attending high school, otherwise "At the end of the spring 2012 term, were you" displayed.*

**Variable:** S2ENROLLBYHS

1=[base year high school name]

2=Another high school

**Routing:** If respondent is enrolled in base year school, then define respondent as "regular" student and go to S2 A11; Else if respondent is enrolled in another school, then define respondent as "transfer student" and go to S2 A03; Else if no answer then define respondent as "regular" student and go to S2 A03.

**Administered to:** Respondents participating in school, but it is unknown whether the respondent is attending their base year high school or another high school.

~~~~~  
**Screen: S2 A03**

**Question Wording:** What are the full name, city and state of the high school you [are currently attending/were attending at the end of the spring 2012 term]?

(Please type in the full name. Do not use abbreviations.)

*Note: Question wording was customized such that “are currently attending” displayed if the respondent indicated they were currently attending high school, otherwise “were attending at the end of the spring 2012 term” displayed.*

**Variable:** not delivered

Item Wording: School name:

**Variable:** not delivered

Item Wording: City:

**Variable:** not delivered

Item Wording: State:

-9=Select one

1=Alabama

2=Alaska

3=Arizona

4=Arkansas

5=California

6=Colorado

7=Connecticut

8=Delaware

9=District of Columbia

10=Florida

11=Georgia

12=Hawaii

13=Idaho

14=Illinois

15=Indiana

16=Iowa

17=Kansas

18=Kentucky

19=Louisiana

20=Maine

21=Maryland

22=Massachusetts

23=Michigan

24=Minnesota

25=Mississippi

26=Missouri

27=Montana

28=Nebraska

29=Nevada

30=New Hampshire

31=New Jersey

32=New Mexico  
33=New York  
34=North Carolina  
35=North Dakota  
36=Ohio  
37=Oklahoma  
38=Oregon  
39=Pennsylvania  
40=Rhode Island  
41=South Carolina  
42=South Dakota  
43=Tennessee  
44=Texas  
45=Utah  
46=Vermont  
47=Virginia  
48=Washington  
49=West Virginia  
50=Wisconsin  
51=Wyoming  
99=FOREIGN COUNTRY

**Routing:** If respondent is defined as “regular” student then go to S2 A11; Else if respondent is defined as “transfer student” then go to S2 A04.

**Administered to:** Respondents participating in school, and attending a high school other than their base year high school.

~~~~~  
**Screen:** S2 A04

**Question Wording:** Why did you [transfer to [current high school’s name]/transfer to your current school/transfer to [last high school’s name]/transfer to your most recent school/begin homeschooling]?

*Note: Question and item wording was customized such that the language that was displayed depended on whether the respondent was still in school or being homeschooled at the time of responding to the survey. If the respondent was still in school, S2TREXPEL was not displayed as an option.*

**Variable:** S2TRMOVED

Item Wording: You moved to a new area or [your current school is more conveniently located/homeschooling is more convenient.]

1=Yes

0=No

**Variable:** S2TRBEHIND

Item Wording: You fell behind in your schoolwork at your previous school.

1=Yes

0=No

**Variable: S2TRREASSIGN**

Item Wording: You were re-assigned by the school system.

1=Yes

0=No

**Variable: S2TRPERSONAL**

Item Wording: You [transferred/began homeschooling] for personal or family reasons.

1=Yes

0=No

**Variable: S2TRFINANCIAL**

Item Wording: You [transferred/began homeschooling] for financial reasons.

1=Yes

0=No

**Variable: S2TREXPEL**

Item Wording: You were expelled or suspended from your previous school.

1=Yes

0=No

**Variable: S2TRADVANTAGE**

Item Wording: You wanted to take advantage of your [current school's/homeschool's] programs, offerings, or quality of instruction.

1=Yes

0=No

**Variable: S2TRDISLIKE**

Item Wording: You didn't like your previous school.

1=Yes

0=No

**Routing:** Go to S2 A11.

**Administered to:** Respondents identified as transfer students or homeschooled.

~~~~~

**Screen: S2 A05**

**Question Wording:** [At the end of the spring 2012 term, had/Have] you earned a regular high school diploma, GED, or alternative high school credential?

*Note: Question wording was customized in the survey instrument such that "At the end of the spring 2012 term, had" displayed if the respondent indicated they were not currently attending school, otherwise "Have" displayed.*

**Variable: S2HSCRED**

1=Yes, a regular diploma

2=Yes, a GED or alternative high school credential

3=No

**Routing:** If respondent has received a regular diploma or GED/alternative credential, then define respondent as an "early graduate" and go to S2 A06; Else go to S2 A07.

**Administered to:** Respondents who were not attending high school or who did not provide their enrollment status.

~~~~~

**Screen: S2 A06**

**Question Wording:** In what month and year did you receive your [high school diploma/GED or alternative high school credential]?

**Variable: S2HSCREDMO**

Item Wording: Month:

- 9=Select one
- 1=January
- 2=February
- 3=March
- 4=April
- 5=May
- 6=June
- 7=July
- 8=August
- 9=September
- 10=October
- 11=November
- 12=December

**Variable: S2HSCREDYR**

Item Wording: Year:

- 9=Select one
- 2009=2009
- 2010=2010
- 2011=2011
- 2012=2012

**Routing:** Go to S2 A07.**Administered to:** Respondents who graduated high school early and received either their diploma or GED.

---

**Screen: S2 A07****Question Wording:** [In/Prior to the end of the spring term of 2012, in] what month and year did you last attend high school?

*Note: Question wording was customized such that “in” displayed if the respondent indicated they were not currently attending high school, otherwise “Prior to the end of the spring term of 2012, in” displayed.*

**Variable: S2LASTHSMO**

Item Wording: Month:

- 9=Select one
- 1=January
- 2=February
- 3=March
- 4=April
- 5=May
- 6=June
- 7=July
- 8=August
- 9=September
- 10=October

11=November

12=December

**Variable:** S2LASTHSYR

Item Wording: Year:

-9=Select one

2009=2009

2010=2010

2011=2011

2012=2012

**Routing:** If respondent is already defined as an early grad then go to S2 A09; Else if year last attended is missing then go to S2 A08; Else if year last attended is 2012 and month last attended is missing then go to S2 A08; Else if last attended month/year is the same as interview month/year, then go to S2 A09; Else if last attended month/year is the month prior to the interview month/year, then go to S2 A08; Else if last attended date is prior to 5/12 then define respondent as “dropout” and go to S2 A09; Else if last attended date is 5/12 or after then go to S2 A08; Else go to S2 A09.

**Administered to:** Respondents who are not currently attending high school and did not indicate they had graduated early or received a GED.

~~~~~  
**Screen:** S2 A08

**Question Wording:** [Has it been/At the end of the spring term of 2012, had it been] 4 or more weeks since you last attended high school?

*Note: Question wording was customized such that “Has it been” displayed if the respondent did not indicate when they last attended school. Otherwise, “At the end of the spring term of 2012, had it been” displayed if the respondent indicated they last attended school in May of 2012.*

**Variable:** S2LASTATTEND

1=Yes

0=No

**Routing:** If S2LASTATTEND =yes then define respondent as a “dropout” and go to S2 A09; Else if not attending, but no answer about when last attended school, define as a “dropout” and go to S2 A09; Else leave R’s respondent type undefined and go to S2 A09.

**Administered to:** Respondents who were not currently attending high school, and the date the respondent left school was unknown or the respondent indicated they stopped attending one month or more before completing the interview.

~~~~~  
**Screen:** S2 A09

**Question Wording:** When you last attended high school, were you attending [base year high school name], attending another high school, or being homeschooled?

*Note: Question wording was customized such that the actual high school the respondent attended in base year displayed in place of “base year high school name.”*

**Variable:** S2LASTHS

1=[base year high school name]

2=Another high school

3=Homeschooled

**Routing:** If respondent indicates “base year school” (or provides no response) then go to S2 A11 (and, if respondent is not already defined as a dropout, then define respondent as a “regular”



student); Else if respondent indicates “another school” then go to S2 A10 (and, if respondent is not already defined as a dropout, then define respondent as a “transfer student”); Else if respondent indicates “homeschooled” then go to S2 A11 (and, if respondent is not already defined as a dropout, then define respondent as a “homeschooler”);

**Administered to:** Respondents who were not currently attending high school.

~~~~~  
**Screen:** S2 A10

**Question Wording:** What are the full name, city, and state of the last high school you attended? (Please type in the full name. Do not use abbreviations.)

**Variable:** not delivered

Item Wording: High school name:

**Variable:** not delivered

Item Wording: City:

**Variable:** not delivered

Item Wording: State:

- 9=Select one
- 1=Alabama
- 2=Alaska
- 3=Arizona
- 4=Arkansas
- 5=California
- 6=Colorado
- 7=Connecticut
- 8=Delaware
- 9=District of Columbia
- 10=Florida
- 11=Georgia
- 12=Hawaii
- 13=Idaho
- 14=Illinois
- 15=Indiana
- 16=Iowa
- 17=Kansas
- 18=Kentucky
- 19=Louisiana
- 20=Maine
- 21=Maryland
- 22=Massachusetts
- 23=Michigan
- 24=Minnesota
- 25=Mississippi
- 26=Missouri
- 27=Montana
- 28=Nebraska
- 29=Nevada
- 30=New Hampshire

31=New Jersey  
32=New Mexico  
33=New York  
34=North Carolina  
35=North Dakota  
36=Ohio  
37=Oklahoma  
38=Oregon  
39=Pennsylvania  
40=Rhode Island  
41=South Carolina  
42=South Dakota  
43=Tennessee  
44=Texas  
45=Utah  
46=Vermont  
47=Virginia  
48=Washington  
49=West Virginia  
50=Wisconsin  
51=Wyoming  
99=FOREIGN COUNTRY

**Routing:** Go to S2 A11.

**Administered to:** Respondents who are not currently attending high school and attended another high school since base year.

~~~~~  
**Screen:** S2 A11

**Question Wording:** Have you attended any other high school besides [base year high school name] [and [current high school's name] / and [last high school's name] ] since you were a 9th-grader in the fall of 2009?

*Note: Question wording was customized in the survey instrument such that the high school the respondent attended in base year was displayed in place of "base year high school" or the respondent's current high school name was displayed in place of "current high school name" if the respondent was still attending school. If the respondent was not attending high school, the name of the high school that the respondent last attended was displayed in place of "last high school's name."*

**Variable:** S2OTHHS

1=Yes

0=No

**Routing:** If has attended another school, go to S2 A12; Else if a dropout or early graduate who last attended in 2009 or in the spring term of 2010, go to S2 A15; Else go to S2 A13

**Administered to:** All respondents

~~~~~  
**Screen: S2 A12****Question Wording:** Schools you've already told us about:

[base year high school name]  
 [current high school's name]  
 [last high school's name]  
 [1st other high school name]  
 [2nd other high school name]  
 [etc.]

What are the full name, city and state of the other high school you attended?

(Please type in the full name. Do not use abbreviations.)

*Note: Question wording was customized in the survey instrument such that the applicable school names were displayed depending on whether the respondent was still attending school or not and whether the respondent is attending or attended any other schools besides their base year school.*

**Variable:** not delivered

Item Wording: High school name:

**Variable:** not delivered

Item Wording: City:

**Variable:** not delivered

Item Wording: State:

-9=Select one  
 1=Alabama  
 2=Alaska  
 3=Arizona  
 4=Arkansas  
 5=California  
 6=Colorado  
 7=Connecticut  
 8=Delaware  
 9=District of Columbia  
 10=Florida  
 11=Georgia  
 12=Hawaii  
 13=Idaho  
 14=Illinois  
 15=Indiana  
 16=Iowa  
 17=Kansas  
 18=Kentucky  
 19=Louisiana  
 20=Maine  
 21=Maryland  
 22=Massachusetts  
 23=Michigan  
 24=Minnesota

25=Mississippi  
26=Missouri  
27=Montana  
28=Nebraska  
29=Nevada  
30=New Hampshire  
31=New Jersey  
32=New Mexico  
33=New York  
34=North Carolina  
35=North Dakota  
36=Ohio  
37=Oklahoma  
38=Oregon  
39=Pennsylvania  
40=Rhode Island  
41=South Carolina  
42=South Dakota  
43=Tennessee  
44=Texas  
45=Utah  
46=Vermont  
47=Virginia  
48=Washington  
49=West Virginia  
50=Wisconsin  
51=Wyoming  
99=FOREIGN COUNTRY

**Routing:** Go to S2MOREHS.

**Administered to:** Respondents who indicated they attended additional high schools since attending their base year high school.

~~~~~  
**Screen:** S2MOREHS

**Question Wording:** Schools you've already told us about:

[base year high school name]  
[current high school's name]  
[last high school's name]  
[1st other high school name]  
[2nd other high school name]  
[etc.]

Have you attended any other high school since you were a 9th-grader in the fall of 2009?

*Note: Question wording was customized in the survey instrument such that the applicable school names were displayed depending on whether the respondent was still attending school or not and whether the respondent is attending or attended any other schools besides their base year school.*

**Variable:** not delivered

1=Yes

0=No

**Routing:** If respondent has attended another high school then go to S2 A12; Else if respondent is a dropout or early graduate who last attended in 2009 or in the spring term of 2010, go to S2 A15; Else go to S2 A13.

**Administered to:** Respondents who indicated they attended additional high schools since attending their base year high school.

~~~~~  
**Screen:** S2 A13

**Question Wording:** What grade were you in [last school year, that is, during the 2010–2011 school year/during the 2010–2011 school year/when you last attended school]?

*Note: Question wording was customized such that “last school year, that is, during the 2010–2011 school year” was displayed if the respondent was still in school, “during the 2010–2011 school year” was displayed if the respondent was not currently in school but attended school in the 2010–2011 school year, and “when you last attended school” was displayed if the respondent is currently not in school and did not attend high school during the 2010–2011 school year. In addition, the last option was not displayed if the student reported last attending high school during the 2010–2011 school year in item S2 A07.*

**Variable:** S2GRD1011

1=9th grade

2=10th grade

3=11th grade

4=12th grade

5=You were in an ungraded program

6=You were not attending during the 2010–2011 school year

**Routing:** If respondent is a dropout or early graduate who last attended in 2010 or in the spring term of 2011, then go to S2 A15; Else go to S2 A14.

**Administered to:** Respondents who last attended school during the 2010–2011 school year.

~~~~~  
**Screen:** S2 A14

**Question Wording:** What grade [are you currently in/were you in at the end of the spring term of 2012/were you in when you last attended school during the 2011–2012 school year]?

*Note: Question wording was customized such that “are you currently in” was displayed if the respondent was still in school, “were you in at the end of the spring term of 2012” was displayed if the respondent was currently not in school but attended school in the spring of 2012, and “were you in when you last attended school during the 2011–2012 school year” was displayed if the respondent was currently not in school and attended high school during the 2011–2012 school year. In addition, the last option was not displayed if the student reported last attending high school during the 2010–2011 school year in item S2 A07.*

**Variable:** S2GRD1112

1=9th grade

2=10th grade

3=11th grade

4=12th grade

5=You [are/were] in an ungraded program

6=You [are/were] not attending high school during the 2011–2012 school year

**Routing:** If respondent is a student, transfer or homeschooler, go to S2 A16; Else go to S2 A15

**Administered to:** Respondents who last attended school during the 2011–2012 school year.

~~~~~

**Screen:** S2 A15

**Question Wording:** When you left high school, had you passed the [9th grade/10th grade/11th grade/12th grade/highest grade you were enrolled in]?

*Note: Question wording that is displayed is dependent on the response to the S2 A14.*

**Variable:** S2PASSGRADE

1=Yes

0=No

**Routing:** Go to S2 A16

**Administered to:** Respondents who were not currently attending high school.

~~~~~

**Screen:** S2 A16

**Question Wording:** [At any time since the fall of 2009, have you stopped/Prior to [month/year last attended], had you ever stopped/Prior to the date you last attended high school, had you ever stopped/Before you began homeschooling, had you ever stopped] going to high school for a period of 4 weeks or more? Do not include school breaks, illness, injury, or vacation. Do include school expulsions or out-of-school suspensions.

*Note: Question wording was customized such that “At any time since the fall of 2009, have you stopped” was displayed if the respondent was still in school, “Prior to [month/year last attended], had you ever stopped” was displayed and “month/year last attended” was replaced with the actual month and year the respondent reported was the last date they attended school if the respondent was currently not in school; “Prior to the date you last attended high school, had you ever stopped” was displayed if the respondent was currently not in school and did not report the date they last attended school; and “Before you began homeschooling, had you ever stopped” was displayed if the respondent reported they were being homeschooled.*

**Variable:** S2DROPOUTHS

1=Yes

0=No

**Routing:** Go to S2 A17

**Administered to:** All respondents.

~~~~~

**Screen:** S2 A17

**Question Wording:** How many times did the following things happen during the last 6 months[ you were in school]?

*Note: Question wording was customized in the survey instrument such that “you were in school” displayed only if the respondent reported they were not currently attending school.*

**Variable:** S2LATESCH

Item Wording: You were late for school.

1=Never

2=1–2 times

3=3–6 times

4=7–9 times

5=10 or more times

**Variable: S2ABSENT**

Item Wording: You were absent from school.

- 1=Never
- 2=1–2 times
- 3=3–6 times
- 4=7–9 times
- 5=10 or more times

**Variable: S2WOHWDN**

Item Wording: You attended class without your homework done.

- 1=Never
- 2=1–2 times
- 3=3–6 times
- 4=7–9 times
- 5=10 or more times

**Variable: S2WOPAPER**

Item Wording: You attended class without pencil and paper, computer or other device for taking notes.

- 1=Never
- 2=1–2 times
- 3=3–6 times
- 4=7–9 times
- 5=10 or more times

**Variable: S2WOBOOKS**

Item Wording: You attended class without books or other reading material.

- 1=Never
- 2=1–2 times
- 3=3–6 times
- 4=7–9 times
- 5=10 or more times

**Variable: S2SKIPCLASS**

Item Wording: You cut or skipped classes.

- 1=Never
- 2=1–2 times
- 3=3–6 times
- 4=7–9 times
- 5=10 or more times

**Variable: S2INSCHSUSP**

Item Wording: You were put on an in-school suspension.

- 1=Never
- 2=1–2 times
- 3=3–6 times
- 4=7–9 times
- 5=10 or more times

**Routing:** If respondent is a regular student, transfer or homeschooler, go to Introduction to Section B; Else go to S2 A18.

**Administered to:** All respondents.

~~~~~  
**Screen: S2 A18**

**Question Wording:** How many times did the following things happen to you during the last 6 months you were in school?

**Variable: S2OUTSCHSUSP**

Item Wording: You were put on an out-of-school suspension or probation from school.

1=Never

2=Once

3=More than once

**Variable: S2DISCIPLINE**

Item Wording: You were transferred to another school for discipline reasons.

1=Never

2=Once

3=More than once

**Variable: S2EXPELLED**

Item Wording: You were expelled.

1=Never

2=Once

3=More than once

**Variable: S2ARRESTED**

Item Wording: You were arrested.

1=Never

2=Once

3=More than once

**Variable: S2JUVHOME**

Item Wording: You spent time in a juvenile home or detention center.

1=Never

2=Once

3=More than once

**Routing:** Go to S2 A19

**Administered to:** Respondents not currently attending high school.  
~~~~~

**Screen: S2 A19**

**Question Wording:** Here are some reasons other people have given for leaving high school. Which of these would you say applied to you?

**Variable: S2TOWORK**

Item Wording: You couldn't work and go to school at the same time.

1=Yes

0=No

**Variable: S2DISLIKESCH**

Item Wording: You did not like school.

1=Yes

0=No



**Variable: S2POORGRADE**

Item Wording: You were getting behind in your schoolwork or getting poor grades.

1=Yes

0=No

**Variable: S2GEDEASIER**

Item Wording: You thought it would be easier to get a GED or alternative high school credential.

1=Yes

0=No

**Variable: S2SUSPENDEXP**

Item Wording: You were suspended or expelled.

1=Yes

0=No

**Variable: S2FRIENDSDO**

Item Wording: Your friends had dropped out of school.

1=Yes

0=No

**Variable: S2NONEEDHS**

Item Wording: You didn't need to complete high school for what you wanted to do.

1=Yes

0=No

**Variable: S2SUPPORTFAM**

Item Wording: You had to take care of or financially support your family.

1=Yes

0=No

**Variable: S2EARLYADMIT**

Item Wording: You wanted to gain early admission to a school that provides occupational training or a college.

1=Yes

0=No

**Routing:** If a dropout, go to S2 A20; Else got to S2 A22.

**Administered to:** Respondents not currently attending high school.

~~~~~  
**Screen:** S2 A20

**Question Wording:** Since leaving high school, have you enrolled in a program to prepare for a high school diploma, GED or an alternative high school credential?

**Variable: S2HSPROGRAM**

1=Yes

0=No

**Routing:** Go to S2 A21.

**Administered to:** Respondents not currently attending high school because they have dropped out.

~~~~~  
**Screen:** S2 A21

**Question Wording:** Have you taken the GED exam?

**Variable:** S2GEDEXAM

1=Yes

0=No

**Routing:** Go to S2 A22.

**Administered to:** Respondents not currently attending high school because they have dropped out.

~~~~~  
**Screen:** S2 A22

**Question Wording:** Since leaving high school, have you taken a course for credit at a school that provides occupational training, a 2-year community college, or a 4-year college? (Include any courses for credit you are taking now.)

**Variable:** S2PSCREDIT

1=Yes

0=No

**Routing:** If respondent has attended a postsecondary institution, go to S2 A23; Else go to Introduction to Section B.

**Administered to:** Respondents not currently attending high school.

~~~~~  
**Screen:** S2 A23

**Question Wording:** Since leaving high school, at which of the following types of schools have you taken courses for credit?

**Variable:** S2ENROCCTR

Item Wording: School that provides occupational training, usually less than 2 years

1=Yes

0=No

**Variable:** S2ENR2YPUB

Item Wording: 2-year community college

1=Yes

0=No

**Variable:** S2ENR4Y

Item Wording: 4-year college

1=Yes

0=No

**Routing:** Go to Introduction to Section B

**Administered to:** Respondents who have taken a course for credit at a school that provides occupational training, a 2-year community college, or a 4-year college

~~~~~  
**Section B: Demographics and Socio-economic Status**  
~~~~~

**Screen:** S2BINTRO

**Question Wording:** The next set of questions is about your background and your family.

**Routing:** If student is a base year nonrespondent or response status is undetermined, go to S2 B01; Else if student is a base year respondent who is a non-native English speaker, go to S2 B09; Else if parents were base year nonrespondents then go to S2 B11; Else go to Introduction to Section C.

~~~~~  
**Screen:** S2 B01

**Question Wording:** Are you...

**Variable:** S2SEX

1=Male or

2=Female?

**Routing:** Go to S2 B02.

**Administered to:** Respondents who did not participate in base year.  
 ~~~~~

**Screen:** S2 B02

**Question Wording:** Are you Hispanic or [Latino/Latina]?

**Variable:** S2HISPANIC

1=Yes

0=No

**Routing:** If respondent is Hispanic then go to S2 B03; Else go to S2 B04.

**Administered to:** Respondents who did not participate in base year.  
 ~~~~~

**Screen:** S2 B03

**Question Wording:** Are you...

**Variable:** S2HISPOR

1=Mexican, Mexican-American, or Chicano

2=Cuban

3=Dominican

4=Puerto Rican

5=Central American such as Guatemalan, Salvadoran, Nicaraguan, Costa Rican, Panamanian, or Honduran

6=South American such as Colombian, Argentinian, or Peruvian, or

7=Other Hispanic or Latino or Latina?

**Routing:** Go to S2 B04.

**Administered to:** Respondents who indicated they were Hispanic in S2HISPANIC.  
 ~~~~~

**Screen:** S2 B04

**Question Wording:** [In addition to learning about your Hispanic background, we would also like to know about your racial background.]

What is your race?

*Note: Question wording was customized such that text in brackets was displayed if the respondent indicated they were Hispanic or Latino/Latina in S2B02.*

**Variable:** S2WHITE

Item Wording: White

0=No

1=Yes

**Variable:** S2BLACK

Item Wording: Black or African American

0=No

1=Yes

**Variable: S2ASIAN**

Item Wording: Asian

0=No

1=Yes

**Variable: S2PACISLE**

Item Wording: Native Hawaiian or other Pacific Islander

0=No

1=Yes

**Variable: S2AMINDIAN**

Item Wording: American Indian or Alaska Native

0=No

1=Yes

**Routing:** If respondent is Asian, then go to S2 B05; Else go to S2 B06.

**Administered to:** Respondents who did not participate in base year.

~~~~~  
**Screen:** S2 B05

**Question Wording:** Are you...

**Variable: S2ASIANOR**

1=Chinese

2=Filipino

3=Southeast Asian such as Vietnamese or Thai

4=South Asian such as Asian Indian or Sri Lankan, or

5=Other Asian such as Korean or Japanese?

**Routing:** Go to S2 B06

**Administered to:** Respondents who indicated they were Asian in S2ASIAN.

~~~~~  
**Screen:** S2 B06

**Question Wording:** What is your birth date?

**Variable: S2BIRTHMON**

Item Wording: Month:

-9=Select one

1=January

2=February

3=March

4=April

5=May

6=June

7=July

8=August

9=September

10=October

11=November

12=December

**Variable:** not delivered, but used to construct X2STDOB

Item Wording: Day:

-9=Select one

1=1

2=2

3=3

4=4

5=5

6=6

7=7

8=8

9=9

10=10

11=11

12=12

13=13

14=14

15=15

16=16

17=17

18=18

19=19

20=20

21=21

22=22

23=23

24=24

25=25

26=26

27=27

28=28

29=29

30=30

31=31

**Variable:** S2BIRTHYR

Item Wording: Year:

-9=Select one

0=1990 or earlier

1=1991

2=1992

3=1993

4=1994

5=1995

6=1996

7=1997 or later

**Routing:** Go to S2 B07

**Administered to:** Respondents who did not participate in base year.

~~~~~

**Screen:** S2 B07

**Question Wording:** What was the first language you learned to speak when you were a child?  
Was it...

**Variable:** S2LANG1ST

- 1=English
- 2=Spanish
- 3=Another language
- 4=English and Spanish equally or
- 5=English and another language equally?

**Routing:** If S2 B07 is “Spanish” or “English and Spanish equally” then go to S2 B09; Else if S2 B07 is “another language” or “English and another language equally” then go to S2 B08; Else if S2 B07 is “English” (or no response) and respondent did not have a responding parent in the base year, then go to S2 B11; Else if S2 B07 is “English” (or no response) and respondent did have a responding parent in the base year, then go to Introduction to Section C;

**Administered to:** Respondents who did not participate in base year.

~~~~~

**Screen:** S2 B08

**Question Wording:** What is the [other] language you first learned to speak?

*Note: “Other” was displayed in question wording if respondent indicated their first language was “English and another language equally” in S2 B07.*

**Variable:** S2LANG1STOS

- 1=A European language, such as French, German, or Russian
- 2=A Chinese language
- 3=A Filipino language
- 4=A Southeast Asian language such as Vietnamese or Thai
- 5=A South Asian language such as Hindi or Tamil
- 6=Another Asian language such as Japanese or Korean
- 7=A Middle Eastern language such as Arabic or Farsi
- 8=Another language

**Routing:** Go to S2 B09.

**Administered to:** Respondents who did not participate in base year or indicated they spoke another language other than English and Spanish.

~~~~~

**Screen:** S2 B09

**Question Wording:** [In the fall of 2009, you indicated that [native language as reported in base year] was the first language you learned to speak as a child]. ]

How often do you speak [[native language as reported in base year] / Spanish / this European language / this Chinese language / this Filipino language / the Southeast Asian language / this South Asian language / this Asian language / this Middle Eastern language / this non-English language] with your mother or female guardian at home?

*Note: Question wording was customized such that “In the fall of 2009, you indicated that [native language as reported in base year] was the first language you learned to speak as a child” displayed only if the respondent reported the native language they spoke in base year. In addition, the respondent’s native language was displayed in place of “native language as*

*reported in base year” or if no language was reported in base year, the language that was reported in S2 B07 or S2 B08 was displayed.*

**Variable:** S2LANGMOM

- 1=Never
- 2=Sometimes
- 3=About half the time
- 4=Most of the time
- 5=Always
- 6=No mother or female guardian in your household

**Routing:** Go to S2 B10

**Administered to:** Respondents who indicated they were not a Native English speaker in base year or a base year nonrespondent who indicated they spoke another language other than English.

~~~~~  
**Screen:** S2 B10

**Question Wording:** How often do you speak [[native language as reported in base year] / Spanish / this European language / this Chinese language / this Filipino language / the Southeast Asian language / this South Asian language / this Asian language / this Middle Eastern language / this non-English language] with your friends?

*Note: Question wording was customized such that the respondent’s native language was displayed in place of “native language as reported in base year” or if no language was reported in base year, the language that was reported in S2 B07 or S2 B08 was displayed.*

**Variable:** S2LANGFRIEND

- 1=Never
- 2=Sometimes
- 3=About half the time
- 4=Most of the time
- 5=Always

**Routing:** If respondent has a parent who responded to the base year parent questionnaire, then go to Introduction to Section C; Else go to S2 B11.

**Administered to:** Respondents who indicated they were not a Native English speaker in base year or a base year nonrespondent who indicated they spoke another language other than English.

~~~~~  
**Screen:** S2 B11

**Question Wording:** The next series of questions are about your parents or guardians. If you live in more than one household, answer about the parents or guardians you live with most of the time. Please choose one parent to begin.

What is this parent’s or guardian’s relationship to you?

**Variable:** S2PARREL1

- 1=Biological mother
- 2=Biological father
- 3=Adoptive mother
- 4=Adoptive father
- 5=Stepmother
- 6=Stepfather

- 7=Foster mother
- 8=Foster father
- 9=Female partner of your parent or guardian
- 10=Male partner of your parent or guardian
- 11=Grandmother
- 12=Grandfather
- 13=Other female relative
- 14=Other male relative
- 15=Other female guardian
- 16=Other male guardian

**Routing:** Go to S2 B12.

**Administered to:** Respondents whose parent or guardian did not participate in the base year.

~~~~~

**Screen:** S2 B12

**Question Wording:** What is the highest level of education [he/she] has completed ?

*Note: Question wording was customized in the survey instrument based on the gender of the parent or guardian the respondent selected in S2 B11.*

**Variable:** S2HIDEG1

- 1=Less than high school completion
- 2=Completed a high school diploma, GED or alternative high school credential
- 3=Completed a certificate or diploma from a school that provides occupational training
- 4=Completed an Associate's degree
- 5=Completed a Bachelor's degree
- 6=Completed a Master's degree
- 7=Completed a Ph.D., M.D., law degree, or other high level professional degree
- 8=Don't know

**Routing:** If respondent reports that parent/guardian #1 has completed anything less than a PhD/MD/law/other professional degree, then go to S2 B13; Else go to S2 B14.

**Administered to:** Respondents whose parent or guardian did not participate in the base year.

~~~~~

**Screen:** S2 B13

**Question Wording:** Has [he/she] started, but not completed, any work on a degree beyond [highest degree completed]? [(If [he/she] has started more than one of the degrees listed below, please select the higher degree.)]

*Note: Item options were customized such that only degrees that were higher than the degree selected in S2 B12 were displayed.*

**Variable:** S2STARTDEG1

- 1=No, has not started any other degree
- 2=Yes, a certificate or diploma from a school that provides occupational training
- 3=Yes, an Associate's degree
- 4=Yes, a Bachelor's degree
- 5=Yes, a Master's degree
- 6=Yes, a Ph.D., M.D., law degree, or other high level professional degree
- 7=Don't know

**Routing:** Go to S2 B14.



**Administered to:** Respondents whose parent or guardian did not participate in base year and have not completed a Ph.D., M.D. Ph.D., M.D., law degree, or other high level professional degree.

~~~~~  
**Screen:** S2 B14

**Question Wording:** Does [he/she] currently hold a job for pay?

**Variable:** S2JOBNOW1

1=Yes

0=No

**Routing:** If respondent currently holding a job for pay, go to S2 B16; Else go to S2 B15.

**Administered to:** Respondents whose parent or guardian did not participate in base year.

~~~~~  
**Screen:** S2 B15

**Question Wording:** Has [he/she] ever held a job for pay?

**Variable:** S2JOBEVER1

1=Yes

0=No

**Routing:** If respondent has ever held a job for pay, then go to S2 B16; Else go to S2 B17.

**Administered to:** Respondents whose parent or guardian did not participate in base year and did not currently hold a job for pay.

~~~~~  
**Screen:** S2 B16

**Question Wording:** [What is [his/her] job title? If [he/she] works at more than one job, describe the job at which [he/she] works the most hours. / What was [his/her] most recent job title? If [he/she] worked more than one job, describe the job at which [he/she] worked the most hours.]

**Variable:** S2JOBTV1

**Variable:** S2JOBDEV1

**Routing:** Go to S2 B17.

**Administered to:** Respondents whose parent or guardian did not participate in base year and held a job for pay.

~~~~~  
**Screen:** S2 B17

**Question Wording:** Do you have another parent or guardian in the same household as you and [your biological mother/your biological father/your adoptive mother/your adoptive father/your stepmother/your stepfather/your foster mother/your foster father/your parent or guardian's female partner/your parent or guardian's male partner/your grandmother/your grandfather/your female relative/your male relative/your female guardian/your male guardian/the first parent or guardian you told us about]?

*Note: Question wording was customized in the survey instrument to display the parent or guardian the respondent selected in S2 B11.*

**Variable:** S2OTHERPAR

1=Yes

0=No

**Routing:** If yes, go to S2 B18; Else, go to Introduction to Section C.

**Administered to:** Respondents whose parent or guardian did not participate in base year.

~~~~~  
**Screen:** S2 B18

**Question Wording:** What is this other parent's or guardian's relationship to you?

*Notes: Response options were customized so that biological mother or father would not be displayed if either of those parents were selected in S2 B11.*

**Variable:** S2PARREL2

- 1=Biological mother
- 2=Biological father
- 3=Adoptive mother
- 4=Adoptive father
- 5=Stepmother
- 6=Stepfather
- 7=Foster mother
- 8=Foster father
- 9=Female partner of your parent or guardian
- 10=Male partner of your parent or guardian
- 11=Grandmother
- 12=Grandfather
- 13=Other female relative
- 14=Other male relative
- 15=Other female guardian
- 16=Other male guardian

**Routing:** Go to S2 B19.

**Administered to:** Respondents whose parent or guardian did not participate in base year and indicated there was another parent or guardian in the household.

~~~~~

**Screen:** S2 B19

**Question Wording:** What is the highest level of education [he/she] has completed?

**Variable:** S2HIDEG2

- 1=Less than high school completion
- 2=Completed a high school diploma, GED or alternative high school credential
- 3=Completed a certificate or diploma from a school that provides occupational training
- 4=Completed an Associate's degree
- 5=Completed a Bachelor's degree
- 6=Completed a Master's degree
- 7=Completed a Ph.D., M.D., law degree, or other high level professional degree
- 8=Don't know

**Routing:** If respondent reports that parent/guardian #2 has completed anything less than a PhD/MD/law/other professional degree, then go to S2 B20; Else go to S2 B21.

**Administered to:** Respondents whose parent or guardian did not participate in base year.

~~~~~

**Screen:** S2 B20

**Question Wording:** Has [he/she] started, but not completed, any work on a degree beyond [highest degree completed]? [(If [he/she] has started more than one of the degrees listed below, please select the higher degree.)]

*Note: Item options were customized such that only degrees that were higher than the degree selected in S2 B19 were displayed.*

**Variable:** S2STARTDEG2

- 1=No, has not started any other degree
- 2=Yes, a certificate or diploma from a school that provides occupational training
- 3=Yes, an Associate's degree
- 4=Yes, a Bachelor's degree
- 5=Yes, a Master's degree
- 6=Yes, a Ph.D., M.D., law degree, or other high level professional degree
- 7=Don't know

**Routing:** Go to S2 B21.

**Administered to:** Respondents whose parent or guardian did not participate in base year and had not completed a Ph.D., M.D., law degree, or other high level professional degree.

**Screen:** S2 B21

**Question Wording:** Does [he/she] currently hold a job for pay?

**Variable:** S2JOBNOW2

- 1=Yes
- 0=No

**Routing:** If yes, go to S2 B23; Else, go to S2 B22.

**Administered to:** Respondents whose parent or guardian did not participate in base year.

**Screen:** S2 B22

**Question Wording:** Has [he/she] ever held a job for pay?

*Note: Question wording was customized in the survey instrument based on the gender of the parent or guardian the respondent selected in S2 B18.*

**Variable:** S2JOBEVER2

- 1=Yes
- 0=No

**Routing:** If yes, go to S2 B23; Else, go to Introduction to Section C.

**Administered to:** Respondents whose parent or guardian did not participate in base year and did not currently hold a job for pay.

**Screen:** S2 B23

**Question Wording:** [What is [his/her] job title? If [he/she] works at more than one job, describe the job at which [he/she] works the most hours. / What was [his/her] most recent job title? If [he/she] worked more than one job, describe the job at which [he/she] worked the most hours.]

**Variable:** S2JOBT2

**Question Wording:** [What does [he/she] do in that job? That is, what are [his/her] main activities and duties? / What did [he/she] do in that job? That is, what were [his/her] main activities and duties?]

*Note: Question wording was customized such that if the parent or guardian currently held a job for pay "[What is [his/her] job title? If [he/she] works at more than one job, describe the job at which [he/she] works the most hours." displayed. If the parent or guardian did not currently hold a job, but did in the past, "What was [his/her] most recent job title? If [he/she] worked more than one job, describe the job at which [he/she] worked the most hours.]" displayed.*

**Variable:** S2JOBDEV2

**Routing:** Go to Introduction to Section C.

**Administered to:** Respondents whose parent or guardian did not participate in base year and held a job for pay either presently or in the past.

~~~~~

## Section C: Plans and Preparation for Future

~~~~~

**Screen:** S2CINTRO

**Question Wording:** Now we are going to ask you some questions about your plans and preparations for your future.

Many of these questions relate to your decision making about education after high school regardless of whether you plan to continue your education. Please do your best to answer these questions even if you do not expect to continue with school or you are unsure about your plans.

For the rest of the interview, the general term “college” refers to 2-year colleges or 4-year colleges. Specifically, the term “2-year college” will refer to community colleges or junior colleges. The term “4-year college” refers to colleges and universities.

Questions in this interview also use the phrase “schools that provide occupational training” to refer to other types of schools, sometimes called technical institutes or trade schools. These schools usually offer programs that take less than 2 years to complete. Examples include culinary institutes and cosmetology schools.

**Routing:** Go to S2 C01.

~~~~~

**Screen:** S2 C01

**Question Wording:** \*An internship is a work-related learning experience for individuals who wish to develop hands on work experience in a certain occupational field. Apprenticeship programs provide formal training in specific occupations; the apprentice/participant learns a trade through on-the-job training and other related instruction, often under the supervision of a journey-level craft person or trade professional.

**Variable:** S2JOBFAIR

Item Wording: Attended a career day or job fair

1=Yes

0=No

**Variable:** S2CLGTOUT

Item Wording: Attended a program at, or taken a tour of a college campus

1=Yes

0=No

**Variable:** S2CLGCLASS

Item Wording: Sat in on or taken a college class

1=Yes

0=No

**Variable:** S2INTERN

Item Wording: Participated in an internship or apprenticeship related to your career goals\*

1=Yes

0=No

**Variable: S2CAREERJOB**

Item Wording: Worked or volunteered in a job related to your career goals

1=Yes

0=No

**Variable: S2CLGSEARCH**

Item Wording: Searched the Internet for college options or read college guides

1=Yes

0=No

**Variable: S2TALKHSCNSL**

Item Wording: Talked with a high school counselor about your options for life after high school

1=Yes

0=No

**Variable: S2TALKCLGCNSL**

Item Wording: Talked about your options with a counselor hired by your family to help you prepare for college admission

1=Yes

0=No

**Variable: S2CLGEXAMPREP**

Item Wording: Took a course to prepare for a college admission exam such as SAT or ACT

1=Yes

0=No

**Routing:** Go to S2 C02**Administered to:** All respondents.

---

**Screen:** S2 C02**Question Wording:** How many times, if any, have you taken the following tests?**Variable: S2PSATNUM**

Item Wording: PSAT or PLAN

0=Never

1=Once

2=Twice

3=3 or more times

4=You don't know what this is

**Variable: S2SATNUM**

Item Wording: SAT or ACT

0=Never

1=Once

2=Twice

3=3 or more times

4=You don't know what this is

**Variable: S2APEXAMNUM**

Item Wording: Any Advanced Placement (AP) test

0=Never

1=Once

- 2=Twice
- 3=3 or more times
- 4=You don't know what this is

**Variable:** S2IBEXAMNUM

Item Wording: Any International Baccalaureate (IB) test

- 0=Never
- 1=Once
- 2=Twice
- 3=3 or more times
- 4=You don't know what this is

**Routing:** Go to S2 C03.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C03

**Question Wording:** Who has had the most influence on your thinking about education after high school, if anyone?

**Variable:** S2CLGINFLU

- 1=A high school counselor
- 2=A counselor hired by your family to help you prepare for college admission
- 3=A teacher
- 4=Your parents
- 5=Another family member
- 6=Your friends
- 7=Your employer
- 8=A military recruiter
- 9=A coach or scout
- 10=Yourself
- 11=No one in particular
- 12=Don't know

**Routing:** Go to S2 C04

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C04

**Question Wording:** Who has had the most influence on your thinking about careers, if anyone?

**Variable:** S2CAREERINFLU

- 1=A high school counselor
- 3=A teacher
- 4=Your parents
- 5=Another family member
- 6=Your friends
- 7=Your employer
- 8=A military recruiter
- 9=A coach or scout
- 10=Yourself
- 11=No one in particular
- 12=Don't know

**Routing:** Go to S2 C05

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C05

**Question Wording:** How many of your close friends...

**Variable:** S2FRGRADES

Item Wording: get good grades?

0=None of them

1=Less than half

2=About half

3=More than half

4=All of them

5=Don't know

**Variable:** S2FRDROPOUT

Item Wording: have ever dropped out of high school?

0=None of them

1=Less than half

2=About half

3=More than half

4=All of them

5=Don't know

**Variable:** S2FRCLGEXAM

Item Wording: have taken the PSAT, SAT, PLAN or ACT?

0=None of them

1=Less than half

2=About half

3=More than half

4=All of them

5=Don't know

**Variable:** S2FROCCTR

Item Wording: plan to attend a school that provides occupational training (usually less than 2 years)?

0=None of them

1=Less than half

2=About half

3=More than half

4=All of them

5=Don't know

**Variable:** S2FR2YPUB

Item Wording: plan to attend a 2-year community college?

0=None of them

1=Less than half

2=About half

3=More than half

4=All of them

5=Don't know

**Variable: S2FR4Y**

Item Wording: plan to attend a 4-year college?

- 0=None of them
- 1=Less than half
- 2=About half
- 3=More than half
- 4=All of them
- 5=Don't know

**Variable: S2FRFTJOB**

Item Wording: plan to have a full-time job instead of continuing their education?

- 0=None of them
- 1=Less than half
- 2=About half
- 3=More than half
- 4=All of them
- 5=Don't know

**Routing:** Go to S2 C06

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C06

**Question Wording:** If there were no barriers, how far in school would you want to go?

**Variable: S2EDUASP**

- 1=Less than high school completion
- 2=Complete a high school diploma, GED or alternative high school credential
- 3=Complete a certificate or diploma from a school that provides occupational training
- 4=Complete an Associate's degree
- 5=Complete a Bachelor's degree
- 6=Complete a Master's degree
- 7=Complete a Ph.D., M.D., law degree, or other high level professional degree
- 8=You don't know

**Routing:** Go to S2 C07

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C07

**Question Wording:** As things stand now, how far in school do you think you will actually get?

**Variable: S2EDUEXP**

- 1=Less than high school completion
- 2=Complete a high school diploma, GED or alternative high school credential
- 3=Start, but not complete a certificate or diploma from a school that provides occupational training
- 4=Complete a certificate or diploma from a school that provides occupational training
- 5=Start, but not complete an Associate's degree
- 6=Complete an Associate's degree
- 7=Start, but not complete a Bachelor's degree
- 8=Complete a Bachelor's degree
- 9=Start, but not complete a Master's degree



10=Complete a Master's degree

11=Start, but not complete a Ph.D., M.D., law degree, or other high level professional degree

12=Complete a Ph.D., M.D., law degree, or other high level professional degree

13=You don't know

**Routing:** If respondent is an early graduate, go to S2 C09; Else, go to S2 C08.

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 C08

**Question Wording:** How sure are you that you will receive a high school diploma?

**Variable:** S2SUREDIPL

1=Very sure you will

2=You probably will

3=You probably won't

4=Very sure you won't

**Routing:** Go to S2 C09.

**Administered to:** Respondents who did not already graduate high school.

~~~~~  
**Screen:** S2 C09

**Question Wording:** How sure are you that you will pursue a Bachelor's degree?

**Variable:** S2SUREBA

1=Very sure you will

2=You probably will

3=You probably won't

4=Very sure you won't

**Routing:** Go to S2 C10

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 C10

**Question Wording:** By the summer of 2013, do you think you will have met the minimum requirements needed for admission to...

**Variable:** S2REQOCCTRAIN

Item Wording: a school that provides occupational training, usually less than 2 years?

1=Yes

2=No

3=Don't Know

**Variable:** S2REQ2YR

Item Wording: a 2-year community college?

1=Yes

2=No

3=Don't Know

**Variable:** S2REQTYP4YR

Item Wording: a typical 4-year college?

1=Yes

2=No

3=Don't Know

**Variable:** S2REQSEL4YR

Item Wording: a highly selective 4-year college such as Harvard University?

1=Yes

2=No

3=Don't Know

**Routing:** Go to S2 C11.

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 C11

**Question Wording:** How important do you think each of the following is for getting into a typical 4-year college ?

**Variable:** S2IMPCOURSES

Item Wording: Which high school courses you took

1=Very important

2=Somewhat important

3=Not at all important

**Variable:** S2IMPGRADES

Item Wording: Your high school grades

1=Very important

2=Somewhat important

3=Not at all important

**Variable:** S2IMPCLGEXAM

Item Wording: Your SAT or ACT scores

1=Very important

2=Somewhat important

3=Not at all important

**Variable:** S2IMPACTIVITY

Item Wording: Your participation in sports, clubs, and other student activities

1=Very important

2=Somewhat important

3=Not at all important

**Variable:** S2IMPRECS

Item Wording: Recommendations from your teachers or other school staff

1=Very important

2=Somewhat important

3=Not at all important

**Variable:** S2IMPWORKEXP

Item Wording: Your work experience while in high school

1=Very important

2=Somewhat important

3=Not at all important

**Routing:** Go to S2 C12

**Administered to:** All respondents.

~~~~~  
**Screen: S2 C12****Question Wording:** The next series of questions are about what you are most likely to be doing in the fall of 2013.

Which of the following activities do you expect to be doing at that time?

*Note: Response options were customized such that option 5 was not displayed if the respondent graduated high school early.***Variable: S2CLG2013**

Item Wording: Continuing your education after high school

1=Yes

2=No

3=Don't Know

**Variable: S2WORK2013**

Item Wording: Working

1=Yes

2=No

3=Don't Know

**Variable: S2SERVE2013**

Item Wording: Serving in the military

1=Yes

2=No

3=Don't Know

**Variable: S2FAMILY2013**

Item Wording: Starting a family or taking care of your children

1=Yes

2=No

3=Don't Know

**Variable: S2HS2013**

Item Wording: Attending high school or a GED completion course

1=Yes

2=No

3=Don't Know

**Routing:** If answered yes to more than one item, go to S2 C13; Else go to S2 C14.**Administered to:** All respondents.  
~~~~~**Screen: S2 C13****Question Wording:** What is most likely to be your main focus?*Note: Response options were customized such that only the response options chosen in S2 C12 were displayed.***Variable: S2FOCUS2013**

1=Continuing your education after high school

2=Working

3=Serving in the military

4=Starting a family or taking care of your children

6=Attending high school or a GED completion course

**Routing:** Else go to S2 C14.

**Administered to:** Respondents who selected more than one activity in S2C12.

~~~~~

**Screen:** S2 C14

**Question Wording:** Which of these activities do your parents think is most important for you to do in the fall of 2013?

*Note: Response options were customized such that option 5 was not displayed if the respondent graduated high school early.*

**Variable:** S2MOSTIMP2013

1=Continuing your education after high school

2=Working

3=Serving in the military

4=Starting a family or taking care of your children

5=Attending high school or a GED completion course

**Routing:** If respondent plans to work, go to S2 C15; Else, if respondent plans to serve in the military, skip to S2 C16; Else, if respondent plans to attend college, technical institute, or trade school, skip to S2 C17; Else, if respondent aspires to some level of postsecondary education, doesn't know, or indicated no aspirations, then skip to S2 C26; Else, if respondent aspires to high school diploma/GED or less, skip to S2 C27.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C15

**Question Wording:** Do you expect to be working full-time or part-time in the fall of 2013?

**Variable:** S2WORKFT2013

1=Full-time

2=Part-time

3=Don't know

**Routing:** If respondent plans to serve in the military, skip to S2 C16; Else if respondent plans to attend college, technical institute, or trade school, skip to S2 C17; Else if respondent aspires to some level of postsecondary education, doesn't know, or has no aspirations indicated, then skip to S2 C26; Else if respondent aspires to high school diploma/GED or less, skip to S2 C27

**Administered to:** Respondents who indicated that they planned to work in the fall of 2013 (S2WORK2013=1).

~~~~~

**Screen:** S2 C16

**Question Wording:** Will you be on active military duty in the fall of 2013?

**Variable:** S2ACTDUTY2013

1=Yes

2=No

3=Don't Know

**Routing:** If respondent plans to attend college, technical institute, or trade school, go to S2 C17; Else if respondent aspires to some level of postsecondary education, doesn't know, or no aspirations indicated, then skip to S2 C26; Else if respondent aspires to high school diploma/GED or less, skip to S2 C27.

**Administered to:** Respondents who indicated that they planned to serve in the military in the fall of 2013 (S2SERVE2013=1).

~~~~~  
**Screen:** S2 C17

**Question Wording:** What type of program do you plan to enroll in for the fall of 2013?

**Variable:** S2DEGREE2013

- 1=Certificate or diploma program at a school that provides occupational training (usually less than 2 years)
- 2=Associate's degree program
- 3=Bachelor's degree program
- 4=You haven't thought about this yet

**Routing:** Go to S2 C18.

**Administered to:** Respondents who indicated that they planned to attend a postsecondary institution in the fall of 2013.

~~~~~

**Screen:** S2 C18

**Question Wording:** Do you plan to enroll full-time or part-time in the fall of 2013?

**Variable:** S2CLGFT2013

- 1=Full-time
- 2=Part-time
- 3=Don't know

**Routing:** If plans to enroll in a Bachelor's degree program, then go to S2 C20; Else go to S2 C19.

**Administered to:** Respondents who indicated that they planned to attend a postsecondary institution in the fall of 2013.

~~~~~

**Screen:** S2 C19

**Question Wording:** In the fall of 2013, are you most likely to attend a school that provides occupational training, a 2-year college, a 4-year college, or have you not thought about this yet?

**Variable:** S2TYPEPS2013

- 1=A school that provides occupational training (usually less than 2 years)
- 2=2-year college
- 3=4-year college
- 4=You haven't thought about this yet

**Routing:** If respondent hasn't thought about what type of school to will attend or no answer, skip to S2 C26; Else go to S2 C20.

**Administered to:** Respondents who indicated that they planned to attend a postsecondary institution in the fall of 2013, but did not indicate they were planning on enrolling in a Bachelor's degree program.

~~~~~

**Screen:** S2 C20

**Question Wording:** Are you more likely to attend a public or private [school that provides occupational training/2-year college/4-year college], or have you not thought about this yet?

**Variable:** S2PUBPRV2013

- 1=Public
- 2=Private
- 3=You haven't thought about this yet

**Routing:** Go to S2 C21.

**Administered to:** Respondents who indicated they had plans to attend a school that provides occupational training, a 2-year college, or 4-year college.

~~~~~

**Screen:** S2 C21

**Question Wording:** Are you more likely to attend an in-state or out-of-state [school that provides occupational training/2-year college/4-year college], or have you not thought about this yet?

**Variable:** S2INOUTST2013

1=In-state

2=Out-of-state

3=You haven't thought about this yet

**Routing:** Go to S2 C22.

**Administered to:** Respondents who indicated they had plans to attend a school that provides occupational training, a 2-year college, or 4-year college.

~~~~~

**Screen:** S2 C22

**Question Wording:** What [school that provides occupational training/2-year college/4-year college/school or college] are you most likely to attend?

(Please type in the full name. Do not use abbreviations.)

**Variable:** S2LIKELYCLGID

Item Wording: IPEDS ID determined for the institution information provided.

**Variable:** not delivered

Item Wording: Name:

**Variable:** not delivered

Item Wording: City:

**Variable:** not delivered

Item Wording: State or Country:

-9=Select one

1=Alabama

2=Alaska

3=Arizona

4=Arkansas

5=California

6=Colorado

7=Connecticut

8=Delaware

9=District of Columbia

10=Florida

11=Georgia

12=Hawaii

13=Idaho

14=Illinois

15=Indiana

16=Iowa

17=Kansas

18=Kentucky

19=Louisiana  
20=Maine  
21=Maryland  
22=Massachusetts  
23=Michigan  
24=Minnesota  
25=Mississippi  
26=Missouri  
27=Montana  
28=Nebraska  
29=Nevada  
30=New Hampshire  
31=New Jersey  
32=New Mexico  
33=New York  
34=North Carolina  
35=North Dakota  
36=Ohio  
37=Oklahoma  
38=Oregon  
39=Pennsylvania  
40=Rhode Island  
41=South Carolina  
42=South Dakota  
43=Tennessee  
44=Texas  
45=Utah  
46=Vermont  
47=Virginia  
48=Washington  
49=West Virginia  
50=Wisconsin  
51=Wyoming  
99=FOREIGN COUNTRY

**Variable:** not delivered, but incorporated into S2LIKELYCLGID

Item Wording: Don't know

0=No

1=Yes

**Routing:** If the respondent does not know or does not provide a college name, then skip to S2 C26; Else if the respondent provides a college name, then go to S2 C23.

**Administered to:** Respondents who indicated they had plans to attend a school that provides occupational training, a 2-year college, or 4-year college.

~~~~~  
**Screen:** S2 C23

**Question Wording:** How certain are you that you will attend [most likely college]?

**Variable:** S2CERTAINCLG

- 1=Very certain
- 2=Fairly certain
- 3=Not certain

**Routing:** Go to S2 C24.

**Administered to:** Respondents who provided the school name they planned to attend.

~~~~~

**Screen:** S2 C24

**Question Wording:** If cost were not a consideration, would [most likely college] be your first choice for a school or college?

*Note: Question wording has been customized such that the college name selected in S2 C22 was displayed in place of "most likely college"*

**Variable:** S2FIRSTCHOICE

- 1=Yes
- 2=No
- 3=Don't Know

**Routing:** If no or no response, go to S2 C25. Else skip to S2 C26.

**Administered to:** Respondents who provided the school name they planned to attend.

~~~~~

**Screen:** S2 C25

**Question Wording:** If cost were not a consideration, what school or college would be your first choice?

(Please type in the full name. Do not use abbreviations.)

**Variable:** S2CHOICECLGID

Item Wording: IPEDS ID determined for the institution information provided.

**Variable:** not delivered

Item Wording: Name:

**Variable:** not delivered

Item Wording: City:

**Variable:** not delivered

Item Wording: State or Country:

- 9=Select one
- 1=Alabama
- 2=Alaska
- 3=Arizona
- 4=Arkansas
- 5=California
- 6=Colorado
- 7=Connecticut
- 8=Delaware
- 9=District of Columbia
- 10=Florida
- 11=Georgia
- 12=Hawaii
- 13=Idaho
- 14=Illinois



15=Indiana  
16=Iowa  
17=Kansas  
18=Kentucky  
19=Louisiana  
20=Maine  
21=Maryland  
22=Massachusetts  
23=Michigan  
24=Minnesota  
25=Mississippi  
26=Missouri  
27=Montana  
28=Nebraska  
29=Nevada  
30=New Hampshire  
31=New Jersey  
32=New Mexico  
33=New York  
34=North Carolina  
35=North Dakota  
36=Ohio  
37=Oklahoma  
38=Oregon  
39=Pennsylvania  
40=Rhode Island  
41=South Carolina  
42=South Dakota  
43=Tennessee  
44=Texas  
45=Utah  
46=Vermont  
47=Virginia  
48=Washington  
49=West Virginia  
50=Wisconsin  
51=Wyoming  
99=FOREIGN COUNTRY

**Routing:** Go to S2 C26.

**Administered to:** Respondents who indicated that the school they planned to attend was not their first choice.

~~~~~  
**Screen:** S2 C26

**Question Wording:** How important to you [will/would] each of the following characteristics be when choosing a school or college to attend after high school?

*Note: Question wording was customized such that if the respondent indicated that they planned on starting some postsecondary education in previous questions “will” displays in place of “will/would” If the respondent indicated that they did not plan on continuing their education, “would” displays.*

**Variable: S2REPUTATION**

Item Wording: Academic quality or reputation

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2COSTATTEND**

Item Wording: Cost of attendance

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2JOBPLC**

Item Wording: A good record of placing graduates in jobs

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2GRADSCHPLC**

Item Wording: A good record of placing graduates in graduate or professional schools

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2PLAYSPORTS**

Item Wording: Opportunity to play sports

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2FAMREC**

Item Wording: Recommended by family or friends

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2CLOSEHOME**

Item Wording: Close to home

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2FARHOME**

Item Wording: Far away from home

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2OFFERSPGRM**

Item Wording: Offers a particular program of study

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2SOCIALLIFE**

Item Wording: Good social life

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2SPIRIT**

Item Wording: Good sports teams or school spirit

1=Very important

2=Somewhat important

3=Not at all important

**Variable: S2FAMILYWENT**

Item Wording: A family member went there

1=Very important

2=Somewhat important

3=Not at all important

**Routing:** Go to S2 C27.**Administered to:** Respondents who reported wanting to attend postsecondary education if there were no barriers.**Screen: S2 C27****Question Wording:** Now we will ask you to estimate the cost of one year's tuition and required fees at different types of colleges. For each of your estimates, please include the cost of courses and required fees such as student activity fees and student health fees. Do not include optional expenses such as room and board.

What is your best estimate of the cost of one year's tuition and required fees at a public 2-year community college in your state ?

**Variable: S2COST2YPUB**

Item Wording: \$ per year

**Variable:** not delivered, but incorporated into S2COST2YPUB

Item Wording: (Check here if you don't know.)

0=No

1=Yes

**Routing:** Go to S2 C28**Administered to:** All respondents.**Screen: S2 C28****Question Wording:** What is your best estimate of the cost of one year's tuition and required fees at a public 4-year college in your state ?

(Please include the cost of courses and required fees such as student activity fees and student health fees. Do not include optional expenses such as room and board.)

**Variable:** S2COST4YPUB

Item Wording: \$ per year

**Variable:** not delivered, but incorporated into S2COST4YPUB

Item Wording: (Check here if you don't know.)

0=No

1=Yes

**Routing:** Go to S2 C29.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C29

**Question Wording:** What is your best estimate of the cost of one year's tuition and required fees at a typical private 4-year college ?

(Please include the cost of courses and required fees such as student activity fees and student health fees. Do not include optional expenses such as room and board.)

**Variable:** S2COST4YPRV

Item Wording: \$ per year

**Variable:** not delivered, but incorporated into S2COST4YPRV

Item Wording: (Check here if you don't know.)

0=No

1=Yes

**Routing:** Go to S2 C30.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C30

**Question Wording:** In the past year, how many conversations have you had about financial aid for college with your parents?

**Variable:** S2AIDTALKPAR

1=None

2=One to three

3=Four or more

**Routing:** Go to S2 C31.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C31

**Question Wording:** For which types of financial aid do you think you [will/would] qualify?

*Note: Question wording was customized such that if the respondent indicated that they planned on starting some postsecondary education in previous questions "will" displays in place of "will/would." If the respondent indicated that they did not plan on continuing their education, "would" displays.*

**Variable:** S2QUALNEED

Item Wording: Financial aid based on financial need

1=Yes

2=No

3=Don't Know

**Variable: S2QUALACHIEVE**

Item Wording: Financial aid based on academic achievement such as good grades or college admission test scores

1=Yes

2=No

3=Don't Know

**Variable: S2QUALATHLETE**

Item Wording: Financial aid through an athletic scholarship

1=Yes

2=No

3=Don't Know

**Variable: S2QUALGOVLOAN**

Item Wording: Federal or state loans

1=Yes

2=No

3=Don't Know

**Variable: S2QUALPRVLOAN**

Item Wording: Private loans

1=Yes

2=No

3=Don't Know

**Routing:** If respondent answers “yes” to any type of financial aid, then go to S2 C33; Else if respondent answers “no” or “don’t know” to any type of financial aid, then go to S2 C32; Else, go to S2 C33

**Administered to:** All respondents.

**Screen: S2 C32**

**Question Wording:** Why do you think you [will/would] not qualify for any kind of financial aid? Is it because ...

*Note: Question and item wording was customized such that if the respondent indicated that they planned on starting some postsecondary education in previous questions “will” displays in place of “will/would.” If the respondent indicated that they did not plan on continuing their education, “would” displays.*

**Variable: S2NOQUALFAM**

Item Wording: another family member did not qualify?

1=Yes

0=No

**Variable: S2NOQUALCRED**

Item Wording: you have concerns about a credit score?

1=Yes

0=No

**Variable: S2NOQUALINC**

Item Wording: your family’s income is too high?

1=Yes

0=No

**Variable: S2NOQUALGPA**

Item Wording: your grades or test scores will be too low?

1=Yes

0=No

**Variable: S2NOQUALPT**

Item Wording: you [will/would] attend school or college part-time?

1=Yes

0=No

**Routing:** Go to S2 C33.

**Administered to:** Respondents who did not indicate they would receive some form of financial aid.

~~~~~  
**Screen: S2 C33**

**Question Wording:** [Will you/If you were to continue your education after high school, would you] complete a FAFSA to apply for financial aid?

*Note: Question wording was customized such that if the respondent indicated that they planned on starting some postsecondary education in previous questions “will you” displayed otherwise “If you were to continue your education after high school, would you” displayed if the respondent indicated that they did not plan on continuing their education. Response option wording was customized such that “will” displayed if respondent indicated they planned on starting some postsecondary education, otherwise “would” displayed.*

**Variable: S2APPLYAID**

1=Yes

2=No

3=You don’t know what a FAFSA is

4=You haven’t thought about this yet

5=You don’t know if you [will/would] apply

**Routing:** If no or respondent doesn’t know if he/she will apply, go to S2 C34; Else, go to S2 C35.

**Administered to:** All respondents.

~~~~~  
**Screen: S2 C34**

**Question Wording:** What are the reasons you [will/may/would/might] not apply for financial aid?

*Note: Question wording was customized such that if the respondent indicated that they planned on starting some postsecondary education and would not apply for financial aid in previous questions, “will” displayed. If the respondent indicated that they planned on starting postsecondary education and did not know if they would apply for financial aid, “may” was displayed. If the respondent only indicated they would not apply for financial aid, “would” displayed, otherwise “might” displayed.*

**Variable: S2INELIGIBLE**

Item Wording: You or your family think you may be ineligible or may not qualify.

1=Yes

0=No

**Variable: S2CANAFFORD**

Item Wording: You or your family can afford school or college without financial aid.

1=Yes

0=No

**Variable: S2DKHOWAPPLY**

Item Wording: You or your family do not know how to apply for financial aid.

1=Yes

0=No

**Variable: S2NODEBT**

Item Wording: You or your family do not want to take on debt.

1=Yes

0=No

**Variable: S2FORMSDIFF**

Item Wording: You or your family think the application forms are too difficult.

1=Yes

0=No

**Variable: S2NOPLANS**

Item Wording: You do not plan to continue your education after high school.

1=Yes

0=No

**Routing:** Go to S2 C35.

**Administered to:** Respondents who indicated they would not, or did not know if they would, apply for financial aid.

**Screen: S2 C35**

**Question Wording:** What is the maximum amount you [are/would be] willing to borrow per year to pay for school or college?

*Note: Question wording was customized such that if the respondent indicated they planned on continuing their education, "are" displayed, otherwise "would be" displayed.*

**Variable: S2MAXBORROW**

1=None

2=\$1–\$500

3=\$501–\$1,000

4=\$1,001–\$2,000

5=\$2,001–\$5,000

6=\$5,001–\$10,000

7=\$10,001–\$15,000

8=\$15,001–\$25,000

9=\$25,001–\$35,000

10=More than \$35,000

11=Don't know

**Routing:** Go to S2 C36.

**Administered to:** All respondents.

~~~~~  
**Screen: S2 C36**

**Question Wording:** Considering all sources of funds including scholarships, grants, loans and savings, do you think your family [will/would] be able to afford to send you to...

*Note: Question wording was customized such that if the respondent indicated they planned on continuing their education, “will” displayed, otherwise “would” displayed.*

**Variable: S2AFFOCCTR**

Item Wording: a school that provides occupational training?

1=Yes

2=No

3=Don't Know

**Variable: S2AFF2YPUB**

Item Wording: a 2-year community college?

1=Yes

2=No

3=Don't Know

**Variable: S2AFF4YIN**

Item Wording: a 4-year public college in your state?

1=Yes

2=No

3=Don't Know

**Variable: S2AFF4YOUT**

Item Wording: a 4-year public college out of state?

1=Yes

2=No

3=Don't Know

**Variable: S2AFF4YPRV**

Item Wording: a typical 4-year private college?

1=Yes

2=No

3=Don't Know

**Variable: S2AFF4YSEL**

Item Wording: a highly selective 4-year private college such as Harvard?

1=Yes

2=No

3=Don't Know

**Routing:** Go to S2 C37.

**Administered to:** All respondents.

~~~~~

**Screen: S2 C37**

**Question Wording:** [How will/If at any point in time you continue your education after high school, how would] you pay for tuition, room, and board?

*Note: Question wording was customized such that “How will” displayed if the respondent indicated they planned on continuing their education, otherwise “If at any point in time you continue your education after high school, how would” displayed.*



**Variable: S2NEVERCLG**

Item Wording: (Check here if you are sure you will never continue your education after high school.)

0=No

1=Yes

**Variable: S2TEENSAVING**

Item Wording: Your own earnings and savings

1=Yes

2=No

3=Don't Know

**Variable: S2PARSAVING**

Item Wording: Parents' or relatives' earnings and savings including a pre-paid tuition account or 529 plan

1=Yes

2=No

3=Don't Know

**Variable: S2GRANTS**

Item Wording: Scholarships or grants that do not have to be repaid

1=Yes

2=No

3=Don't Know

**Variable: S2GOVLOAN**

Item Wording: Federal or state loans

1=Yes

2=No

3=Don't Know

**Variable: S2TEENPRVLOAN**

Item Wording: Private loan in your name

1=Yes

2=No

3=Don't Know

**Variable: S2PARPRVLOAN**

Item Wording: Private loan in parents' or relatives' names

1=Yes

2=No

3=Don't Know

**Routing:** If respondent will use own earnings to pay for college, then go to S2 C38; Else go to S2 C39.

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 C38

**Question Wording:** [Will/Would] your earnings and savings for your education after high school come from your...

*Note: Question wording was customized such that "Will" displayed if the respondent indicated they planned on continuing their education, otherwise "Would" displayed. Response option wording for option 1 was customized such that "when you were still attending" displayed only if*

respondent indicated they were not attending high school. Response option wording for option 2 was customized such that “while in high school” displayed only if respondent indicated they were still attending high school and “when you were in high school” displayed if respondent indicated they were not attending high school.

**Variable: S2SCHYRWORK**

Item Wording: evening or weekend work during the high school year [when you were still attending]?

1=Yes

2=No

3=Don’t Know

**Variable: S2SUMMERWORK**

Item Wording: summer work [while in high school/when you were in high school]?

1=Yes

2=No

3=Don’t Know

**Variable: S2BTWNWORK**

Item Wording: work between high school and the start of your further education?

1=Yes

2=No

3=Don’t Know

**Variable: S2CLGWORK**

Item Wording: work while attending college including work-study?

1=Yes

2=No

3=Don’t Know

**Routing:** If respondent will work during college, go to S2 C39; Else go to S2 C40

**Administered to:** Respondents who indicated their earnings will be used to pay for college.

~~~~~

**Screen: S2 C39**

**Question Wording:** [Will/Would] you work full-time or part-time while attending college?

*Note: Question wording was customized such that “Will” displayed if the respondent indicated they planned on continuing their education, otherwise “Would” displayed.*

**Variable: S2CLGWORKFT**

1=Full-time

2=Part-time

3=Don’t know

**Routing:** Go to S2 C40.

**Administered to:** Respondents who indicated they will be working while in college.

~~~~~

**Screen: S2 C40**

**Question Wording:** What do you think your starting pre-tax income would be in your first job after...

(Please specify pay periods for your answers.)

**Variable: S2EARNNOHS**

Item Wording: leaving high school without completing a high school diploma?

**Variable: S2EARNNOHSUN**

Item Wording: per

-9=Select one

1=hour

2=day

3=week

4=month

5=year

**Variable: S2EARNHS**

Item Wording: completing a regular high school diploma?

**Variable: S2EARNHSUN**

Item Wording: per

-9=Select one

1=hour

2=day

3=week

4=month

5=year

**Variable: S2EARNOCC**

Item Wording: completing a certificate or diploma from a school that provides occupational training?

**Variable: S2EARNOCCUN**

Item Wording: per

-9=Select one

1=hour

2=day

3=week

4=month

5=year

**Variable: S2EARN2YPUB**

Item Wording: completing a 2-year community college degree?

**Variable: S2EARN2YPUBUN**

Item Wording: per

-9=Select one

1=hour

2=day

3=week

4=month

5=year

**Variable: S2EARN4Y**

Item Wording: completing a 4-year college degree?

**Variable: S2EARN4YUN**

Item Wording: per

-9=Select one

1=hour  
2=day  
3=week  
4=month  
5=year

**Routing:** Go to S2 C41.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C41

**Question Wording:** As things stand now, what is the job or occupation that you expect or plan to have at age 30?

**Variable:** S2OCC30

Item Wording: Job title:

**Variable:** S2OCC30DK

Item Wording: You don't know

0=No

1=Yes

**Routing:** If respondent provides job title then go to S2 C42; Else if respondent is in rotation group 1 then skip to Introduction to Section D; Else if the respondent is in rotation group 2 then skip to Introduction to Section F.

*Note: So as to more evenly distribute item non-response resulting from an inability to complete the student questionnaire within the allotted time, the survey instrument rotated the order in which certain sections of the student questionnaire were administered. Respondents assigned to Rotation group 1 (Y\_SGRP=1) were administered the questionnaire sections in the following order: A, B, C, D, E, F, G. Respondents assigned to Rotation group 2 (Y\_SGRP=2) were administered the questionnaire sections in the following order: A, B, C, F, D, E, G.*

**Administered to:** All respondents.

~~~~~

**Screen:** S2 C42

**Question Wording:** How much have you thought about this choice?

**Variable:** S2OCC30THINK

1=Not at all

2=A little

3=Somewhat

4=A lot

**Routing:** Go to S2 C43.

**Administered to:** Respondents who provided a job in S2 C41.

~~~~~

**Screen:** S2 C43

**Question Wording:** How certain are you that this will be your job or occupation at age 30?

**Variable:** S2OCC30CERTAIN

1=Very certain

2=Fairly certain

3=Not certain

**Routing:** Go to S2 C44.

**Administered to:** Respondents who provided a job in S2 C41.

~~~~~  
**Screen:** S2 C44

**Question Wording:** What is your best estimate about how much you would earn per year as a/an [job title] at age 30?

**Variable:** S2OCC30EARN

**Item Wording:** \$ per year

**Routing:** If respondent is in student rotation group 1, then skip to Introduction to Section D; Else if respondent is in student rotation group 2, then skip to Introduction to Section F.

*Note: So as to more evenly distribute item non-response resulting from an inability to complete the student questionnaire within the allotted time, the survey instrument rotated the order in which certain sections of the student questionnaire were administered. Respondents assigned to Rotation group 1 (Y\_SGRP=1) were administered the questionnaire sections in the following order: A, B, C, D, E, F, G. Respondents assigned to Rotation group 2 (Y\_SGRP=2) were administered the questionnaire sections in the following order: A, B, C, F, D, E, G.*

**Administered to:** Respondents who provided a job in S2 C41.

~~~~~

## Section D: High School Coursetaking

~~~~~

**Screen:** S2DINTRO

**Question Wording:** Now we are going to ask you some questions about your high school coursetaking.

**Routing:** Go to S2 D01.

~~~~~

**Screen:** S2 D01

**Question Wording:** Not including lunch or study periods, what [is/was] your favorite school subject?

*Note: Question wording was customized so that “is” displayed if the respondent indicated they were currently attending high school, otherwise “was” displayed.*

**Variable:** S2FAVSUBJ

1=English

2=Foreign language

3=Science

4=Art

5=Music

6=Mathematics

7=Physical education or gym

8=Religion

9=Health education

10=Computer science

11=Social studies, history, government, or civics

12=Career preparation class such as health professions, business, or culinary arts

13=Other subject

**Routing:** Go to S2 D02.

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 D02

**Question Wording:** What grade were you in when you took Algebra I?

[(If you have taken it more than once, answer for your most recent course. If you are currently taking Algebra I, choose your current grade.) / (If you have taken it more than once, answer for your most recent course.)]

*Notes: Question wording was customized such that “If you have taken it more than once, answer for your most recent course. If you are currently taking Algebra I, choose your current grade.” displayed if the respondent indicated they were currently in school, otherwise “If you have taken it more than once, answer for your most recent course” displayed if the respondent indicated they were not currently in school. Response options were customized such that the grade the respondent indicated they were currently in did not display as one of the options the respondent could select.*

**Variable:** S2ALG1WHEN

1=8th grade or earlier

2=9th grade

3=10th grade

4=11th grade

5=12th grade

6=You have not taken Algebra I yet

**Routing:** If respondent has taken Algebra I in any grade, go to S2 D03; Else go to S2 D04.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 D03

**Question Wording:** What was your final grade in Algebra I?

**Variable:** S2ALG1GRADE

1=A (between 90–100)

2=B (between 80–89)

3=C (between 70–79)

4=D (between 60–69)

5=Below D (anything less than 60)

6=Your class was not graded

7=You haven’t completed the course yet

**Routing:** Go to S2 D04.

**Administered to:** Respondents who took Algebra I.

~~~~~

**Screen:** S2 D04

**Question Wording:** Have you taken any Advanced Placement (AP) courses? [Include any courses you are taking now.]

*Notes: Question wording was customized such that “Include any courses you are taking now” only displayed if the respondent indicated they were currently taking an AP course.*

**Variable:** S2ANYAP

1=Yes

2=No

3=You don’t know what an AP course is

**Routing:** If respondent has taken any AP courses, then go to S2 D05; Else skip to S2 D06.

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 D05

**Question Wording:** In which of the following subject areas have you taken Advanced Placement (AP) courses? [(Include any courses you are taking now.)]

*Notes: Question wording was customized such that “Include any courses you are taking now” only displayed if the respondent indicated they were currently taking an AP course.*

**Variable:** S2APMATH

Item Wording: Math

1=Yes

0=No

**Variable:** S2APSCIENCE

Item Wording: Science

1=Yes

0=No

**Variable:** S2APOTHER

Item Wording: Another subject

1=Yes

0=No

**Routing:** Go to S2 D06.

**Administered to:** Respondents who have taken an AP course.

~~~~~  
**Screen:** S2 D06

**Question Wording:** Have you taken any International Baccalaureate (IB) courses? [Include any courses you are taking now.]

*Notes: Question wording was customized such that “Include any courses you are taking now” only displayed if the respondent indicated they were currently taking an IB course.*

**Variable:** S2ANYIB

1=Yes

2=No

3=You don’t know what an IB course is

**Routing:** If respondent has taken any IB courses, then go to S2 D07; Else skip to S2 D08.

**Administered to:** All respondents.

~~~~~  
**Screen:** S2 D07

**Question Wording:** In which of the following subject areas have you taken International Baccalaureate (IB) courses? [(Include any courses you are taking now.)]

*Notes: Question wording was customized such that “Include any courses you are taking now” only displayed if the respondent indicated they were currently taking an IB course.*

**Variable:** S2IBMATH

Item Wording: Math

1=Yes

0=No

**Variable:** S2IBSCIENCE

Item Wording: Science

1=Yes

0=No

**Variable:** S2IBOTHER

Item Wording: Another subject

1=Yes

0=No

**Routing:** Go to S2 D08.

**Administered to:** Respondents who have taken an IB course.

~~~~~

**Screen:** S2 D08

**Question Wording:** Other than AP and IB courses, [have you taken any high school courses for college credit/did you take any high school courses for college credit when you were in high school]? [Include any courses for college credit that you are taking now.]

*Notes: Question wording was customized such that “have you taken any high school courses for college credit” is displayed if the respondent indicated they were currently attending high school. In addition, “include any courses for college credit that you are taking now” also displayed if the respondent indicated they were currently taking AP and IB courses. If the respondent indicated they were not currently attending high school, “did you take any high school courses for college credit when you were in high school” displayed.*

**Variable:** S2ANYDUAL

1=Yes

2=No

3=Don’t know

**Routing:** If respondent has taken any high school courses for college credit, then go to S2 D09; Else if respondent is regular student, transfer, or homeschooler, skip to S2 D13; Else if respondent is dropout or early graduate, skip to S2 D20.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 D09

**Question Wording:** In which of the following subject areas [have you taken/did you take] these courses for college credit other than AP and IB? [(Include any courses for college credit that you are taking now.)]

*Notes: Question wording was customized such that “have you taken” is displayed if the respondent indicated they took currently attending high school. In addition, “include any courses for college credit that you are taking now” also displayed if the respondent indicated they were currently taking other courses for credit. If the respondent indicated they were not currently attending high school, “did you take” displayed.*

**Variable:** S2DUALMATH

Item Wording: Math

1=Yes

0=No



**Variable: S2DUALSCIENCE**

Item Wording: Science

1=Yes

0=No

**Variable: S2DUALOTHER**

Item Wording: Another subject

1=Yes

0=No

**Routing:** Go to S2 D10.**Administered to:** Respondents who took additional high school courses for college credit.**Screen: S2 D10****Question Wording:** Where [have you taken/did you take] high school courses for college credit other than AP and IB? [(Include any courses for college credit that you are taking now.)]*Notes: Question wording was customized such that “have you taken” is displayed if the respondent indicated they were currently attending high school. In addition, “include any courses for college credit that you are taking now” also displayed if the respondent indicated they were currently taking AP and IB courses in previous questions. If the respondent indicated they were not currently attending high school, “did you take” displayed.***Variable: S2DUALCLG**

Item Wording: On a college campus

1=Yes

0=No

**Variable: S2DUALHS**

Item Wording: At your high school

1=Yes

0=No

**Variable: S2DUALOTHHS**

Item Wording: At a different high school

1=Yes

0=No

**Variable: S2DUALONLINE**

Item Wording: Online

1=Yes

0=No

**Routing:** Go to S2 D11.**Administered to:** Respondents who took additional high school courses for college credit.**Screen: S2 D11****Question Wording:** [Have you received/Did you receive] high school credit for any of these courses?*Note: Question wording was customized such that “have you received” is displayed if the respondent indicated they were currently attending high school. If the respondent indicated they were not currently attending high school, “Did you receive” displayed.*

**Variable: S2DUALHSCRED**

1=Yes

2=No

3=Have not completed a course yet

**Routing:** If respondent has not completed a course yet, skip to S2 D13; Else go to S2 D12.

**Administered to:** Respondents who took additional high school courses for college credit.

~~~~~

**Screen: S2 D12**

**Question Wording:** [Have you received/Did you receive] college credit for any of these courses?

*Note: Question wording was customized such that “have you received” is displayed if the respondent indicated they were currently attending high school. If the respondent indicated they were not currently attending high school, “Did you receive” displayed.*

**Variable: S2DUALCLGCRED**

1=Yes

0=No

**Routing:** If respondent is a regular student, transfer, or homeschooler, go to S2 D13; Else go to S2 D20.

**Administered to:** Respondents who received college credit for additional high school courses.

~~~~~

**Screen: S2 D13**

**Question Wording:** [Are you currently/Were you] taking a math course [during the spring term of 2012?]

*Note: Question wording was customized such that “are you currently” displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, “Were you” and “during the spring term of 2012” displayed.*

**Variable: S2MSPR12**

1=Yes

0=No

**Routing:** If respondent is/was taking a math course, then go to S2 D15; Else if not then go to S2 D14; Else if no response, go to S2 D20.

**Administered to:** Respondents who were currently attending school or being homeschooled.

~~~~~

**Screen: S2 D14**

**Question Wording:** Why [are/were] you not taking a math course [in the spring term]?

*Note: Question and item wording was customized such that “are” displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, “Were” and “in the spring term” displayed.*

**Variable: S2MDISLIKE**

Item Wording: You really dislike math.

1=Yes

0=No

**Variable: S2MNOTHSREQ**

Item Wording: It is not required for high school graduation.

1=Yes

0=No

**Variable:** S2MNOCLGADM

Item Wording: You will not need it to get into college.

1=Yes

0=No

**Variable:** S2MNOCLGSUCC

Item Wording: You will not need it to succeed in college.

1=Yes

0=No

**Variable:** S2MNOCAREER

Item Wording: You will not need it for your career.

1=Yes

0=No

**Variable:** S2MNOCNSLREC

Item Wording: A high school counselor discouraged you from taking a math class.

1=Yes

0=No

**Variable:** S2MNOTCHRREC

Item Wording: A teacher discouraged you from taking a math class.

1=Yes

0=No

**Variable:** S2MNOPARREC

Item Wording: Your parents discouraged you from taking a math class.

1=Yes

0=No

**Variable:** S2MNOFAMREC

Item Wording: Another family member discouraged you from taking a math class.

1=Yes

0=No

**Variable:** S2MNOEMPREG

Item Wording: Your employer discouraged you from taking a math class.

1=Yes

0=No

**Variable:** S2MNOFRIEND

Item Wording: Your friends [are/were] not taking a math class.

1=Yes

0=No

**Variable:** S2MDONTDOWELL

Item Wording: You do not do well in math.

1=Yes

0=No

**Variable:** S2MNOASSIGN

Item Wording: You were not assigned to a math course.

1=Yes

0=No

**Variable: S2MTOOKBEFORE**

Item Wording: You took math earlier in the school year.

1=Yes

0=No

**Routing:** Go to S2 D20.

**Administered to:** Respondents attending school or being homeschooled who did not take a math course in spring term of 2012.

~~~~~  
**Screen: S2 D15**

**Question Wording:** What math course or courses [are you currently taking/were you taking during the spring term of 2012]?

*Note: Question and item wording was customized such that “are you currently” displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, “were you taking during the spring term of 2012” displayed.*

**Variable: S2PREALGM12**

Item Wording: Pre-algebra

0=No

1=Yes

**Variable: S2ALG1M12**

Item Wording: Algebra I, 1A or 1B

0=No

1=Yes

**Variable: S2ALG2M12**

Item Wording: Algebra II

0=No

1=Yes

**Variable: S2ALG3M12**

Item Wording: Algebra III

0=No

1=Yes

**Variable: S2GEOM12**

Item Wording: Geometry

0=No

1=Yes

**Variable: S2ANGEOM12**

Item Wording: Analytic Geometry

0=No

1=Yes

**Variable: S2TRIGM12**

Item Wording: Trigonometry

0=No

1=Yes

**Variable: S2PRECALC12**

Item Wording: Pre-calculus or Analysis and Functions

0=No

1=Yes

**Variable: S2APCALC12**

Item Wording: Advanced Placement (AP) Calculus AB or BC

0=No

1=Yes

**Variable: S2CALC12**

Item Wording: Other Calculus

0=No

1=Yes

**Variable: S2APSTAT12**

Item Wording: Advanced Placement (AP) Statistics

0=No

1=Yes

**Variable: S2STAT12**

Item Wording: Other Statistics or Probability

0=No

1=Yes

**Variable: S2INTGM112**

Item Wording: Integrated Math I

0=No

1=Yes

**Variable: S2INTGM212**

Item Wording: Integrated Math II

0=No

1=Yes

**Variable: S2INTGM312**

Item Wording: Integrated Math III or above

0=No

1=Yes

**Variable: S2IBMATHSTD12**

Item Wording: International Baccalaureate (IB) mathematics standard level

0=No

1=Yes

**Variable: S2IBMATHHI12**

Item Wording: International Baccalaureate (IB) mathematics higher level

0=No

1=Yes

**Variable: S2REVIEWM12**

Item Wording: Business, Consumer, General, Applied, Technical, Functional, or Review math

0=No

1=Yes

**Variable: S2OTHM12**

Item Wording: Other math course

0=No

1=Yes

**Variable: S2OTHM12SP**

Item Wording: Please specify:

**Routing:** If respondent selected more than one course, go to S2 D16; Else if respondent selected one math course, go to S2 D17; Else if respondent selected no math course, go to S2 D20.

**Administered to:** Respondents who took a math course in spring term of 2012.

~~~~~

**Screen: S2 D16**

**Question Wording:** Of the math courses you [are currently taking/were taking during the spring term of 2012], which [is/was] the most challenging?

*Note: Question and item wording was customized such that “are you currently taking” and “is” displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, “were taking during the spring term of 2012” and “was” displayed.*

**Variable: S2HIMATH12**

1=Pre-Algebra

2=Algebra I, 1A or 1B

3=Algebra II

4=Algebra III

5=Geometry

6=Analytic Geometry

7=Trigonometry

8=Pre-calculus or Analysis and Functions

9=Advanced Placement (AP) Calculus AB or BC

10=Other Calculus

11=Advanced Placement (AP) Statistics or Probability

12=Other Statistics or Probability

13=Integrated Math I

14=Integrated Math II

15=Integrated Math III or above

16=International Baccalaureate (IB) mathematics standard level

17=International Baccalaureate (IB) mathematics higher level

18=Business, Consumer, General, Applied, Technical, Functional, or Review math

19=If S2MCRSE19SP is nonmissing fill [S2MCRSE19SP] else fill Other math course

**Routing:** Go to S2 D17.

**Administered to:** Respondents who took more than one math course in spring term of 2012.

~~~~~

**Screen: S2 D17**

**Question Wording:** Why [are/were] you taking [math course title] ? Would you say you [are/were] taking it because...

*Note: Question and item wording was customized such that “are” displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, “were” displayed. If the respondent indicated they took more*

*than one math course, the most challenging math course selected in S2D16 displayed in place of "math course title," otherwise the math course selected in S2D15 displayed.*

**Variable: S2MENJOYS**

Item Wording: you really enjoy math?

1=Yes

0=No

**Variable: S2MCHALLENGE**

Item Wording: you like to be challenged?

1=Yes

0=No

**Variable: S2MHSREQ**

Item Wording: you had no choice, it is a high school requirement?

1=Yes

0=No

**Variable: S2MCLGADM**

Item Wording: you will need it to get into college?

1=Yes

0=No

**Variable: S2MCLGSUCC**

Item Wording: you will need it to succeed in college?

1=Yes

0=No

**Variable: S2MCAREER**

Item Wording: you will need it for your career?

1=Yes

0=No

**Variable: S2MCNSLREC**

Item Wording: a high school counselor suggested you take it?

1=Yes

0=No

**Variable: S2MTCHRREC**

Item Wording: a teacher encouraged you to take it?

1=Yes

0=No

**Variable: S2MPARREC**

Item Wording: your parents encouraged you to take it?

1=Yes

0=No

**Variable: S2MFAMREC**

Item Wording: another family member encouraged you to take it?

1=Yes

0=No

**Variable: S2MEMPREC**

Item Wording: your employer encouraged you to take it?

1=Yes

0=No

**Variable: S2MFRIEND**

Item Wording: your friends were taking it?

1=Yes

0=No

**Variable: S2MDOWELL**

Item Wording: you do well in math?

1=Yes

0=No

**Variable: S2MASSIGNED**

Item Wording: it was assigned to you?

1=Yes

0=No

**Routing:** Go to S2 D18.

**Administered to:** Respondents who took a math course in spring term of 2012.

~~~~~  
**Screen: S2 D18**

**Question Wording:** How much do you agree or disagree with the following statements about your teacher for [math course title]? Remember, none of your teachers or your principal will see any of the answers you provide. Your teacher...

*Note: Question wording was customized such that if the respondent indicated they took more than one math course, the most challenging math course selected in S2D16 displayed in place of "math course title," otherwise the math course selected in S2D15 displayed. "Item wording was customized such that the present tense of the words in brackets displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, the past tense of the words in brackets displayed.*

**Variable: S2MTCHTREAT**

Item Wording: [treats/treated] some kids better than other kids.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2MTCHINTRST**

Item Wording: [makes/made] math interesting.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2MTCHEASY**

Item Wording: [makes/made] math easy to understand.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree



**Variable: S2MTCHTHINK**

Item Wording: [wants/wanted] students to think, not just memorize things.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2MTCHGIVEUP**

Item Wording: [doesn't/didn't] let people give up when the work [gets/got] hard.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 D19.

**Administered to:** Respondents who took a math course in spring term of 2012.

**Screen: S2 D19**

**Question Wording:** How often [do/did] you do these things in [math course title]?

*Note: Question and item wording was customized such that the present tense of the words in brackets displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, the past tense of the words in brackets displayed. If the respondent indicated they took more than one math course, the most challenging math course selected in S2D16 displayed in place of "math course title," otherwise the math course selected in S2D15 displayed.*

**Variable: S2MATTENTION**

Item Wording: You [pay/paid] attention to the teacher.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Variable: S2MONTIME**

Item Wording: You [turn/turned] in your assignments and projects on time.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Variable: S2MSTOPTRYING**

Item Wording: When an assignment [is/was] very difficult, you [stop/stopped] trying.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Variable: S2MGETBY**

Item Wording: You [do/did] as little work as possible; you just [want/wanted] to get by.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Routing:** Go to S2 D20.

**Administered to:** Respondents who took a math course in spring term of 2012.

~~~~~  
**Screen: S2 D20**

**Question Wording:** How much do you agree or disagree with the following statements about [math course title]/math]?

*Note: Question and item wording was customized such that the present tense of the words in brackets displayed if the respondent indicated they were currently taking a math course. If the respondent indicated they were not currently taking a math course, the past tense of the words in brackets displayed. If the respondent indicated they took more than one math course, the most challenging math course selected in S2D16 displayed in place of "math course title," otherwise the math course selected in S2D15 displayed.*

**Variable: S2MENJOYING**

Item Wording: [You [are enjoying/enjoyed] this class very much./You enjoy math classes very much.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2MTEXTBOOK**

Item Wording: [You [are/were] certain that you [can/could] understand the most difficult material presented in the textbook used in this course./ You are certain that you can understand the most difficult material presented in math textbooks.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2MWASTE**

Item Wording: [You [think/thought] this class [is/was] a waste of your time. /You think math classes are a waste of your time.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2MSKILLS**

Item Wording: [You [are/were] certain that you [can/could] master the skills [being taught/those that were taught] in this course./You are certain that you can master math skills.]

1=Strongly agree

2=Agree

- 3=Disagree
- 4=Strongly disagree

**Variable: S2MTESTS**

Item Wording: [You [are/were] confident that you [can/could] do an excellent job on tests in this course. /You are confident that you can do an excellent job on math tests.]

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable: S2MBORING**

Item Wording: [You [think/thought] this class [is/was] boring./You think math classes are boring.]

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable: S2MASSEXCL**

Item Wording: [You [are/were] confident that you [can/could] do an excellent job on assignments in this course. /You are confident that you can do an excellent job on math assignments.]

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Routing:** If student, transfer or homeschooler, go to S2 D21

Else, skip to S2 D28

**Administered to:** Respondents who took a math course in spring term of 2012.

**Screen: S2 D21**

**Question Wording:** [Are you currently taking any science, computer science or technology courses/Were you taking any science, computer science or technology courses during the spring term of 2012?

*Note: Question wording was customized such that “Are you currently taking any science, computer science or technology courses” displayed if the respondent indicated they were currently attending school, otherwise “Were you taking any science, computer science or technology courses during the spring term of 2012” displayed.*

**Variable: S2SSPR12**

- 1=Yes
- 0=No

**Routing:** If respondent is/was taking science course, then go to S2 D22; Else if not then go to S2 D24; Else if no response, go to S2 D28

**Administered to:** Respondents who are currently attending school or being homeschooled.

~~~~~  
**Screen: S2 D22**

**Question Wording:** What science, computer science, or engineering course or courses are you currently taking?/What science, computer science or engineering course or courses were you taking during the spring term of 2012?

*Note: Question wording was customized such that “What science, computer science, or engineering course or courses are you currently taking?” displayed if the respondent indicated they were currently attending school, otherwise “What science, computer science or engineering course or courses were you taking during the spring term of 2012?” if the respondent was not currently attending school.*

**Variable: S2LIFES12**

Item Wording: Life Science

0=No

1=Yes

**Variable: S2BIO1S12**

Item Wording: Biology I

0=No

1=Yes

**Variable: S2BIO2S12**

Item Wording: Biology II

0=No

1=Yes

**Variable: S2APBIOS12**

Item Wording: Advanced Placement (AP) Biology

0=No

1=Yes

**Variable: S2IBIOS12**

Item Wording: International Baccalaureate (IB) Biology

0=No

1=Yes

**Variable: S2ANATOMYS12**

Item Wording: Anatomy or Physiology

0=No

1=Yes

**Variable: S2OTHBIOS12**

Item Wording: Other biological sciences such as botany, marine biology, or zoology

0=No

1=Yes

**Variable: S2CHEM1S12**

Item Wording: Chemistry I

0=No

1=Yes

**Variable: S2CHEM2S12**

Item Wording: Chemistry II

0=No

1=Yes

**Variable: S2APCHEM12**

Item Wording: Advanced Placement (AP) Chemistry

0=No

1=Yes

**Variable: S2IBCHEM12**

Item Wording: International Baccalaureate (IB) Chemistry

0=No

1=Yes

**Variable: S2EARTH12**

Item Wording: Earth Science

0=No

1=Yes

**Variable: S2APENV12**

Item Wording: Advanced Placement (AP) Environmental Science

0=No

1=Yes

**Variable: S2IBENV12**

Item Wording: International Baccalaureate (IB) Environmental Systems and Societies

0=No

1=Yes

**Variable: S2OTHENV12**

Item Wording: Other earth or environmental sciences such as ecology, geology, oceanography, or meteorology

0=No

1=Yes

**Variable: S2PHYSIC1S12**

Item Wording: Physics I

0=No

1=Yes

**Variable: S2PHYSIC2S12**

Item Wording: Physics II

0=No

1=Yes

**Variable: S2APPHYSIC12**

Item Wording: Advanced Placement (AP) Physics B or C

0=No

1=Yes

**Variable: S2IBPHYSIC12**

Item Wording: International Baccalaureate (IB) Physics

0=No

1=Yes

**Variable: S2PHYSS12**

Item Wording: Physical Science

0=No

1=Yes

**Variable: S2TECHS12**

Item Wording: Principles of Technology

0=No

1=Yes

**Variable: S2OTHPHYS12**

Item Wording: Other physical sciences such as astronomy or electronics

0=No

1=Yes

**Variable: S2INTGS1S12**

Item Wording: Integrated Science I

0=No

1=Yes

**Variable: S2INTGS2S12**

Item Wording: Integrated Science II or above

0=No

1=Yes

**Variable: S2GENS12**

Item Wording: General Science

0=No

1=Yes

**Variable: S2COMPAPP12**

Item Wording: Computer Applications

0=No

1=Yes

**Variable: S2COMPPROG12**

Item Wording: Computer Programming

0=No

1=Yes

**Variable: S2APCOMPSCI12**

Item Wording: Advanced Placement (AP) Computer Science

0=No

1=Yes

**Variable: S2IBTECH12**

Item Wording: International Baccalaureate (IB) Design Technology

0=No

1=Yes

**Variable: S2OTHCOMP12**

Item Wording: Other computer or information science course

0=No

1=Yes

**Variable: S2ENGINEER12**

Item Wording: An engineering course such as general engineering, robotics, aeronautical, mechanical or electrical engineering

0=No

1=Yes

**Variable: S2OTHS12**

Item Wording: Other science, computer science, or engineering course

0=No

1=Yes

**Variable: S2OTHS12SP**

Item Wording: Please specify:

**Routing:** If more than one science course selected, go to S2 D23; Else if one science course selected, go to S2 D25; Else if no science course is selected, but a non-science course is selected, go to S2 D24; Else if no courses selected at all, go to S2 D28

**Administered to:** Respondents taking a science course in spring term of 2012.

**Screen: S2 D23**

**Question Wording:** Of the science courses you [are currently taking/were taking during the spring term of 2012], which [is/was] the most challenging?

*Note: Question wording was customized such that “are you currently taking” and “is” displayed if the respondent indicated they were currently attending school, otherwise “were taking during the spring term of 2012” and “was” displayed if the respondent was not currently attending school.*

**Variable: S2HISCIENCE12**

1=Life science

2=Biology I

3=Biology II

4=Advanced Placement (AP) Biology

5=International Baccalaureate (IB) Biology

6=Anatomy or Physiology

7=Other biological sciences such as botany, marine biology, or zoology

8=Chemistry I

9=Chemistry II

10=Advanced Placement (AP) Chemistry

11=International Baccalaureate (IB) Chemistry

12=Earth Science

13=Advanced Placement (AP) Environmental Science

14=International Baccalaureate (IB) Environmental Systems and Societies

15=Other earth or environmental sciences such as ecology, geology, oceanography or meteorology

16=Physics I

17=Physics II

18=Advanced Placement (AP) Physics B or C

19=International Baccalaureate (IB) Physics

20=Physical Science

21=Principles of Technology

22=Other physical sciences such as astronomy or electronics

23=Integrated Science I

24=Integrated Science II and above

25=General Science

32=If S2SCRSE32SP is nonmissing fill [S2SCRSE32SP] else fill “Other science, technology, engineering, or computer science course”

**Routing:** Go to S2 D25.

**Administered to:** Respondents taking more than one science course in spring term of 2012.

~~~~~

**Screen:** S2 D24

**Question Wording:** Why [are/were] you not taking a science course [in the spring term]?

*Note: Question wording was customized such that “Are” displayed if the respondent indicated they were currently attending school, otherwise “Were” and “in the spring term” displayed.*

**Variable:** S2SDISLIKE

Item Wording: You really dislike science.

1=Yes

0=No

**Variable:** S2SNOTHSREQ

Item Wording: It is not required for high school graduation.

1=Yes

0=No

**Variable:** S2SNOCLGADM

Item Wording: You will not need it to get into college.

1=Yes

0=No

**Variable:** S2SNOCLGSUCC

Item Wording: You will not need it to succeed in college.

1=Yes

0=No

**Variable:** S2SNOCAREER

Item Wording: You will not need it for your career.

1=Yes

0=No

**Variable:** S2SNOCNSLREC

Item Wording: A high school counselor discouraged you from taking a science class.

1=Yes

0=No

**Variable:** S2SNOTCHRREC

Item Wording: A teacher discouraged you from taking a science class.

1=Yes

0=No

**Variable:** S2SNOPARREC

Item Wording: Your parents discouraged you from taking a science class.

1=Yes

0=No

**Variable:** S2SNOFAMREC

Item Wording: Another family member discouraged you from taking a science class.

1=Yes

0=No



**Variable: S2SNOEMPREG**

Item Wording: Your employer discouraged you from taking a science class.

1=Yes

0=No

**Variable: S2SNOFRIEND**

Item Wording: Your friends [are/were] not taking a science class.

1=Yes

0=No

**Variable: S2SDONTDOWELL**

Item Wording: You do not do well in science.

1=Yes

0=No

**Variable: S2SNOASSIGN**

Item Wording: You were not assigned to a science course.

1=Yes

0=No

**Variable: S2STOOKBEFORE**

Item Wording: You took science earlier in the school year.

1=Yes

0=No

**Routing:** Skip to S2 D28.

**Administered to:** Respondents who were not taking a science course in spring term of 2012.

**Screen: S2 D25**

**Question Wording:** Why [are/were] you taking [science course title] ? Would you say you [are/were] taking it because...

*Note: Question wording was customized such that "are" displayed if the respondent indicated they were currently taking a science course, otherwise "were" displayed if the respondent indicated they took a science course in the spring of 2012. If the respondent indicated they took more than one science course, the most challenging science course selected in S2D24 displayed in place of "science course title," otherwise the science course selected in S2D23 displayed.*

**Variable: S2SENJOYS**

Item Wording: you really enjoy science?

1=Yes

0=No

**Variable: S2SCHALLENGE**

Item Wording: you like to be challenged?

1=Yes

0=No

**Variable: S2SHSREQ**

Item Wording: you had no choice, it is a high school requirement?

1=Yes

0=No

**Variable: S2SCLGADM**

Item Wording: you will need it to get into college?

1=Yes

0=No

**Variable: S2SCLGSUCC**

Item Wording: you will need it to succeed in college?

1=Yes

0=No

**Variable: S2SCAREER**

Item Wording: you will need it for your career?

1=Yes

0=No

**Variable: S2SCNSLREC**

Item Wording: a high school counselor suggested you take it?

1=Yes

0=No

**Variable: S2STCHRREC**

Item Wording: a teacher encouraged you to take it?

1=Yes

0=No

**Variable: S2SPARREC**

Item Wording: your parents encouraged you to take it?

1=Yes

0=No

**Variable: S2SFAMREC**

Item Wording: another family member encouraged you to take it?

1=Yes

0=No

**Variable: S2SEMPREC**

Item Wording: your employer encouraged you to take it?

1=Yes

0=No

**Variable: S2SFRIEND**

Item Wording: your friends were taking it?

1=Yes

0=No

**Variable: S2SDOWELL**

Item Wording: you do well in science?

1=Yes

0=No

**Variable: S2SASSIGNED**

Item Wording: it was assigned to you?

1=Yes

0=No

**Routing:** Go to S2 D26.

**Administered to:** Respondents taking science in spring term of 2012.

~~~~~  
**Screen:** S2 D26

**Question Wording:** How much do you agree or disagree with the following statements about your teacher for [science course title]? Remember, none of your teachers or your principal will see any of the answers you provide. Your teacher...

*Note: Question wording was customized such if the respondent indicated they took more than one science course, the most challenging science course selected in S2D24 displayed in place of "science course title," otherwise the science course selected in S2D23 displayed. "In addition, the response item options were customized such that the present tense of the word in brackets displayed if the respondent indicated they were currently taking a science course, otherwise the past tense of the word displayed if the respondent indicated they took a science course in the spring of 2012.*

**Variable:** S2STCHTREAT

Item Wording: [treats/treated] some kids better than other kids.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable:** S2STCHINTRST

Item Wording: [makes/made] science interesting.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable:** S2STCHEASY

Item Wording: [makes/made] science easy to understand.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable:** S2STCHTHINK

Item Wording: [wants/wanted] students to think, not just memorize things.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable:** S2STCHGIVEUP

Item Wording: [doesn't/didn't] let people give up when the work [gets/got] hard.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 D27.

**Administered to:** Respondents taking science in spring term of 2012.

~~~~~  
**Screen:** S2 D27

**Question Wording:** How often [do/did] you do these things in [science course title]?

*Note: Question and response option wording was customized such that the present tense of the word in brackets displayed if the respondent indicated they were currently taking a science course, otherwise the past tense of the word displayed if the respondent indicated they took a science course in the spring of 2012. Question wording was customized such if the respondent indicated they took more than one science course, the most challenging science course selected in S2D24 displayed in place of “science course title,” otherwise the science course selected in S2D23 displayed.*

**Variable:** S2SATTENTION

Item Wording: You [pay/paid] attention to the teacher.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Variable:** S2SONTIME

Item Wording: You [turn/turned] in your assignments and projects on time.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Variable:** S2SSTOPTRYING

Item Wording: When an assignment [is/was] very difficult, you [stop/stopped] trying.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Variable:** S2SGETBY

Item Wording: You [do/did] as little work as possible; you just [want/wanted] to get by.

1=Never

2=Less than half of the time

3=Half of the time

4=More than half of the time

5=Always

**Routing:** Go to S2 D28.

**Administered to:** Respondents taking science in spring term of 2012.

~~~~~

**Screen:** S2 D28

**Question Wording:** How much do you agree or disagree with the following statements about [science course title/science]?

*Note: Question and response option wording was customized such that the present tense of the word in brackets and the first sentence of the response options displayed if the respondent*

*indicated they were currently taking a science course, otherwise the past tense of the word displayed if the respondent indicated they took a science course in the spring of 2012. If the respondent indicated they had not taken a science course, the second sentence displayed. Question wording was customized such that if the respondent selected a science course in previous questions the science course displayed in place of “science course title” otherwise “science” displayed.*

**Variable: S2SENJOYING**

Item Wording: [You [are enjoying/enjoyed] this class very much./You enjoy science classes very much.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2STEXTBOOK**

Item Wording: [You [are/were] certain that you [can/could] understand the most difficult material presented in the textbook used in this course./ You are certain that you can understand the most difficult material presented in science textbooks.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SWASTE**

Item Wording: [You [think/thought] this class [is/was] a waste of your time. /You think science classes are a waste of your time.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SSKILLS**

Item Wording: [You [are/were] certain that you [can/could] master the skills [being taught/that were taught] in this course./You are certain that you can master science skills.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2STESTS**

Item Wording: [You [are/were] confident that you [can/could] do an excellent job on tests in this course. /You are confident that you can do an excellent job on science tests.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SBORING**

Item Wording: [You [think/thought] this class [is/was] boring./You think science classes are boring.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SASSEXCL**

Item Wording: [You [are/were] confident that you [can/could] do an excellent job on assignments in this course. /You are confident that you can do an excellent job on science assignments.]

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 D29.

**Administered to:** All Respondents.

~~~~~

**Screen: S2 D29**

**Question Wording:** [Has/Did] your school [asked/ask] you to develop a high school graduation, career, or education plan?

*Note: Question wording was customized such that “Has” and “asked” displayed if the respondent indicated they were currently attending school, otherwise “Did” and “ask” displayed if the respondent was not currently attending school.*

**Variable: S2HSPLAN**

1=Yes

2=No

3=Don’t know

**Routing:** If respondent was asked to develop plan, go to S2 D30; Else, go to Introduction to Section E.

**Administered to:** All respondents.

~~~~~

**Screen: S2 D30**

**Question Wording:** [Have you submitted/Did you submit] this plan to your school?

*Note: Question wording was customized such that “Have you submitted” displayed if the respondent indicated they were currently attending school, otherwise “Did you submit” displayed if the respondent was not currently attending school.*

**Variable: S2SUBMITPLAN**

1=Yes

2=No

3=Don’t know

**Routing:** Go to S2 D31.

**Administered to:** Respondents who indicated their high school asked for a graduation, career, or education plan.

~~~~~  
**Screen:** S2 D31

**Question Wording:** On average, how often [have you met/did you meet] with an adult in your high school to review or revise this plan?

*Note: Question wording was customized such that “have you met” displayed if the respondent indicated they were currently attending school, otherwise “did you meet” displayed if the respondent was not currently attending school.*

**Variable:** S2REVIEWPLAN

- 1=Never
- 2=Less than once each school year
- 3=Once each school year
- 4=More than once each school year

**Routing:** Go to Introduction to Section E.

**Administered to:** Respondents who indicated their high school asked for a graduation, career, or education plan.

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## Section E: Attitudes

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**Screen:** S2EINTRO

**Question Wording:** Now we are going to ask you some additional questions about your feelings about math, science and school in general.

**Routing:** Go to S2 E01.

~~~~~

**Screen:** S2 E01

**Question Wording:** How much do you agree or disagree with the following statements?

**Variable:** S2MPERSON1

Item Wording: You see yourself as a math person.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable:** S2MPERSON2

Item Wording: Others see you as a math person.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable:** S2MLEARN

Item Wording: Most people can learn to be good at math.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable:** S2MBORN

Item Wording: You have to be born with the ability to be good at math.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 E02.

**Administered to:** All respondents.

~~~~~

**Screen:** S2 E02

**Question Wording:** How much do you agree or disagree with the following statements about math?

**Variable:** S2MUSELIFE

Item Wording: Math is useful for everyday life.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable:** S2MUSECLG

Item Wording: Math is useful for college.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable:** S2MUSEJOB

Item Wording: Math is useful for a future career.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 E03.

**Administered to:** All respondents

~~~~~

**Screen:** S2 E03

**Question Wording:** How much do you agree or disagree with the following statements?

**Variable:** S2SPERSON1

Item Wording: You see yourself as a science person.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree



**Variable: S2SPERSON2**

Item Wording: Others see you as a science person.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SLEARN**

Item Wording: Most people can learn to be good at science.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SBORN**

Item Wording: You have to be born with the ability to be good at science.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 E04.

Administered to: All respondents

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**Screen: S2 E04**

**Question Wording:** How much do you agree or disagree with the following statements about science?

**Variable: S2SUSELIFE**

Item Wording: Science is useful for everyday life.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SUSECLG**

Item Wording: Science is useful for college.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Variable: S2SUSEJOB**

Item Wording: Science is useful for a future career.

1=Strongly agree

2=Agree

3=Disagree

4=Strongly disagree

**Routing:** Go to S2 E05.

Administered to: All respondents

~~~~~  
**Screen:** S2 E05

**Question Wording:** In general, how would you compare males and females in each of the following subjects?

**Variable:** S2ENGCOMP

Item Wording: English or language arts

- 1=Females are much better
- 2=Females are somewhat better
- 3=Females and males are the same
- 4=Males are somewhat better
- 5=Males are much better

**Variable:** S2MTHCOMP

Item Wording: Math

- 1=Females are much better
- 2=Females are somewhat better
- 3=Females and males are the same
- 4=Males are somewhat better
- 5=Males are much better

**Variable:** S2SCICOMP

Item Wording: Science

- 1=Females are much better
- 2=Females are somewhat better
- 3=Females and males are the same
- 4=Males are somewhat better
- 5=Males are much better

**Routing:** Go to S2 C06.

Administered to: All respondents

~~~~~

**Screen:** S2 E06

**Question Wording:** How much do you agree or disagree with the following statements?

**Variable:** S2PAYOFF

Item Wording: Studying in high school rarely pays off later with good jobs.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable:** S2DOOKAY

Item Wording: People can do okay even if they drop out of high school.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable:** S2BADGRADES

Item Wording: Students with bad grades often get good jobs after high school.

- 1=Strongly agree
- 2=Agree

- 3=Disagree
- 4=Strongly disagree

**Variable: S2SCHWASTE**

Item Wording: High school often is a waste of time.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable: S2SCHOLARSHIP**

Item Wording: Studying in high school pays off with scholarships for college.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Routing:** Go to S2 C07.

Administered to: All respondents

**Screen: S2 E07**

**Question Wording:** How much do you agree or disagree with the following statements?

**Variable: S2CANTAFFORD**

Item Wording: Even if you get accepted to college, your family cannot afford to send you.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Variable: S2SOMECLG**

Item Wording: Regardless of your grades, you will be able to get into some kind of school or college.

- 1=Strongly agree
- 2=Agree
- 3=Disagree
- 4=Strongly disagree

**Routing:** If respondent is in rotation group 1, go to Introduction to Section F; Else if respondent is in rotation group 2, go to Introduction to Section G (locating section not delivered).

*Note: So as to more evenly distribute item non-response resulting from an inability to complete the student questionnaire within the allotted time, the survey instrument rotated the order in which certain sections of the student questionnaire were administered. Respondents assigned to Rotation group 1 (Y\_SGRP=1) were administered the questionnaire sections in the following order: A, B, C, D, E, F, G. Respondents assigned to Rotation group 2 (Y\_SGRP=2) were administered the questionnaire sections in the following order: A, B, C, F, D, E, G.*

Administered to: All respondents

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## Section F: Activities and Family

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**Screen:** S2FINTRO

**Question Wording:** Now we are going to ask you some questions about how you spend your time.

**Routing:** Go to S2 F01.

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**Screen:** S2 F01

**Question Wording:** Since the fall of 2009, which of the following activities have you participated in?

**Variable:** S2MCLUB

Item Wording: Math club

1=Yes

0=No

**Variable:** S2MCOMPETE

Item Wording: Math competition

1=Yes

0=No

**Variable:** S2MSUMMERPRG

Item Wording: Math summer program

1=Yes

0=No

**Variable:** S2MGROUP

Item Wording: Math study group

1=Yes

0=No

**Variable:** S2MTUTORED

Item Wording: Program where you were tutored in math

1=Yes

0=No

**Variable:** S2SCLUB

Item Wording: Science club

1=Yes

0=No

**Variable:** S2SCOMPETE

Item Wording: Science competition

1=Yes

0=No

**Variable:** S2SSUMMERPRG

Item Wording: Science summer program

1=Yes

0=No

**Variable: S2SGROUP**

Item Wording: Science study group

1=Yes

0=No

**Variable: S2STUTORED**

Item Wording: Program where you were tutored in science

1=Yes

0=No

**Variable: S2FFA**

Item Wording: Future Farmers of America (FFA)

1=Yes

0=No

**Variable: S2HOSA**

Item Wording: Health Occupations Students of America (HOSA)

1=Yes

0=No

**Routing:** Go to S2 F02.

Administered to: All respondents

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**Screen: S2 F02****Question Wording:** Since the fall of 2009, have you participated in any of the following activities outside of school?**Variable: S2MUSIC**

Item Wording: Music or dance

1=Yes

0=No

**Variable: S2ART**

Item Wording: Art

1=Yes

0=No

**Variable: S2DRAMA**

Item Wording: Theater or drama

1=Yes

0=No

**Variable: S2SPORTS**

Item Wording: Organized sports supervised by an adult

1=Yes

0=No

**Variable: S2CLUB**

Item Wording: Scouting or another group or club activity

1=Yes

0=No

**Variable: S2ACADEMIC**

Item Wording: Academic instruction outside of school such as from a Saturday Academy, learning center, personal tutor or summer school program

1=Yes

0=No

**Variable: S2CLGCAMP**

Item Wording: A college preparation camp

1=Yes

0=No

**Routing:** Go to S2 F03.

Administered to: All respondents

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**Screen: S2 F03**

**Question Wording:** Have you ever participated in any of the following programs?

**Variable: S2EVERTALENT**

Item Wording: Talent Search

1=Yes

2=No

3=You don't know what this is

**Variable: S2EVERUPWARD**

Item Wording: Upward Bound

1=Yes

2=No

3=You don't know what this is

**Variable: S2EVERGEARUP**

Item Wording: GEAR UP

1=Yes

2=No

3=You don't know what this is

**Variable: S2EVERAVID**

Item Wording: AVID (Advancement in Individual Determination)

1=Yes

2=No

3=You don't know what this is

**Variable: S2EVERMESA**

Item Wording: MESA (Mathematics, Engineering, Science Achievement)

1=Yes

2=No

3=You don't know what this is

**Routing:** Go to S2 F04.

Administered to: All respondents

~~~~~  
**Screen: S2 F04**

**Question Wording:** During a typical school week [during the spring term of 2012/when you were last enrolled in high school], how many hours [do/did] you spend...

*Notes: Question wording was customized such that “during the spring term of 2012” and “do” displayed if the respondent indicated they were currently attending school, otherwise “when you were last enrolled in high school” and “did” displayed if the respondent was not attending high school. In addition, the response options were customized such that the first response option “S2MHOMEWRK” did not display if the respondent indicated they were not currently taking a math class, and the second response option “S2SHOMEWRK” did not display if the respondent indicated they were not currently taking a science class.*

**Variable: S2MHOMEWRK**

Item Wording: working on math homework and studying for math class?

- 0=No time
- 1=Less than 1/2 hour
- 2=1/2 to 1 hour
- 3=1 to 2 hours
- 4=2 to 3 hours
- 5=4 to 6 hours
- 6=7 to 9 hours
- 7=More than 9 hours

**Variable: S2SHOMEWRK**

Item Wording: working on science homework and studying for science class?

- 0=No time
- 1=Less than 1/2 hour
- 2=1/2 to 1 hour
- 3=1 to 2 hours
- 4=2 to 3 hours
- 5=4 to 6 hours
- 6=7 to 9 hours
- 7=More than 9 hours

**Variable: S2OHOMEWRK**

Item Wording: working on homework and studying for the rest of your classes?

- 0=No time
- 1=Less than 1/2 hour
- 2=1/2 to 1 hour
- 3=1 to 2 hours
- 4=2 to 3 hours
- 5=4 to 6 hours
- 6=7 to 9 hours
- 7=More than 9 hours

**Routing:** Go to S2 F05.

Administered to: All respondents

**Screen: S2 F05**

**Question Wording:** Do you think you would [earn/have earned] higher grades if you [had] spent more time studying?

*Notes: Question wording was customized such that “earned” displayed if the respondent indicated they were currently attending school, otherwise “have earned” and “had” displayed.*

**Variable: S2STUDYMORE**

1=Yes

0=No

**Routing:** If respondent thought he/she could earn better grades by studying, then go to S2 F06. Else, if respondent is a regular student, transfer, or homeschooler, then go to S2F07. Else, go to S2 F08.

Administered to: All respondents

~~~~~  
**Screen: S2 F06**

**Question Wording:** Which of the following are reasons you [do not/did not] spend more time studying?

*Notes: Question and item wording was customized such that the present tense of the word in brackets displayed if the respondent indicated they were currently attending school, otherwise the past tense of the word in brackets displayed.*

**Variable: S2DONTCARE**

Item Wording: You [do not/did not] care about earning higher grades.

1=Yes

0=No

**Variable: S2CANTSEND**

Item Wording: Even if you [get/got] better grades, your family [cannot afford/could not have afforded] to send you to school or college.

1=Yes

0=No

**Variable: S2HIGHGRADES**

Item Wording: Your grades [are/were] already high.

1=Yes

0=No

**Variable: S2HANGOUT**

Item Wording: You [want to /wanted to] hang out with your friends instead.

1=Yes

0=No

**Variable: S2CLUBTIME**

Item Wording: You [have/had] organized activities such as clubs or sports that [take/took] too much time.

1=Yes

0=No

**Variable: S2POPULAR**

Item Wording: You would not [be/have been] popular.

1=Yes

0=No

**Variable: S2MAKEFUN**

Item Wording: People [would make/would have made] fun of you.

1=Yes

0=No



**Variable: S2JOBTIME**

Item Wording: You [have/had] a job that [takes/took] too much time.

1=Yes

0=No

**Routing:** If respondent is a regular student, transfer, or homeschooler, go to S2 F07; Else, skip to S2 F08.

**Administered to:** Respondents who thought they could earn better grades by spending more time studying.

**Screen: S2 F07**

**Question Wording:** [Are you currently/At the end of the spring term of 2012, were you] working for pay not counting work around the house?

*Note: Question wording was customized such that "Are you currently" displayed if the respondent indicated they were currently attending school, otherwise "At the end of the spring term of 2012, were you" displayed.*

**Variable: S2HSJOBNOW**

1=Yes

0=No

**Routing:** If student working for pay, then go to S2 F09; Else go to S2 F08.

**Administered to:** Respondents who were in school or being homeschooled.

**Screen: S2 F08**

**Question Wording:** [At any time since starting 9th grade, have you worked/At any time when you were enrolled in high school, did you work] for pay during the school year? Do not count work around the house.

*Note: Question wording was customized such that "At any time since starting 9th grade, have you worked" displayed if the respondent indicated they were currently attending high school, otherwise "At any time when you were enrolled in high school, did you work" displayed.*

**Variable: S2HSJOBEVER**

1=Yes

0=No

**Routing:** If respondent has ever worked then go to S2 F09; Else if respondent is a regular student, transfer, or homeschooler AND in rotation group 1, go to Section G (locating section not delivered); Else if respondent is a regular student, transfer, or homeschooler AND in rotation group 2, go to Section D; Else if respondent is dropout or early grad, skip to S2 F11.

*Note: So as to more evenly distribute item non-response resulting from an inability to complete the student questionnaire within the allotted time, the survey instrument rotated the order in which certain sections of the student questionnaire were administered. Respondents assigned to Rotation group 1 (Y\_SGRP=1) were administered the questionnaire sections in the following order: A, B, C, D, E, F, G. Respondents assigned to Rotation group 2 (Y\_SGRP=2) were administered the questionnaire sections in the following order: A, B, C, F, D, E, G.*

**Administered to:** Respondents who were in school or being homeschooled and were not currently working for pay, and respondents who were dropouts or early graduates

~~~~~  
**Screen:** S2 F09

**Question Wording:** How many hours per week [do you/ did you] usually work on your [current/most recent] job [at the end of the spring term/during the school year]?

(Please round to the nearest whole number.)

*Note: Question wording was customized such that “How many hours per week do you usually work on your current job during the school year” displayed if the respondent indicated they had a job and were currently in school. Otherwise, “How many hours per week did you usually work on your most recent job during the school year displayed.”*

**Variable:** S2HSJOBHR

Item Wording: hours per week

**Routing:** Go to S2 F10.

**Administered to:** Respondents who were currently working or had ever worked for pay while in high school

~~~~~

**Screen:** S2 F10

**Question Wording:** [Is/Was] this job related to the job you want to have when you have completed your education? Would you say...

*Note: Question wording was customized such that “Is” displayed if the respondent indicated they currently had a job, otherwise “was” displayed if the respondent indicated they did not currently have a job.*

**Variable:** S2HSJOBRELATE

1=Closely related

2=Somewhat related, or

3=Not at all related?

**Routing:** If respondent is a regular student, transfer, or homeschooler AND in rotation group 1, go to Section G (locating section not delivered); Else if respondent is a regular student, transfer, or homeschooler AND in rotation group 2, go to Section D; Else go to S2 F11.

*Note: So as to more evenly distribute item non-response resulting from an inability to complete the student questionnaire within the allotted time, the survey instrument rotated the order in which certain sections of the student questionnaire were administered. Respondents assigned to Rotation group 1 (Y\_SGRP=1) were administered the questionnaire sections in the following order: A, B, C, D, E, F, G. Respondents assigned to Rotation group 2 (Y\_SGRP=2) were administered the questionnaire sections in the following order: A, B, C, F, D, E, G.*

**Administered to:** Respondents who were currently working or had ever worked for pay while in high school

~~~~~

**Screen:** S2 F11

**Question Wording:** How many jobs have you held since you left high school? Include any jobs you started when you were in high school and continued after you left high school.

**Variable:** S2NUMJOB

Item Wording: jobs

0=None

1=1

2=2

3=3 or more

**Routing:** If respondent has held at least one job since last leaving high school, then go to S2 F12; Else go to S2 F20.

**Administered to:** Respondents who were dropouts or early graduates

**Screen:** S2 F12

**Question Wording:** The next question is about the first job you held after leaving high school. This may be a job you started while you were in high school. [(If you had more than one job when you left high school, please answer for the job you had the longest.)]

In what month and year did you start working at this job?

**Variable:** S21STJOBMO

Item Wording: Month:

- 9=Select one
- 1=January
- 2=February
- 3=March
- 4=April
- 5=May
- 6=June
- 7=July
- 8=August
- 9=September
- 10=October
- 11=November
- 12=December

**Variable:** S21STJOBYR

Item Wording: Year:

- 9=Select one
- 2008=2008 or earlier
- 2009=2009
- 2010=2010
- 2011=2011
- 2012=2012

**Routing:** Go to S2 F13.

**Administered to:** Respondents who were dropouts or early graduates and had held at least one job since leaving high school

**Screen:** S2 F13

**Question Wording:** Do you still have this job?

**Variable:** S21STJOBSTILL

- 1=Yes
- 0=No

**Routing:** If student no longer has this job and had only one job since leaving high school, go to S2 F16; Else, if respondent no longer has this job and had more than once job since leaving high school, go to S2 F14; Else if respondent still has this job, go to S2 F16; Else, go to S2 F14.

**Administered to:** Respondents who were dropouts or early graduates and had held at least one job since leaving high school

~~~~~  
**Screen:** S2 F14

**Question Wording:** Do you currently have a job?

**Variable:** S2JOBNOW

1=Yes

0=No

**Routing:** Go to S2 F15.

**Administered to:** Respondents who were dropouts or early graduates and had held more than one job since leaving high school but were no longer working at the job reported in S21STJOBMO and S21STJOBYR

~~~~~

**Screen:** S2 F15

**Question Wording:** What month and year did you start your [current/most recent] job?

*Note: Question wording was customized such that “current” displayed if the respondent indicated they currently had a job, otherwise “most recent” displayed if the respondent indicated they were not currently working but had a job in the past.*

**Variable:** S2JOBMO

Item Wording: Month:

-9=Select one

1=January

2=February

3=March

4=April

5=May

6=June

7=July

8=August

9=September

10=October

11=November

12=December

**Variable:** S2JOBYR

Item Wording: Year:

-9=Select one

2008=2008 or earlier

2009=2009

2010=2010

2011=2011

2012=2012

**Routing:** Go to S2 F16.

**Administered to:** Respondents who were dropouts or early graduates and had held more than one job since leaving high school but were no longer working at the job reported in S21STJOBMO and S21STJOBYR

~~~~~  
**Screen:** S2 F16**Question Wording:** About how many hours per week [do/did] you usually work in your [current/most recent] job? (Please round to the nearest whole number.)*Note: Question wording was customized such that “do” and “current” displayed if the respondent indicated they currently had a job, otherwise “did” and “most recent” displayed if the respondent indicated they were not currently working but had a job in the past.***Variable:** S2JOBHR

Item Wording: hours per week

**Routing:** Go to S2 F17.**Administered to:** Respondents who were dropouts or early graduates and held at least one job since leaving high school.  
~~~~~**Screen:** S2 F17**Question Wording:** [How much do/When you left this job, how much did] you earn before taxes [are/were] taken out?*Note: Question wording was customized such that “How much do” and “are” displayed if the respondent indicated they currently had a job, otherwise “When you left this job, how much did” and “were” displayed if the respondent indicated they were not currently working but had a job in the past.***Variable:** S2JOBEARN

Item Wording: \$

**Variable:** S2JOBUNIT

-9=Select one

1=hour

2=day

3=week

4=month

5=year

**Routing:** Go to S2 F18.**Administered to:** Respondents who were dropouts or early graduates and had held at least one job since leaving high school  
~~~~~**Screen:** S2 F18**Question Wording:** [Is your current/Was your most recent] job related to the job you want to have when you have completed your education? Would you say...*Note: Question wording was customized such that “Is your current” displayed if the respondent indicated they currently had a job, otherwise “Was your most recent” displayed if the respondent indicated they were not currently working but had a job in the past.***Variable:** S2JOBRELATE

1=Closely related

2=Somewhat related, or

3=Not at all related?

**Routing:** If the student has a job, then go to S2 F20. Else, go to S2 F19.**Administered to:** Respondents who were dropouts or early graduates and had held at least one job since leaving high school

~~~~~  
**Screen:** S2 F19

**Question Wording:** Why are you no longer working in this job? Would you say...

**Variable:** S2JOBLEFTRSN

1=you left voluntarily or quit

2=you were laid off

3=the company went out of business or plant closed

4=you were discharged or fired

5=your temporary or seasonal job ended

6=you left on disability or

7=for some other reason?

**Routing:** If interview administered out of school then go to S2 F20; Else skip to S2 F23.

**Administered to:** Respondents who were dropouts or early graduates (X2SQSTAT<7 and X2ENROLSTAT=5,4) and had held at least one job since leaving high school (S2NUMJOB>0) and were not currently employed (S2JOBNOW<>1)

~~~~~

**Screen:** S2 F20

**Question Wording:** How many children do you have?

**Variable:** S2NUMCHILD

0=None

1=One

2=More than one

**Routing:** If respondent has one or more children, go to S2 F21; Else go to S2 F23.

**Administered to:** Respondents who were dropouts or early graduates

~~~~~

**Screen:** S2 F21

**Question Wording:** In what month and year [was your first child born/was your child born?

*Note: Question wording was customized such that “was your first child born” displayed if the respondent indicated they had more than one child, otherwise “was your child born” displayed if the respondent indicated they only had one child.*

**Variable:** S2CHILDBORNMO

Item Wording: Month:

-9=Select one

1=January

2=February

3=March

4=April

5=May

6=June

7=July

8=August

9=September

10=October

11=November

12=December

**Variable: S2CHILDBORNYR**

Item Wording: Year:

- 9=Select one
- 2004=2004 or earlier
- 2005=2005
- 2006=2006
- 2007=2007
- 2008=2008
- 2009=2009
- 2010=2010
- 2011=2011
- 2012=2012

**Routing:** Go to S2 F22.**Administered to:** Respondents who were dropouts or early graduates and had one or more children**Screen: S2 F22****Question Wording:** [Does your child/Do any of your children/Will your child] live with you?

*Note: Question wording was customized such that “does your child” displayed if the respondent indicated they had one child, otherwise “do any of your children” displayed if the respondent indicated they had more than one child. “Will your child” displayed if the respondent indicated they were expecting a child.*

**Variable: S2LIVECHILD**

- 1=Yes
- 0=No

**Routing:** Go to S2 F23.**Administered to:** Respondents who were dropouts or early graduates and had one or more children**Screen: S2 F23****Question Wording:** [Besides your child(ren), who else/Who] do you currently live with?

*Note: Question wording was customizes such that “Besides your child(ren), who else” displayed if the respondent indicated they had a child, otherwise “Who” displayed.*

**Variable: S2LIVEPARENT**

Item Wording: One or more of your parents

- 0=No
- 1=Yes

**Variable: S2LIVESIBS**

Item Wording: Siblings or other relatives

- 0=No
- 1=Yes

**Variable: S2LIVESPOUSE**

Item Wording: Your spouse

- 0=No
- 1=Yes

**Variable: S2LIVEPARTNER**

Item Wording: Your girlfriend or boyfriend

0=No

1=Yes

**Variable: S2LIVEFRIEND**

Item Wording: Friends or roommates

0=No

1=Yes

**Variable: S2LIVEALONE**

Item Wording: No one

0=No

1=Yes

**Routing:** Go to S2 F24.

**Administered to:** Respondents who were dropouts or early graduates

~~~~~

**Screen: S2 F24**

**Question Wording:** Are you [or your spouse/partner] currently receiving public assistance such as unemployment insurance, food assistance, or other help?

*Note: Question wording was customized such that "or your spouse/partner" displayed only if the respondent indicated they had a spouse or partner.*

**Variable: S2PUBASSIST**

1=Yes

0=No

**Routing:** If respondent is in rotation group 1, go to Introduction to Section G (locating section not delivered); Else if respondent is in rotation group 2, go to Introduction to Section E.

*Note: So as to more evenly distribute item non-response resulting from an inability to complete the student questionnaire within the allotted time, the survey instrument rotated the order in which certain sections of the student questionnaire were administered. Respondents assigned to Rotation group 1 (Y\_SGRP=1) were administered the questionnaire sections in the following order: A, B, C, D, E, F, G. Respondents assigned to Rotation group 2 (Y\_SGRP=2) were administered the questionnaire sections in the following order: A, B, C, F, D, E, G.*

**Administered to:** Respondents who were dropouts or early graduates

~~~~~



## Parent

### Section A: Family Background

**Screen:** P2AINTRO

**Question Wording:** We will begin with some questions about [Teenager]'s family.

**Routing:** If teenager's sex is known, then go to P2 A01A. Else go to P2A01B.

**Screen:** P2 A01A

**Question Wording:** Just to confirm, our records indicate that [Teenager] is [male/female]. Is this correct?

**Variable:** Not delivered on data file

1=Yes

0=No

**Routing:** Go to P2 A02.

**Administered to:** Respondents whose teenager's sex was provided in BY

**Screen:** P2 A01B

**Question Wording:** What is [Teenager]'s sex?

**Variable:** Not delivered on data file

1=Male

2=Female

**Routing:** Go to P2 A02.

**Administered to:** Respondents whose teenager's sex is unknown

**Screen:** P2 A02

**Question Wording:** How much of the time does [Teenager] live with you?

**Variable:** P2HHTIME

1=All of the time

2=More than half of the time

3=Half of the time

4=Less than half of the time or

5=None of the time

**Routing:** Go to P2 A03.

**Administered to:** All respondents

**Screen:** P2 A03

**Question Wording:** What is your relationship to [Teenager]? Are you [his/her] biological parent, adoptive parent, stepparent, or someone else?

*Note: Item(s) included in the abbreviated paper and pencil questionnaire.*

**Variable:** P2RELSHP

1=Biological mother

2=Biological father

3=Adoptive mother

- 4=Adoptive father
- 5=Stepmother
- 6=Stepfather
- 7=Foster mother
- 8=Foster father
- 9=Female partner of [Teenager]'s parent or guardian
- 10=Male partner of [Teenager]'s parent or guardian
- 11=Grandmother
- 12=Grandfather
- 13=Other female relative
- 14=Other male relative
- 15=Other female guardian
- 16=Other male guardian

**Routing:** If the F1 respondent is the same biological parent who responded in BY, then set same respondent indicator to “yes” (P2SAMER=1) and go to P2 A08;

Otherwise, if the F1 respondent's relationship to the teenager is the same as the base year respondent's relationship, then go to P2 A04; Otherwise, if the F1 respondent is a parent (i.e., adoptive, step, foster or partner of parent), then set same respondent indicator to null (P2SAMER=0) and go to P2 A08; Otherwise, if the F1 respondent is a non-parent, then set same respondent indicator to null (P2SAMER=0) and go to P2 A05.

**Administered to:** All respondents

~~~~~  
**Screen:** P2 A04

**Question Wording:** To help us customize your interview, we would like to know if you are the parent or guardian who completed the HSLs:09 parent interview in [Month and Year of base year interview].

Our records indicate that [base year respondent] completed the interview. Are you [base year respondent]?

**Variable:** P2SAMER

- 1=Yes
- 0=No

**Routing:** If respondent is the same as the base year respondent, set same respondent indicator to “yes” (P2SAMER=1); Else if the respondent is not the same as the base year respondent, set same respondent indicator to “no” (P2SAMER=0); If the respondent is a parent or parent's partner, go to P2 A08; Else if respondent is a grandparent, relative, guardian, or no response, go to P2 A05.

**Administered to:** Respondents with the same relationship to the teenager as the base year respondent with the exception of biological parents

~~~~~  
**Screen:** P2 A05

**Question Wording:** Does [Teenager] have biological, adoptive, step- or foster parents who live in your household?

**Variable:** P2HHPARENT

- 1=Yes, one parent in household
- 2=Yes, two parents in household
- 3=No parents in household

**Routing:** If 1 or 2 parents live in the home with the teenager, go to P2 A06; Else if no biological, adoptive, step, or foster parents in home, or no response, go to P2 A08.

**Administered to:** Non-parent respondents

~~~~~  
**Screen:** P2 A06

**Question Wording:** What [is this parent's relationship/are these parents' relationships] to [him/her]?

*Note: Question wording was customized in the survey instrument such that the language in the brackets depended on whether they were one or two parents in the household (P2HHPARENT). If there was only one parent in the household, P2HHPARREL2 was not displayed.*

**Variable:** P2HHPARREL1

Item Wording: First Parent

- 1=Biological mother
- 2=Biological father
- 3=Adoptive mother
- 4=Adoptive father
- 5=Stepmother
- 6=Stepfather
- 7=Foster mother
- 8=Foster father

**Variable:** P2HHPARREL2

Item Wording: Second Parent

- 1=Biological mother
- 2=Biological father
- 3=Adoptive mother
- 4=Adoptive father
- 5=Stepmother
- 6=Stepfather
- 7=Foster mother
- 8=Foster father

**Routing:** If the respondent is not the same as the base year interview respondent, then set same parent 2 indicator to null (P2SAMESPS=0) and go to P2 A13; Otherwise, if two parents were in the household in either base year or first follow-up, then set same parent 2 indicator to null (P2SAMESPS=0) and go to P2 A13. Otherwise, if respondent reported one parent in the household in both the base year and the first follow-up, and that parent is the same biological parent in both rounds, then set same parent 2 indicator to yes (P2SAMESPS=1) and go to P2 A13. Otherwise, if year of birth was not reported in base year for parent 2 then set same parent 2 indicator to null (P2SAMESPS=0) and go to P2 A13. Otherwise, go to P2A07

**Administered to:** Non-parent respondents who had one or two parents in the household

~~~~~  
**Screen:** P2 A07

**Question Wording:** To help us customize your interview, we would like to know if this is the same parent you reported on in [Month and Year of base year interview]. At that time, you reported that [Teenager]'s [base year Parent 2] was born in [Birth year of parent 2 in base year]? Is this the same person you are reporting on now?

**Variable:** P2SAMEPAR

1=Yes

0=No

**Routing:** Go to P2 A13.

**Administered to:** Non-parent respondents who were also the base year respondent and reported that there was one non-biological parent in the household in both rounds for whom birth year is known.

~~~~~  
**Screen:** P2 A08

**Question Wording:** Do you have a spouse or partner who lives in the same household as you and [Teenager]?

*Note: Item(s) included in the abbreviated paper and pencil questionnaire.*

**Variable:** P2SPOUSE

1=Yes, a spouse

2=Yes, a partner

3=No

**Routing:** If spouse or partner, go to P2 A09; Else, skip to P2 A11.

**Administered to:** Parent respondents and non-parent respondents without parents in the household

~~~~~  
**Screen:** P2 A09

**Question Wording:** What is your [spouse/partner]'s relationship to [Teenager]?

*Note: If the respondent was the biological parent, the respondent's relationship was not displayed as a response option. If the respondent was a parent or partner of a parent, response options 11–14 were not displayed. If the respondent was a grandparent, relative, or guardian, response options 1–10 were not displayed. Item(s) included in the abbreviated paper and pencil questionnaire.*

**Variable:** P2SPSREL

1=Biological mother

2=Biological father

3=Adoptive mother

4=Adoptive father

5=Stepmother

6=Stepfather

7=Foster mother

8=Foster father

9=Female partner of [Teenager]'s parent or guardian

10=Male partner of [Teenager]'s parent or guardian

11=Grandmother

12=Grandfather

13=Other female relative

14=Other male relative

15=Other female guardian

16=Other male guardian

**Routing:** If same respondent indicator is null (P2SAMER=0), then set same Parent 2 indicator to null (P2SAMESPS=0) and go to P2 A13; Otherwise, if spouse/partner is the same biological

parent as the base year spouse/partner (P2SAMER=1), then set same Parent 2 indicator to “yes” (P2SAMESPS=1) and go to P2 A13; Otherwise, if spouse/partner has same relationship to teenager as base year spouse/partner, then go to P2 A10; Otherwise, set same Parent 2 indicator to null (P2SAMESPS=0) and go to P2 A13.

**Administered to:** Respondents with a spouse or partner in the household

~~~~~  
**Screen:** P2 A10

**Question Wording:** To help us customize your interview, we would like to know if this is the same [spouse/partner] you reported on in [Month and Year of base year interview]. At that time, you reported that your [spouse/partner] was born in [Birth year of parent 2 in base year]. Is this the same person you are reporting on now?

**Variable:** P2SAMESPS

1=Yes

0=No

**Routing:** If spouse/partner is the same as base year spouse/partner, then set same Parent 2 indicator to “yes” (P2SAMESPS=1) and go to P2 A13; Else set same Parent 2 indicator to null (P2SAMESPS=0) and go to P2 A13.

**Administered to:** Respondents who are the same as the base year respondent and have a spouse/partner with the same non-biological relationship to the teenager as the spouse/partner in the base year

~~~~~  
**Screen:** P2 A11

**Question Wording:** Besides yourself is there another adult in the household who has parental responsibility for [Teenager] such as a grandparent or another relative?

**Variable:** P2OTHADULT

1=Yes

0=No

**Routing:** If another adult with parental responsibility, go to P2 A12; Otherwise, if no adult or no response skip to P2 A13.

**Administered to:** Parent respondents who have no spouse/partner in the household and non-parent respondents who have neither a spouse/partner nor a parent in the household

~~~~~  
**Screen:** P2 A12

**Question Wording:** What is that adult’s relationship to [Teenager]? If there is more than one, please answer for the one who is most involved in raising [him/her].

**Variable:** P2OTHREL

11=Grandmother

12=Grandfather

13=Other female relative

14=Other male relative

15=Other female guardian

16=Other male guardian

**Routing:** Go to P2 A13.

**Administered to:** Respondents who have another adult in the household who has parental responsibility for the teenager besides a spouse/partner or a parent

~~~~~  
**Screen:** P2 A13

**Question Wording:** [What is [your/this parent's] current marital status?/What is the marital relationship of these parents?]

*Note: If the respondent was a parent, the question asked about the respondent's marital status; if the respondent was a non-parent and there was one parent in the household, the question asked about parent 1's marital status; and if the respondent was a non-parent and there were two parents in the household, the question asked about the two parents' marital status.*

**Variable:** P2MARSTAT

- 1=Married
- 2=Living in a domestic partnership
- 3=Divorced
- 4=Separated
- 5=Single, never married
- 6=Widowed

**Routing:** Go to P2 A14.

**Administered to:** All respondents

~~~~~

**Screen:** P2 A14

**Question Wording:** We would like to know how many people live in your household including yourself [your spouse/ your partner/ [teenager]'s parent/[Teenager's] parents/[Teenager]'s [relationship of other adult with parental responsibility to teenager]] and [Teenager].

How many people living in your household are...

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on which adults were in the household.*

**Variable:** P2HHLT18

Item Wording: under the age of 18?

**Variable:** P2HHGE18

Item Wording: 18 years of age or older?

**Routing:** Go to P2 A15.

**Administered to:** All respondents

~~~~~

**Screen:** P2 A15

**Question Wording:** How many brothers and sisters does [Teenager] have? Include adoptive, half-, and step-siblings, regardless of whether they live in the same household.  
(Please enter 0 if none.)

**Variable:** P2SIBNUM

Item Wording: sibling(s)

**Routing:** If teenager has siblings go to P2 A16. Otherwise, skip to P2 A17.

**Administered to:** All respondents

~~~~~

**Screen:** P2 A16

**Question Wording:** [Has this sibling/Have any of these siblings]...

*Note: Question wording was customized in the survey instrument based on whether the teenager has one or more siblings.*

**Variable: P2SIBDROPOUT**

Item Wording: ever stopped going to high school for a period of 4 weeks or more other than for school breaks, illness, injury, or vacation?

1=Yes

0=No

**Variable: P2SIBHSDIP**

Item Wording: earned a high school diploma?

1=Yes

0=No

**Variable: P2SIBGED**

Item Wording: earned a GED?

1=Yes

0=No

**Variable: P2SIBAPPLYCLG**

Item Wording: applied to college or a school that provides occupational training?

1=Yes

0=No

**Variable: P2SIBAPPLYAID**

Item Wording: applied for financial aid for college or a school that provides occupational training?

1=Yes

0=No

**Variable: P2SIBSTARTCLG**

Item Wording: enrolled in a college or a school that provides occupational training?

1=Yes

0=No

**Variable: P2SIBCLGGRAD**

Item Wording: completed education at a college or a school that provides occupational training?

1=Yes

0=No

**Variable: P2SIBENLIST**

Item Wording: enlisted in the military?

1=Yes

0=No

**Routing:** Go to P2 A17.

**Administered to:** Respondents whose teenager had at least one sibling

~~~~~

**Screen:** P2 A17

**Question Wording:** Since the fall of 2009, which of the following events, if any, occurred in your family?

**Variable: P2PARLOSTJOB**

Item Wording: One of [Teenager]'s parents or guardians lost a job.

1=Yes

0=No

**Variable: P2FORECLOSED**

Item Wording: [Teenager]’s family’s home was foreclosed.

1=Yes

0=No

**Variable: P2PARDIVORCE**

Item Wording: [Teenager]’s parents or guardians separated or divorced.

1=Yes

0=No

**Variable: P2PARHEALTH**

Item Wording: One of [Teenager]’s parents or guardians had serious health problems or was seriously injured.

1=Yes

0=No

**Variable: P2PARDIED**

Item Wording: One of [Teenager]’s parents or guardians died.

1=Yes

0=No

**Variable: P2TEENHEALTH**

Item Wording: [Teenager] had serious health problems or was seriously injured.

1=Yes

0=No

**Variable: P2TEENCHILD**

Item Wording: [Teenager] had a child.

1=Yes

0=No

**Routing:** Go to P2BINTRO.

**Administered to:** All respondents

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## Section B: Teenager’s Educational Experiences

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**Screen:** P2BINTRO

**Question Wording:** Now we have some questions about [Teenager]’s educational experiences.

**Routing:** Go to P2 B01.

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**Screen:** P2 B01

**Question Wording:** What [high school] grades, if any, has [Teenager] repeated [since the fall of 2009]?

*Note: Question wording and item display was customized in the survey instrument. If the base year parent interview was completed, “high school” and “since the fall of 2009” were displayed and the Kindergarten through 8<sup>th</sup> grade items were not.*

**Variable: P2REPEATGK**

Item Wording: Kindergarten

0=No

1=Yes



**Variable: P2REPEATG1**

Item Wording: 1st grade

0=No

1=Yes

**Variable: P2REPEATG2**

Item Wording: 2nd grade

0=No

1=Yes

**Variable: P2REPEATG3**

Item Wording: 3rd grade

0=No

1=Yes

**Variable: P2REPEATG4**

Item Wording: 4th grade

0=No

1=Yes

**Variable: P2REPEATG5**

Item Wording: 5th grade

0=No

1=Yes

**Variable: P2REPEATG6**

Item Wording: 6th grade

0=No

1=Yes

**Variable: P2REPEATG7**

Item Wording: 7th grade

0=No

1=Yes

**Variable: P2REPEATG8**

Item Wording: 8th grade

0=No

1=Yes

**Variable: P2REPEATG9**

Item Wording: 9th grade

0=No

1=Yes

**Variable: P2REPEATG10**

Item Wording: 10th grade

0=No

1=Yes

**Variable: P2REPEATG11**

Item Wording: 11th grade

0=No

1=Yes

**Variable:** P2REPEATNONE

Item Wording: None of these grades

0=No

1=Yes

**Routing:** Go to P2 B02.

**Administered to:** All respondents

~~~~~  
**Screen:** P2 B02

**Question Wording:** What [high school] grades, if any, has [Teenager] skipped [since the fall of 2009]?

*Note: Question wording and item display was customized in the survey instrument. If the base year parent interview was completed, “high school” and “since the fall of 2009” were displayed and the Kindergarten through 8<sup>th</sup> grade items were not. 9<sup>th</sup> grade was not available for selection by respondents.*

**Variable:** P2SKIPGK

Item Wording: Kindergarten

0=No

1=Yes

**Variable:** P2SKIPG1

Item Wording: 1st grade

0=No

1=Yes

**Variable:** P2SKIPG2

Item Wording: 2nd grade

0=No

1=Yes

**Variable:** P2SKIPG3

Item Wording: 3rd grade

0=No

1=Yes

**Variable:** P2SKIPG4

Item Wording: 4th grade

0=No

1=Yes

**Variable:** P2SKIPG5

Item Wording: 5th grade

0=No

1=Yes

**Variable:** P2SKIPG6

Item Wording: 6th grade

0=No

1=Yes

**Variable:** P2SKIPG7

Item Wording: 7th grade

0=No

1=Yes

**Variable: P2SKIPG8**

Item Wording: 8th grade

0=No

1=Yes

**Variable: not delivered on data file**

Item Wording: 9th grade

0=No

1=Yes

**Variable: P2SKIPG10**

Item Wording: 10th grade

0=No

1=Yes

**Variable: P2SKIPG11**

Item Wording: 11th grade

0=No

1=Yes

**Variable: P2SKIPNONE**

Item Wording: None of these grades

0=No

1=Yes

**Routing:** Go to P2 B03.**Administered to:** All respondents

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**Screen: P2 B03**

**Question Wording:** [Is [Teenager] currently/At the end of the spring 2012 term, was [Teenager]] attending high school, not attending high school, or being homeschooled? If [he/she] [is/was] out for school break, illness, injury, or vacation, please consider [him/her] as attending school.

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on when the interview was administered (before or after May 26).*

**Variable: P2ENROLLHS12**

1=Attending high school

2=Not attending high school

3=Being homeschooled

**Routing:** If student was attending school or being homeschooled or no response, go to P2 B05; Else if student was not attending school, go to P2 B04.

**Administered to:** All respondents

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**Screen: P2 B04**

**Question Wording:** [At the end of the spring 2012 term, had/Has] [he/she] earned a regular high school diploma, GED, or alternative high school credential?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on when the interview was administered (before or after May 26).*

**Variable:** P2HSDIPGED

1=Yes, a regular diploma

2=Yes, a GED or alternative high school credential

3=No

**Routing:** Go to P2 B05.

**Administered to:** Respondents with teenagers that were not attending high school

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**Screen:** P2 B05

**Question Wording:** [Since the fall of 2009, has/Has] [he/she] been suspended or expelled from school? Please include in-school and out-of-school suspensions, but do not count detentions.

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether or not the base year parent interview was completed.*

**Variable:** P2SUSPEND

1=Yes

0=No

**Routing:** Go to P2 B06.

**Administered to:** All respondents

~~~~~

**Screen:** P2 B06

**Question Wording:** [At any time since the fall of 2009, has [Teenager]/Prior to the date [Teenager] last attended high school, had [he/she] ever/Before [Teenager] began homeschooling, had [he/she] ever] stopped going to high school for a period of 4 weeks or more? Do not include school breaks, illness, injury, or vacation. Do include school expulsions or out-of-school suspensions lasting a month or more.

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on the enrollment status of the teenager as reported in P2ENROLLHS12.*

**Variable:** P2DROPOUTHS

1=Yes

0=No

**Routing:** Go to P2 B07.

**Administered to:** All respondents

~~~~~

**Screen:** P2 B07

**Question Wording:** [Does [teenager] currently/At the end of the spring term of 2012, did [Teenager]/When [Teenager] was last enrolled in school, did [he/she]] receive special education services? Students receiving these services often have an Individualized Education Plan or Program (IEP).

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on when the interview was administered (before or after May 26) and the enrollment status of the teenager as reported in P2ENROLLHS12.*

**Variable:** P2SPECIALED

1=Yes

2=No

3=Don't know

**Routing:** Go to P2 B08.

**Administered to:** All respondents

~~~~~

**Screen:** P2 B08

**Question Wording:** [During the 2011–2012 school year/When [Teenager] was last enrolled in school], about how many days in an average week [have/did] you [discussed/discuss] homework with [Teenager]? Would you say...

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on when the interview was administered (before or after May 26) and the enrollment status of the teenager as reported in P2ENROLLHS12.*

**Variable:** P2HWOFTEN

- 1=never
- 2=less than once a week
- 3=1 or 2 days a week
- 4=3 or 4 days a week, or
- 5=5 or more days a week?

**Routing:** Go to P2 B09.

**Administered to:** All respondents

~~~~~

**Screen:** P2 B09

**Question Wording:** [When [Teenager] was last enrolled in school, how/During the 2011–2012 school year, how/How] confident [do/did] you feel about your ability to help [Teenager] with the homework [he/she] [has this school year/had] in each of the following subjects?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on when the interview was administered (before or after May 26) and the enrollment status of the teenager as reported in P2ENROLLHS12.*

**Variable:** P2MTHHWEFF

Item Wording: Math

- 1=Very confident
- 2=Somewhat confident
- 3=Not at all confident

**Variable:** P2SCIHWEFF

Item Wording: Science

- 1=Very confident
- 2=Somewhat confident
- 3=Not at all confident

**Variable:** P2ENGHWEFF

Item Wording: English or language arts

- 1=Very confident
- 2=Somewhat confident
- 3=Not at all confident

**Routing:** Go to P2 B10.

**Administered to:** All respondents

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**Screen:** P2 B10

**Question Wording:** During the last 12 months, which of the following activities have you [or [your spouse/your partner/parent 2] ]done with [Teenager]?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on who was parent 2: the respondent's spouse or partner, a parent in a non-parent respondent household, or another adult with parental responsibility.*

**Variable: P2MUSEUM**

Item Wording: Visited a science-related destination, such as a zoo, planetarium, or natural history museum

1=Yes

0=No

**Variable: P2COMPUTER**

Item Wording: Worked or played on a computer together

1=Yes

0=No

**Variable: P2FIXED**

Item Wording: Built or fixed something such as a vehicle or appliance

1=Yes

0=No

**Variable: P2SCIPROJ**

Item Wording: Helped [Teenager] with a school science fair project

1=Yes

0=No

**Variable: P2STEMDISC**

Item Wording: Discussed a program or article about science, technology, engineering, or math

1=Yes

0=No

**Variable: P2LIBRARY**

Item Wording: Visited a library

1=Yes

0=No

**Variable: P2SHOW**

Item Wording: Gone to a play, concert, or other live show

1=Yes

0=No

**Variable: P2ARTEXHIBIT**

Item Wording: Gone to an art museum or exhibit

1=Yes

0=No

**Variable: P2NATLPARK**

Item Wording: Visited a national or state park

1=Yes

0=No

**Routing:** Go to P2 B11.

**Administered to:** All respondents

~~~~~  
**Screen:** P2 B11

**Question Wording:** During the last 12 months, has [Teenager] participated in a religious youth group or received religious instruction outside of school?

**Variable:** P2RELIGGRP

1=Yes

0=No

**Routing:** Go to P2 B12.

**Administered to:** All respondents

~~~~~

**Screen:** P2 B12

**Question Wording:** How much do you agree or disagree with the following statements?

**Variable:** P2GOODJOB

Item Wording: Studying in high school rarely pays off later with good jobs.

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Variable:** P2DROPOUTOK

Item Wording: People can do okay even if they drop out of high school.

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Variable:** P2BADGRADES

Item Wording: Students with bad grades often get good jobs after high school.

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Variable:** P2SCHWASTE

Item Wording: High school often is a waste of time.

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Variable:** P2SCHOLARSHIP

Item Wording: Studying in high school pays off with scholarships for college.

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Routing:** Go to P2 B13.

**Administered to:** All respondents

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**Screen:** P2 B13

**Question Wording:** How much do you agree or disagree with the following statements?

**Variable:** P2CANTAFFORD

Item Wording: Even if [Teenager] gets accepted to college, [his/her] family cannot afford to send [him/her].

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Variable:** P2GETINTOCLG

Item Wording: Regardless of [his/her] grades, [Teenager] will be able to get into some kind of school or college.

1=Strongly Agree

2=Agree

3=Disagree

4=Strongly Disagree

**Routing:** Go to P2 B14

**Administered to:** All respondents  
~~~~~

**Screen:** P2 B14

**Question Wording:** Since the start of the 2011–2012 school year, about how often have you discussed the following with [Teenager]?

**Variable:** P2DISCCOURSES

Item Wording: Selecting courses or programs at school

1=Never

2=Once or twice

3=Three or four times

4=More than four times

**Variable:** P2DISCCLGEXAM

Item Wording: Preparing for college entrance exams such as ACT, SAT, or ASVAB

1=Never

2=Once or twice

3=Three or four times

4=More than four times

**Variable:** P2DISCCLGAPP

Item Wording: Applying to college or other schools after high school

1=Never

2=Once or twice

3=Three or four times

4=More than four times



**Variable: P2DISCCAREER**

Item Wording: Careers [he/she] might be interested in

- 1=Never
- 2=Once or twice
- 3=Three or four times
- 4=More than four times

**Variable: P2DISCJOBS**

Item Wording: Jobs that [he/she] might want to take after high school

- 1=Never
- 2=Once or twice
- 3=Three or four times
- 4=More than four times

**Variable: P2DISCEVENTS**

Item Wording: Community, national, and world events

- 1=Never
- 2=Once or twice
- 3=Three or four times
- 4=More than four times

**Variable: P2DISCTROUBLE**

Item Wording: Things that are troubling [him/her]

- 1=Never
- 2=Once or twice
- 3=Three or four times
- 4=More than four times

**Routing:** Go to P2 B15.**Administered to:** All respondents

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**Screen:** P2 B15**Question Wording:** Since the start of the 2011–2012 school year, how often have you contacted [Teenager]’s school for any reason?**Variable: P2CONTACTSCH**

- 1=Never
- 2=Once or twice
- 3=Three or four times
- 4=More than four times

**Routing:** Go to P2CINTRO.**Administered to:** All respondents

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**Section C: Teenager’s Future**

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**Screen:** P2CINTRO**Question Wording:** Now we are going to ask you some questions about [Teenager]’s plans and preparations for [his/her] future.

Many of these questions relate to decision making about education after high school regardless of whether [Teenager] plans to continue [his/her] education. Please do your best to answer these

questions even if [he/she] does not expect to continue with school or [he/she] is unsure about [his/her] plans.

For the rest of the interview, the general term “college” refers to 2-year colleges or 4-year colleges. Specifically, the term “2-year college” will refer to community colleges or junior colleges. The term “4-year college” refers to colleges and universities.

Questions in this interview also use the phrase “schools that provide occupational training” to refer to other types of schools, sometimes called technical institutes or trade schools. These schools usually offer programs that take less than 2 years to complete. Examples include c

**Routing:** Go to P2 C01.

~~~~~  
**Screen:** P2 C01

**Question Wording:** Have you done any of the following activities to help [Teenager] prepare for life after high school?

**Variable:** P2JOBFAIR

Item Wording: Attended a career day or job fair with [Teenager]

1=Yes

0=No

**Variable:** P2CLGTUR

Item Wording: Arranged for [Teenager] to attend a program at, or take a tour of a college campus

1=Yes

0=No

**Variable:** P2CLGCLASS

Item Wording: Arranged for [Teenager] to sit in on or take a college class

1=Yes

0=No

**Variable:** P2INTERN

Item Wording: Arranged for [Teenager] to participate in an internship or apprenticeship related to [his/her] career goals

1=Yes

0=No

**Variable:** P2CAREERJOB

Item Wording: Arranged for [Teenager] to work or volunteer in a job related to [his/her] career goals

1=Yes

0=No

**Variable:** P2CLGSEARCH

Item Wording: Searched the Internet for college options or read college guides

1=Yes

0=No

**Variable:** P2TALKHSCNSL

Item Wording: Talked with a high school counselor about [his/her] options for life after high school

1=Yes

0=No

**Variable: P2TALKCLGCNSL**

Item Wording: Talked about [his/her] options with a counselor hired by your family to help [Teenager] prepare for college admission

1=Yes

0=No

**Variable: P2CLGEXAMPREP**

Item Wording: Arranged for [Teenager] to take a course to prepare for a college admission exam such as SAT or ACT

1=Yes

0=No

**Routing:** Go to P2 C02.

**Administered to:** All respondents

**Screen: P2 C02**

**Question Wording:** In the last 5 years, have you helped another family member complete a college application or have you completed one yourself? Do not include any college applications that [Teenager] may have completed.

**Variable: P2HELPCLGAPP**

1=Yes

0=No

**Routing:** Go to P2 C03.

**Administered to:** All respondents

**Screen: P2 C03**

**Question Wording:** By the summer of 2013, do you think [Teenager] will have met the minimum requirements needed for admission to...

**Variable: P2REQOCCTRAIN**

Item Wording: a school that provides occupational training, usually less than 2-years?

1=Yes

2=No

3=Don't know

**Variable: P2REQ2YR**

Item Wording: a 2-year community college?

1=Yes

2=No

3=Don't know

**Variable: P2REQTYP4YR**

Item Wording: a typical 4-year college?

1=Yes

2=No

3=Don't know

**Variable: P2REQSEL4YR**

Item Wording: a highly selective 4-year college such as Harvard University?

1=Yes

2=No

3=Don't know

**Routing:** Go to P2 C04.

**Administered to:** All respondents

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**Screen:** P2 C04

**Question Wording:** If there were no barriers, how far in school would you want [Teenager] to go?

**Variable:** P2EDUASP

- 1=Less than high school completion
- 2=Complete a high school diploma, GED or alternative high school credential
- 3=Complete a certificate or diploma from a school that provides occupational training
- 4=Complete an Associate's degree
- 5=Complete a Bachelor's degree
- 6=Complete a Master's degree
- 7=Complete a Ph.D., M.D., law degree, or other high level professional degree
- 8=You don't know
- 9=It is [Teenager]'s decision

**Routing:** Go to P2 C05.

**Administered to:** All respondents

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**Screen:** P2 C05

**Question Wording:** As things stand now, how far in school do you think [he/she] will actually get?

**Variable:** P2EDUEXP

- 1=Less than high school completion
- 2=Complete a high school diploma, GED, or alternative high school credential
- 3=Start, but not complete a certificate or diploma from a school that provides occupational training
- 4=Complete a certificate or diploma from a school that provides occupational training
- 5=Start, but not complete an Associate's degree
- 6=Complete an Associate's degree
- 7=Start, but not complete a Bachelor's degree
- 8=Complete a Bachelor's degree
- 9=Start, but not complete a Master's degree
- 10=Complete a Master's degree
- 11=Start, but not complete a Ph.D., M.D., law degree, or other high level professional degree
- 12=Complete a Ph.D., M.D., law degree, or other high level professional degree
- 13=You don't know

**Routing:** If teenager has earned a regular high school diploma, GED, or alternative high school credential, go to P2 C07. Else, go to P2 C06.

**Administered to:** All respondents

~~~~~  
**Screen:** P2 C06

**Question Wording:** How sure are you that [he/she] will receive a high school diploma?

**Variable:** P2SUREDIPL

- 1=Very sure [he/she] will
- 2=[He/She] probably will
- 3=[He/She] probably won't
- 4=Very sure [he/she] won't

**Routing:** Go to P2 C07.

**Administered to:** Respondents with teenagers who had not received a high school diploma, GED or alternative high school credential

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**Screen:** P2 C07

**Question Wording:** How sure are you that [Teenager] will pursue a Bachelor's degree?

**Variable:** P2SUREBA

- 1=Very sure [he/she] will
- 2=[He/She] probably will
- 3=[He/She] probably won't
- 4=Very sure [he/she] won't

**Routing:** Go to P2 C08.

**Administered to:** All respondents

~~~~~

**Screen:** P2 C08

**Question Wording:** Whatever [Teenager]'s plans, do you think [he/she] has the ability to complete a Bachelor's degree? Would you say...

**Variable:** P2ABLEBA

- 1=definitely
- 2=probably
- 3=probably not or
- 4=definitely not?

**Routing:** If respondent wanted teenager to complete some level of postsecondary education, go to P2 C09. Otherwise, skip to P2 C19.

**Administered to:** All respondents

~~~~~

**Screen:** P2 C09

**Question Wording:** If [Teenager] attends school in the fall of 2013, will [he/she] be most likely to attend a school that provides occupational training, a 2-year college, a 4-year college, high school, or have you not thought about this yet?

**Variable:** P2TYPEPS2013

- 1=A school that provides occupational training (usually less than 2 years)
- 2=2-year college
- 3=4-year college
- 4=High school
- 5=You haven't thought about this yet

**Routing:** If teenager mostly likely to attend high school, the respondent hasn't thought about it or no answer, skip to P2 C17; Else, go to P2 C10.

**Administered to:** Respondents who wanted teenager to complete some level of postsecondary education (P2EDUASP < 1,2)

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**Screen:** P2 C10

**Question Wording:** Will [he/she] be more likely to attend a public or private [4-year college/2-year college/school that provides occupational training], or have you not thought about this yet?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on which type of postsecondary institution teenager was most likely to attend.*

**Variable:** P2PUBPRV2013

1=Public

2=Private

3=You haven't thought about this yet

**Routing:** Go to P2 C11.

**Administered to:** Respondents with teenager who is likely to attend a postsecondary institution

~~~~~

**Screen:** P2 C11

**Question Wording:** Will [he/she] be more likely to attend an in-state or out-of-state [4-year college/2-year college/school that provides occupational training], or have you not thought about this yet?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on which type of postsecondary institution teenager was most likely to attend.*

**Variable:** P2INOUTST2013

1=In-state

2=Out-of-state

3=You haven't thought about this yet

**Routing:** Go to P2 C12.

**Administered to:** Respondents with teenager who is likely to attend a postsecondary institution

~~~~~

**Screen:** P2 C12

**Question Wording:** Do you know what [school that provides occupational training/2-year college/4-year college/school or college] [he/she] is most likely to attend?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on which type of postsecondary institution teenager was most likely to attend.*

**Variable:** P2KNOWCLG

1=Yes

0=No

**Routing:** If yes, go to P2 C13; Else, go to P2 C17.

**Administered to:** Respondents with teenager who is likely to attend a postsecondary institution

~~~~~

**Screen:** P2 C13

**Question Wording:** What [school that provides occupational training/2-year college/4-year college/school or college] is [he/she] most likely to attend?

(Please type in the full name. Do not use abbreviations.)

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on which type of postsecondary institution teenager was most likely to attend.*

**Variable:** P2LIKELYCLG

**Variable:** P2LIKELYCLGID

**Variable:** P2LIKELYCLGCT

**Variable:** P2LIKELYCLGST

**Variable:** P2LIKELYCLGLV

**Variable:** P2LIKELYCLGTYP

**Routing:** If respondent provides a college name, go to P2 C14. If unanswered, go to P2 C17.

**Administered to:** Respondents who provided the name of the postsecondary institution their teenager was most likely to attend

~~~~~  
**Screen:** P2 C14

**Question Wording:** How certain are you that [he/she] will attend [school named in P2 C13]?

**Variable:** P2CERTAINCLG

1=Very certain

2=Fairly certain

3=Not certain

**Routing:** Go to P2 C15.

**Administered to:** Respondents who provided the name of the postsecondary institution their teenager was most likely to attend

~~~~~  
**Screen:** P2 C15

**Question Wording:** If cost were not a consideration, would [school named in P2 C13] be your first choice for a school or college for [Teenager]?

**Variable:** P2FIRSTCHOICE

1=Yes

2=No

3=Don't know

**Routing:** If school named in P2 C13 is not first choice, then go to P2 C16. Else, go to P2 C17.

**Administered to:** Respondents who provided the name of the postsecondary institution their teenager was most likely to attend

~~~~~  
**Screen:** P2 C16

**Question Wording:** If cost were not a consideration, what school or college would be your first choice for [Teenager]? (Please type in the full name. Do not use abbreviations.)

**Variable:** P2CHOICE1CLG

**Variable:** P2CHOICECLGID

**Variable:** P2CHOICECLGCT

**Variable:** P2CHOICECLGST

**Variable:** P2CHOICECLGLV

**Variable:** P2CHOICECLGTYP

**Routing:** Go to P2 C17.

**Administered to:** Respondents who provided the name of the postsecondary institution their teenager was most likely to attend and this institution was not their first choice

~~~~~  
**Screen:** P2 C17

**Question Wording:** How important to you will each of the following characteristics be when choosing a school or college for [Teenager] to attend after high school?

**Variable: P2REPUTATION**

Item Wording: Academic quality or reputation

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2COSTATTEND**

Item Wording: Cost of attendance

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2JOBPLC**

Item Wording: A good record of placing graduates in jobs

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2GRADSCHPLC**

Item Wording: A good record of placing graduates in graduate or professional schools

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2PLAYSPORTS**

Item Wording: Opportunity to play sports

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2FAMREC**

Item Wording: Recommended by family or friends

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2CLOSEHOME**

Item Wording: Close to home

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2FARHOME**

Item Wording: Far away from home

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2OFFERSPGRM**

Item Wording: Offers a particular program of study

1=Very important

2=Somewhat important

3=Not at all important



**Variable: P2SOCIALLIFE**

Item Wording: Good social life

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2SPIRIT**

Item Wording: Good sports teams or school spirit

1=Very important

2=Somewhat important

3=Not at all important

**Variable: P2FAMILYWENT**

Item Wording: A family member went there

1=Very important

2=Somewhat important

3=Not at all important

**Routing:** Go to P2 C18.**Administered to:** Respondents who wanted teenager to complete some level of postsecondary education**Screen:** P2 C18**Question Wording:** How will your family decide which college or school [Teenager] will attend? Would you say...**Variable: P2DECIDECLG**

1=[Teenager]'s parent(s) will decide alone

2=[Teenager]'s parent(s) will decide after discussing it with [Teenager]

3=[Teenager]'s parent(s) and [Teenager] will decide together after discussion

4=[Teenager] will decide after discussing it with [his/her] parent(s) or

5=[Teenager] will decide on [his/her] own?

**Routing:** Go to P2 C19.**Administered to:** Respondents who wanted teenager to complete some level of postsecondary education**Screen:** P2 C19**Question Wording:** In this next series of questions, we will ask you to estimate the cost of one year's tuition and required fees at different types of colleges. For each of your estimates, please include the cost of courses and required fees such as student activity fees and student health fees. Do not include optional expenses such as room and board.

What is your best estimate of the cost of one year's tuition and required fees at a public 2-year community college in your state?

**Variable: P2COST2YPUB**

Item Wording: \$ per year

**Variable:** not delivered on data file as a separate variable, but incorporated into P2COST2YPUB

Item Wording: (Check here if you don't know.)

0=No

1=Yes

**Routing:** If an answer is provided, go to P2 C20. Else, go to P2 C21.

**Administered to:** All respondents

~~~~~

**Screen:** P2 C20

**Question Wording:** How confident are you in the accuracy of your estimate of the cost of one year's tuition and required fees at a public 2-year community college in your state? Would you say...

**Variable:** P2CONF2YPUB

1=very confident

2=somewhat confident or

3=not at all confident?

**Routing:** Go to P2 C21.

**Administered to:** Respondents who gave an estimate of the cost of tuition at an in-state public 2-year community college

~~~~~

**Screen:** P2 C21

**Question Wording:** What is your best estimate of the cost of one year's tuition and required fees at a public 4-year college in your state?

(Please include the cost of courses and required fees such as student activity fees and student health fees. Do not include optional expenses such as room and board.)

**Variable:** P2COST4YPUB

Item Wording: \$ per year

**Variable:** not delivered on data file as a separate variable, but incorporated into P2COST4YPUB

Item Wording: (Check here if you don't know.)

0=No

1=Yes

**Routing:** If an answer is provided, go to P2 C22. Else, go to P2 C23.

**Administered to:** All respondents

~~~~~

**Screen:** P2 C22

**Question Wording:** How confident are you in the accuracy of your estimate of the cost of one year's tuition and required fees at a public 4-year college in your state? Would you say...

**Variable:** P2CONF4YPUB

1=very confident

2=somewhat confident or

3=not at all confident?

**Routing:** Go to P2 C23.

**Administered to:** Respondents who gave an estimate of the cost of tuition at an in-state public 4-year college

~~~~~

**Screen:** P2 C23

**Question Wording:** What is your best estimate of the cost of one year's tuition and required fees at a typical private 4-year college?

(Please include the cost of courses and required fees such as student activity fees and student health fees. Do not include optional expenses such as room and board.)

**Variable:** P2COST4YPRV

Item Wording: \$ per year

**Variable:** not delivered on data file as a separate variable, but incorporated into P2COST4YPRV

Item Wording: (Check here if you don't know.)

0=No

1=Yes

**Routing:** If an answer is provided, go to P2CONF4YPRV. Else, go to P2 C25.**Administered to:** All respondents**Screen:** P2 C24**Question Wording:** How confident are you in the accuracy of your estimate of the cost of one year's tuition and required fees at a typical 4-year private college? Would you say...**Variable:** P2CONF4YPRV

1=very confident

2=somewhat confident or

3=not at all confident?

**Routing:** Go to P2 C25.**Administered to:** Respondents who gave an estimate of the cost of tuition at a typical private 4-year college**Screen:** P2 C25**Question Wording:** Have you gotten information on financial aid in any of the following ways?**Variable:** P2AIDFAMILY

Item Wording: Personal experience with financial aid for one of [Teenager]'s siblings, for another family member, or for yourself

1=Yes

0=No

**Variable:** P2AIDPARENT

Item Wording: Talked to other parents, family or friends

1=Yes

0=No

**Variable:** P2AIDOFFICE

Item Wording: Talked with financial aid office staff at a college or school that provides occupational training

1=Yes

0=No

**Variable:** P2AIDSCHSTAFF

Item Wording: Talked with staff at [Teenager]'s high school

1=Yes

0=No

**Variable:** P2AIDINTERNET

Item Wording: Researched financial aid options on the Internet

1=Yes

0=No

**Variable:** P2AIDMEETING

Item Wording: Went to an informational meeting or open house held by the high school

1=Yes

0=No

**Routing:** Go to P2 C26.

**Administered to:** All respondents

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**Screen:** P2 C26

**Question Wording:** For which types of financial aid do you think [Teenager] will qualify?

**Variable:** P2QUALNEED

Item Wording: Financial aid based on financial need

1=Yes

2=No

3=Don't know

**Variable:** P2QUALACHIEVE

Item Wording: Financial aid based on academic achievement such as good grades or college admission test scores

1=Yes

2=No

3=Don't know

**Variable:** P2QUALATHLETE

Item Wording: Financial aid through an athletic scholarship

1=Yes

2=No

3=Don't know

**Variable:** P2QUALGOVLOAN

Item Wording: Federal or state loans

1=Yes

2=No

3=Don't know

**Variable:** P2QUALPRVLOAN

Item Wording: Private loans

1=Yes

2=No

3=Don't know

**Routing:** If respondent answers "yes" to any type of financial aid, then go to P2 C28; Otherwise, if respondent answers "no" or "don't know" to any type of financial aid, then go to P2 C27; Else, go to P2 C28

**Administered to:** All respondents

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**Screen:** P2 C27

**Question Wording:** Why do you think [Teenager] will not qualify for any kind of financial aid? Is it because...

**Variable: P2NOQUALFAM**

Item Wording: another family member did not qualify?

1=Yes

0=No

**Variable: P2NOQUALCRED**

Item Wording: you have concerns about a credit score?

1=Yes

0=No

**Variable: P2NOQUALINC**

Item Wording: your family's income is too high?

1=Yes

0=No

**Variable: P2NOQUALTEST**

Item Wording: [Teenager]'s grades or test scores will be too low?

1=Yes

0=No

**Variable: P2NOQUALPT**

Item Wording: [Teenager] will attend school or college part-time?

1=Yes

0=No

**Routing:** Go to P2 C28.**Administered to:** Respondents who did not think teenager would qualify for financial aid**Screen: P2 C28****Question Wording:** In the last 5 years have you completed a FAFSA (Free Application for Federal Student Aid) for another family member or have you completed one yourself? Do not include a FAFSA you may have completed for [Teenager].**Variable: P2FAFSA5YR**

1=Yes

2=No

**Routing:** Go to P2 C29.**Administered to:** All respondents**Screen: P2 C29****Question Wording:** If [Teenager] continues [his/her] education after high school, will you complete a FAFSA to apply for financial aid for [his/her] education?**Variable: P2APPLYAID**

1=Yes

2=No

3=You don't know what a FAFSA is

4=You haven't thought about this yet

5=You don't know if you will apply

**Routing:** If respondent will not complete a FAFSA or does not know if he/she will, go to P2 C30; Else go to P2 C31.**Administered to:** All respondents

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**Screen:** P2 C30

**Question Wording:** What are the reasons you [will/may] not apply for financial aid?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the respondent would not or did not know if they would complete a FAFSA.*

**Variable:** P2INELIGIBLE

Item Wording: You think [Teenager] may be ineligible or may not qualify.

1=Yes

0=No

**Variable:** P2CANAFFORD

Item Wording: You can afford school or college without financial aid.

1=Yes

0=No

**Variable:** P2DKHOWAPP

Item Wording: You do not know how to apply for financial aid.

1=Yes

0=No

**Variable:** P2NODEBT

Item Wording: Your family does not want to take on debt.

1=Yes

0=No

**Variable:** P2FORMSDIFF

Item Wording: You think the application forms are too difficult.

1=Yes

0=No

**Variable:** P2NOPLANS

Item Wording: [Teenager] does not plan to continue [his/her] education after high school.

1=Yes

0=No

**Routing:** Go to P2 C31.

**Administered to:** Respondents who would not or did not know if they would complete a FAFSA

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**Screen:** P2 C31

**Question Wording:** If [Teenager] continues [his/her] education after high school, will you or anyone in [Teenager]'s family help [him/her] pay for it?

**Variable:** P2HELPPAY

1=Yes

2=No

3=You have not thought about this yet

**Routing:** Go to P2 C32.

**Administered to:** All respondents

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**Screen:** P2 C32

**Question Wording:** About how much money have you set aside for [his/her] future educational needs?

**Variable:** P2SAVEDPAY

- 1=None
- 2=\$2,000 or less
- 3=\$2,001–\$5,000
- 4=\$5,001–\$10,000
- 5=\$10,001–\$15,000
- 6=\$15,001–\$25,000
- 7=\$25,001–\$35,000
- 8=\$35,001–\$60,000
- 9=More than \$60,000

**Routing:** Go to P2 C33.

**Administered to:** All respondents

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**Screen:** P2 C33

**Question Wording:** Have you or anyone in your family opened any type of account to save for [Teenager]’s education after high school, for example, a 529 plan, a Coverdell Education Savings Account or Education IRA, or a prepaid tuition account?

**Variable:** P2ACCTPAY

- 1=Yes
- 0=No

**Routing:** Go to P2 C34.

**Administered to:** All respondents

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**Screen:** P2 C34

**Question Wording:** What is the maximum amount [Teenager]’s family will be willing to borrow per year to help [him/her] pay for school or college?

**Variable:** P2MAXBORROW

- 1=None
- 2=\$1–\$500
- 3=\$501–\$1000
- 4=\$1,001–\$2,000
- 5=\$2,001–\$5,000
- 6=\$5,001–\$10,000
- 7=\$10,001–\$15,000
- 8=\$15,001–\$25,000
- 9=\$25,001–\$35,000
- 10=More than \$35,000
- 11=Don’t know

**Routing:** Go to P2 C35.

**Administered to:** All respondents

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**Screen:** P2 C35

**Question Wording:** Considering all sources of funds including scholarships, grants, loans and savings, do you think your family will be able to afford to send [Teenager] to ...

**Variable:** P2AFFOCCTR

Item Wording: a school that provides occupational training?

1=Yes

2=No

3=Don't know

**Variable:** P2AFF2YPUB

Item Wording: a 2-year community college?

1=Yes

2=No

3=Don't know

**Variable:** P2AFF4YIN

Item Wording: a 4-year public college in your state?

1=Yes

2=No

3=Don't know

**Variable:** P2AFF4YOUT

Item Wording: a 4-year public college out of state?

1=Yes

2=No

3=Don't know

**Variable:** P2AFF4YPRV

Item Wording: a typical 4-year private college?

1=Yes

2=No

3=Don't know

**Variable:** P2AFF4YSEL

Item Wording: a highly selective 4-year private college such as Harvard?

1=Yes

2=No

3=Don't know

**Routing:** Go to P2 C36.

**Administered to:** All respondents

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**Screen:** P2 C36

**Question Wording:** If at any point in time [Teenager] continues [his/her] education after high school, how do you expect to pay for tuition, room, and board?

**Variable:** P2NEVERCLG

Item Wording: (Check here if you are sure [Teenager] will never continue [his/her] education after high school.)

0=No

1=Yes



**Variable: P2TEENSAVING**

Item Wording: [Teenager]'s own earnings and savings

1=Yes

2=No

3=Don't know

**Variable: P2PARSAVING**

Item Wording: [Teenager]'s parents' or relatives' earnings and savings including a pre-paid tuition account or 529 plan

1=Yes

2=No

3=Don't know

**Variable: P2GRANTS**

Item Wording: Scholarships or grants that do not have to be repaid

1=Yes

2=No

3=Don't know

**Variable: P2GOVLOAN**

Item Wording: Federal or state loans

1=Yes

2=No

3=Don't know

**Variable: P2TEENPRVLOAN**

Item Wording: Private loan in [Teenager]'s name

1=Yes

2=No

3=Don't know

**Variable: P2PARPRVLOAN**

Item Wording: Private loan in [Teenager]'s parents' or relatives' names

1=Yes

2=No

3=Don't know

**Routing:** If teenager's earnings or savings will be used, go to P2 C37. Otherwise, go to P2 C39.**Administered to:** All respondents**Screen: P2 C37****Question Wording:** Will [Teenager]'s earnings and savings for [his/her] education after high school come from [his/her]...*Note: Item wording was customized in the survey instrument such that the language in brackets depended on the teenager's enrollment status as reported in P2ENROLLHS12.***Variable: P2SCHYRWORK**

Item Wording: evening or weekend work during the high school year[ when [he/she] was still attending]?

1=Yes

2=No

3=Don't know

**Variable: P2SUMMERWORK**

Item Wording: summer work [while in high school/when [he/she] was in high school]?

1=Yes

2=No

3=Don't know

**Variable: P2BTWNWORK**

Item Wording: work between high school and the start of [Teenager]'s further education?

1=Yes

2=No

3=Don't know

**Variable: P2CLGWORK**

Item Wording: work while attending college including work-study?

1=Yes

2=No

3=Don't know

**Routing:** If will work during college, go to P2 C38; Else go to P2 C39.

**Administered to:** Respondents who would use teenager's earnings and savings to pay for tuition, room, and board

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**Screen: P2 C38**

**Question Wording:** Will [Teenager] work full-time or part-time while attending college?

**Variable: P2CLGWORKFT**

1=Full-time

2=Part-time

3=Don't know

**Routing:** Go to P2 C39.

**Administered to:** Respondents whose teenager's earnings and savings from work while attending college will be used to pay for tuition, room, and board

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**Screen: P2 C39**

**Question Wording:** How many children or other family members who you financially support are currently attending college or a school that provides occupational training? Include yourself if you are currently attending.

(Please enter 0 if none.)

**Variable: P2INCLGNOW**

Item Wording: children or other family members who you financially support

**Routing:** Go to P2 C40.

**Administered to:** All respondents

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**Screen: P2 C40**

**Question Wording:** How many children or other family members who you financially support will be attending college or a school that provides occupational training in the fall of 2013? Include [Teenager] and yourself if applicable.

(Please enter 0 if none.)

**Variable: P2INCLG2013**

Item Wording: children or other family members who you financially support

**Routing:** Go to P2 C41.

**Administered to:** All respondents

**Screen:** P2 C41

**Question Wording:** What do you think [Teenager]'s starting pre-tax income would be in [his/her] first job after... (Please specify pay periods for your answers.)

**Variable:** P2EARNNOHS

Item Wording: leaving high school without completing a high school diploma?

**Variable:** P2EARNNOHSUN

Item Wording: per

1=hour

2=day

3=week

4=month

5=year

**Variable:** P2EARNHS

Item Wording: completing a regular high school diploma?

**Variable:** P2EARNHSUN

Item Wording: per

1=hour

2=day

3=week

4=month

5=year

**Variable:** P2EARNOCC

Item Wording: completing a certificate or diploma from a school that provides occupational training?

**Variable:** P2EARNOCCUN

Item Wording: per

1=hour

2=day

3=week

4=month

5=year

**Variable:** P2EARN2YPUB

Item Wording: completing a 2-year community college degree?

**Variable:** P2EARN2YPUBUN

Item Wording: per

1=hour

2=day

3=week

4=month

5=year

**Variable:** P2EARN4Y

Item Wording: completing a 4-year college degree?

**Variable:** P2EARN4YUN

Item Wording: per

1=hour

2=day

3=week

4=month

5=year

**Routing:** Go to P2DINTRO.

**Administered to:** All respondents

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## Section D: Family Education and Occupation

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**Screen:** P2DINTRO

**Question Wording:** Next we would like some information about your family's educational background and occupations.

**Routing:** If same respondent indicator is null (P2SAMER=0), then go to P2D01. Else if the respondent's highest level of education in the base year was less than high school, a high school diploma or GED, an Associate's degree, a Bachelor's degree, or a Master's degree, then go to P2 D01; Else if the respondent's level of education in the base year was a PhD, a law degree, an MD, or other high level degree but the major for that degree was not provided in the base year, then skip to P2 D02; Else if the respondent's level of education in the base year was a PhD, a law degree, an MD, or other high level degree and the major for that degree was provided in the base year, then skip to P2 D04; Else, go to P2 D01.

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**Screen:** P2 D01

**Question Wording:**

In [Month and Year of base year interview], you indicated you had completed [parent 1's highest degree in base year]. Since that time, have you completed a higher level of education beyond [parent 1's highest degree in base year]?

OR

In [Month and Year of base year interview], you indicated you had not completed high school. Since that time, have you completed high school or a higher level of education beyond high school?

OR

What is the highest level of education [you/parent 1] [have/has] completed?

*Note: The first version of the question was displayed if the first follow-up respondent was the same as the base year respondent and he/she had completed high school or a higher level of education in the base year. The second version of the question was displayed if the first follow-up respondent was the same as the base year respondent and he/she had not completed high school in the base year. The third version of the question was displayed under 3 conditions: 1) if a parent questionnaire was not completed in the base year, 2) if the first follow-up respondent was not identified as the same person as the base year respondent, or 3) if the respondents were the same but the highest level of education was not collected in the base year. The conditional language in brackets (you/parent 1) depended on whether parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1. If the education level for parent 1 was provided in base year, the lower*

level education options were not displayed. Item(s) included in the abbreviated paper and pencil questionnaire.

**Variable:** P2HIDEG1

- 0=No, [you/parent 1] [have/has] not completed any other degree
- 1=Less than high school completion
- 2=Completed a high school diploma, GED, or alternative high school credential
- 3=Completed a certificate or diploma from a school that provides occupational training
- 4=Completed an Associate's degree
- 5=Completed a Bachelor's degree
- 6=Completed a Master's degree
- 7=Completed a Ph.D., M.D., law degree, or other high level professional degree

**Routing:** If certificate or diploma from a school that provides occupational training (P2HIDEG1 > 2), go to P2 D02; Else if has not completed any other degree (P2HIDEG1=0) and base year degree was Associate's or higher and major was not provided in base year then go to P2 D02; Else if has not completed any other degree (P2HIDEG1=0) and base year degree was Ph.D., M.D., law degree, or other high level professional degree and major was provided in base year then go to P2 D04; Else, skip to P2 D03.

**Administered to:** Base year questionnaire non-respondents; first follow-up respondents who are not the same as the base year respondent; first follow-up respondents who were also base year respondents and reported a highest level of education in the base year less than a PhD, MD, law degree or other high level professional degree; first follow-up respondents who were also base year respondents and did not report their highest level of education in the base year

**Screen:** P2 D02

**Question Wording:** What was the major field of study for [your/his/her] [parent 1's highest degree in first follow-up]?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1. If the respondent was a base year respondent and had not completed any other degree, the highest level of education reported in the base year was displayed in place of "parent 1's highest degree in first follow-up." If the respondent was a base year respondent who had completed a Ph.D., M.D., law degree, or other high level professional degree in the base year, that degree was displayed in place of "parent 1's highest degree in first follow-up." Otherwise, the highest level of education reported in P2HIDEG1 was displayed in place of "parent 1's highest degree in first follow-up."*

**Variable:** P2HIMAJV1

**Variable:** P2HIMAJ21

**Variable:** P2HIMAJ61

**Routing:** If highest degree is less than a PhD, MD, law degree, or other high level professional degree, then go to P2 D03; Otherwise, go to P2 D04.

**Administered to:** Base year non-respondents who completed some postsecondary education; first follow-up respondents who were the same as the base year respondent, who completed a higher level of postsecondary education since the base year

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**Screen: P2 D03**

**Question Wording:** [Have/Has] [you/parent 1] started, but not completed, any work on a degree beyond [a/an] [parent 1's highest degree in first follow-up]? (If [you/parent 1] [have/has] started more than one of the degrees listed below, please select the higher degree.)

*Note: Question/response wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1. If the respondent was a base year respondent and had not completed any other degree, the highest level of education reported in the base year was displayed in place of "parent 1's highest degree in first follow-up." Otherwise, the highest level of education reported in P2HIDEG1 was displayed. Only response options representing levels of education higher than the highest degree in the first follow-up were displayed.*

**Variable:** P2STARTDEG1

- 1=No, [you/parent 1] [have/has] not started any other degree
- 2=Yes, a certificate or diploma from a school that provides occupational training
- 3=Yes, an Associate's degree
- 4=Yes, a Bachelor's degree
- 5=Yes, a Master's degree
- 6=Yes, a Ph.D., M.D., law degree, or other high level professional degree

**Routing:** Go to P2 D04.

**Administered to:** Respondents who had not completed a PhD, MD, law degree or other high level professional degree

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**Screen: P2 D04**

**Question Wording:** [Do/Does] [you/parent 1] currently hold a job for pay?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1.*

**Variable:** P2JOBNOW1

- 1=Yes
- 0=No

**Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and he/she provided his/her occupation in the base year, skip to P2 D06; Else, if parent 1 currently holds a job for pay, skip to P2 D07; Else, go to P2 D05.

**Administered to:** All respondents

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**Screen: P2 D05**

**Question Wording:** [Have/Has] [you/he/she] ever held a job for pay?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1*

**Variable:** P2JOBEVER1

- 1=Yes
- 0=No

**Routing:** If parent 1 has worked, then skip to P2 D07; Else, if there is no parent 2, skip to P2 D17; Else if respondent is the same as the base year respondent (P2SAMER=1) and parent 2 is the same as the base year parent 2 (P2SAMESPS=1) then do: -If parent 2's level of education in the base year was less than a high school, a high school diploma or GED, an Associate's degree, a Bachelor's degree, or a Master's degree, then go to P2 D09.-If parent 2's level of education in the base year was a PhD, a law degree, an MD, or some other high level degree but the major for that degree was not provided in the base year, then skip to P2 D10; -If parent 2's level of education in the base year was a PhD, a law degree, an MD, or some other high level degree and the major for that degree was provided in the base year, then skip to P2 D12; Else, skip to P2 D09.

**Administered to:** Respondents who were not currently holding a job for pay and were different from the base year respondent.

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**Screen:** P2 D06

**Question Wording:** In [Month and Year of base year interview] you indicated that your job title was: [parent 1's job title in base year]. Is that your [current/most recent] occupation?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household and parent 1's current employment status. See the Data File Documentation section X.X.X for a definition of parent 1. Current was displayed in place of "current/most recent" if parent 1 was currently holding a job; otherwise, most recent was displayed.*

**Variable:** P2SAMEJOB1

1=Yes

0=No

**Routing:** If base year job is parent 1's current or most recent job, skip to P2 D08. Else go to P2 D07.

**Administered to:** Respondents who are the same as the base year respondent and who provided an occupation for parent 1 in the base year

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**Screen:** P2 D07

**Question Wording:** [What is/In [your/her/his] most recent job, what was] [your/her/his] job title? If [you/he/she] [have/has/had] more than one job, describe the one at which [you/he/she] [work/works/worked] the most hours. What [do/does/did] [you/he/she] actually do in that job? That is, what [are/were] [your/her/his] main activities or duties?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household and parent 1's current job status. See the Data File Documentation section 2.2.2 for a definition of parent 1. If parent 1 was currently holding a job, the question asked about that job; otherwise, the question asked about parent 1's most recent job. Item(s) included in the abbreviated paper and pencil questionnaire.*

**Variable:** P2JOB2ONET1

**Variable:** P2JOB6ONET1

**Variable:** P2JOB1DV1

**Variable:** P2JOB1TV1

**Routing:** Go to P2 D08.

**Administered to:** All respondents except those who have never held a job for pay and those who are the same as the base year respondent and hold the same job as reported in the base year

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**Screen:** P2 D08

**Question Wording:** About how many total hours per week [do/does/did] [you/he/she] usually work for pay, counting all jobs?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household and parent 1's current employment status. See the Data File Documentation section 2.2.2 for a definition of parent 1. If parent 1 was currently holding a job, the question asked about that job; otherwise, the question asked about parent 1's most recent job.*

**Variable:** P2HOURS1

Item Wording: hours per week

**Routing:** If there is no parent 2, skip to P2 D17; Else if respondent is the same as the base year respondent (P2SAMER=1) and parent 2 is the same as the base year parent 2 (P2SAMESPS=1) then do: -If parent 2's level of education in the base year was less than a high school, a high school diploma or GED, an Associate's degree, a Bachelor's degree, or a Master's degree, then go to P2 D09. -If parent 2's level of education in the base year was a PhD, a law degree, an MD, or some other high level degree but the major for that degree was not provided in the base year, then skip to P2 D10; -If parent 2's level of education in the base year was a PhD, a law degree, an MD, or some other high level degree and the major for that degree was provided in the base year, then skip to P2 D12; Else, skip to P2 D09.

**Administered to:** Respondents who currently hold or had ever held a job

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**Screen:** P2 D09

**Question Wording:** In [Month and Year of base year interview] you indicated [your spouse/your partner/parent 2] had completed [parent 2's highest degree in base year]. Since that time, has [he/she] completed a higher level of education beyond [parent 2's highest degree in base year]?

OR

In [Month and Year of base year interview] you indicated [your spouse/your partner/parent 2] had not completed high school. Since that time, has [he/she] completed high school or a higher level of education beyond high school?

OR

What is the highest level of education [your spouse/your partner/parent 2] has completed?

*Note: The first version of the question was displayed if the first follow-up parent 2 was the same as the base year parent 2 and he/she had completed high school or a higher level of education in the base year. The second version of the question was displayed if the first follow-up parent 2 was the same as the base year parent 2 and he/she had not completed high school in the base year. The third version of the question was displayed under 3 conditions: 1) if a parent questionnaire was not completed in the base year, 2) if the first follow-up parent 2 was not identified as the same as the base year parent 2, or 3) if the parent 2s were the same but the highest level of education was not collected in the base year. The conditional language in brackets (your spouse/your partner/parent 2) depended on whether parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2. If the education level for parent 2*



was provided in base year, the lower level education options were not displayed. Item(s) included in the abbreviated paper and pencil questionnaire.

**Variable:** P2HIDEG2

- 0=No, [your spouse/your partner/parent 2] has not completed any other degree
- 1=Less than high school completion
- 2=Completed a high school diploma, GED, or alternative high school credential
- 3=Completed a certificate or diploma from a school that provides occupational training
- 4=Completed an Associate's degree
- 5=Completed a Bachelor's degree
- 6=Completed a Master's degree
- 7=Completed a Ph.D., M.D., law degree, or other high level professional degree

**Routing:** If certificate or diploma from a school that provides occupational training (P2HIDEG2 > 2), go to P2 D10; Else if has not completed any other degree (P2HIDEG2=0) and base year degree was Associate's or higher and major was not provided in base year then go to P2 D10; Else if has not completed any other degree (P2HIDEG2=0) and base year degree was Ph.D., M.D., law degree, or other high level professional degree and major was provided in base year then go to P2 D12; Else, skip to P2 D11.

**Administered to:** Base year questionnaire non-respondents with a parent 2; first follow-up respondents who are not the same as the base year respondent and have a parent 2; first follow-up respondents who were also base year respondents, who have a parent 2 who is not the same as the base year parent 2; first follow-up respondents who were also base year respondents, whose parent 2 is the same as the base year parent 2 and reported a highest level of education for parent 2 in the base year less than a PhD, MD, law degree or other high level professional degree.

**Screen:** P2 D10

**Question Wording:** What was the major field of study for [his/her/parent 2's] [parent 2's highest degree in first follow-up]?

*Note: Question wording was customized in the survey instrument such that the language in brackets (his/her/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2.*

**Variable:** P2HIMAJV2

**Variable:** P2HIMAJ22

**Variable:** P2HIMAJ62

**Routing:** If highest degree is less than a PhD, MD, law degree, or other high level professional degree, then go to P2 D11; Otherwise, go to P2 D12.

**Administered to:** All respondents with a parent 2 who has completed a postsecondary degree for which a major field of study was not reported in the base year.

**Screen:** P2 D11

**Question Wording:** Has [your spouse/your partner/parent 2] started, but not completed, any work on a degree beyond [a/an] [parent 2's highest degree in first follow-up]? (If [he/she] has started more than one of the degrees listed below, please select the higher degree.)

*Note: Question/response wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was*

*the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2. If the respondent was the same as the base year respondent and parent 2 was the same as the base year parent 2, and parent 2 had not completed any other degree, the highest level of education reported in the base year was displayed in place of "parent 2's highest degree in first follow-up." Otherwise, the highest level of education reported in P2HIDEG2 was displayed. Only response options representing levels of education higher than the highest degree in the first follow-up were displayed.*

**Variable:** P2STARTDEG2

1=No, [he/she] has not started any other degree

2=Yes, a certificate or diploma from a school that provides occupational training

3=Yes, an Associate's degree

4=Yes, a Bachelor's degree

5=Yes, a Master's degree

6=Yes, a Ph.D., M.D., law degree, or other high level professional degree

**Routing:** Go to P2 D12

**Administered to:** Respondents with a parent 2 who had not completed a PhD, MD, law degree or other high level professional degree

~~~~~  
**Screen:** P2 D12

**Question Wording:** Does [your spouse/your partner/parent 2] currently hold a job for pay?

*Note: Question wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2.*

**Variable:** P2JOBNOW2

1=Yes

0=No

**Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and parent 2 is the same as base year parent 2 (P2SAMESPS=1) and parent 2's base year occupation was provided, skip to P2 D14; Else if parent 2 currently holds a job for pay, skip to P2 D15; Else, go to P2 D13.

**Administered to:** Respondents with a parent 2

~~~~~  
**Screen:** P2 D13

**Question Wording:** Has [he/she] ever held a job for pay?

**Variable:** P2JOBEVER2

1=Yes

0=No

**Routing:** If parent 2 has ever held a job for pay, then skip to P2 D15; Else skip to P2 D17.

**Administered to:** Respondents with a parent 2 who was not currently holding a job for pay and either were not the same as the base year respondent, or parent 2 was not the same as the base year parent 2.

~~~~~  
**Screen: P2 D14**

**Question Wording:** In [Month and Year of base year interview] you indicated that [your spouse's/your partner's/parent 2's] job title was: [parent 2's job title in base year]. Is that [his/her/parent 2's] [current/most recent] occupation?

*Note: Question wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2. Current was displayed in place of "current/most recent" if parent 2 was currently holding a job; otherwise, most recent was displayed.*

**Variable:** P2SAMEJOB2

1=Yes

0=No

**Routing:** If base year job is parent 2's current or most recent job, skip to P2 D16. Otherwise, go to P2 D15.

**Administered to:** Respondents who are the same as the base year respondent, who have a parent 2 who is the same as the base year parent 2, and who provided an occupation for parent 2 in the base year

~~~~~  
**Screen: P2 D15**

**Question Wording:** [What is/In [his/her/parent 2's] most recent job, what was] [his/her/parent 2's] job title? If [he/she/parent 2] [has/had] more than one job, describe the one at which [he/she/parent 2] [works/worked] the most hours.

What [does/did] [he/she/parent 2] do in that job? That is, what [are/were] [his/her/parent 2's] main activities or duties?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household and parent 2's current job status. See the Data File Documentation section 2.2.2 for a definition of parent 2. If parent 2 was currently holding a job, the question asked about that job; otherwise, the question asked about parent 2's most recent job. Item(s) included in the abbreviated paper and pencil questionnaire.*

**Variable:** P2JOB2ONET2

**Variable:** P2JOB6ONET2

**Variable:** P2JOB2ONET2

**Variable:** P2JOBTV2

**Routing:** Go to P2 D16.

**Administered to:** All respondents with a parent 2 except those whose parent 2 has never held a job for pay (or no response provided in P2JOB2ONET2) or whose parent 2 is the same as the base year parent 2 and holds the same job reported in the base year.

~~~~~  
**Screen: P2 D16**

**Question Wording:** About how many total hours per week [does/did] [he/she/parent 2] usually work for pay, counting all jobs?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 2 was the respondent's spouse or partner or another*

*parent or guardian in the household and parent 2's current job status. See the Data File Documentation section X.X.X for a definition of parent 2. If parent 2 was currently holding a job, the question asked about that job; otherwise, the question asked about parent 2's most recent job.*

**Variable:** P2HOURS2

Item Wording: hours per week

**Routing:** Go to P2 D17.

**Administered to:** Respondents with a parent 2 who was currently holding a job or had ever held a job

~~~~~  
**Screen:** P2 D17

**Question Wording:** An important part of this study is understanding how family finances affect teenagers' ability to continue their education after high school. We would like to remind you that the answers you provide will be kept completely confidential.

What was your total household income from all sources prior to taxes and deductions in calendar year 2011? Please include all income such as income from work, investments and alimony.

**Variable:** P2INCOME

Item Wording: \$ (Please enter whole numbers only.)

**Routing:** If P2 D17 is missing, go to P2 D18; Else skip to P2 D19.

**Administered to:** All respondents

~~~~~  
**Screen:** P2 D18

**Question Wording:** We understand that you may not be able to provide an exact number for your family's income.

However, it would be extremely helpful if you would indicate which of the following ranges best estimates your total household income from all sources prior to taxes and deductions in calendar year 2011. Please include all income such as income from work, investments and alimony.

*Note: Item(s) included in the abbreviated paper and pencil questionnaire.*

**Variable:** P2INCOMECAT

1=\$15,000 or less

2=\$15,001–\$35,000

3=\$35,001–\$55,000

4=\$55,001–\$75,000

5=\$75,001–\$95,000

6=\$95,001–\$115,000

7=\$115,001–\$135,000

8=\$135,001–\$155,000

9=\$155,001–\$175,000

10=\$175,001–\$195,000

11=\$195,001–\$215,000

12=\$215,001–\$235,000

13=More than \$235,000

**Routing:** Go to P2 D19.

**Administered to:** Respondents who did not provide a household income in P2 D17

~~~~~  
**Screen:** P2 D19

**Question Wording:** How many people depend on you[ and [your spouse/your partner/parent 2]/ and [you/parent 1] and [your spouse/your partner/parent 2]] for more than half of their financial support? Include dependents who do not live with you.

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on which adults were in the household.*

**Variable:** P2DEPENDNUM

Item Wording: dependents

**Routing:** Go to P2 D20.

**Administered to:** All respondents

~~~~~

**Screen:** P2 D20

**Question Wording:** Do you...

**Variable:** P2OWNHOME

1=pay mortgage towards or own your home

2=rent your home or

3=have some other arrangement?

**Routing:** Go to P2EINTRO

**Administered to:** All respondents

~~~~~

## Section E: Family's Origin and Language Use

~~~~~

**Screen:** P2EINTRO

**Question Wording:** Now we would like to learn about your family's origin and languages spoken in [Teenager]'s home.

[Many of the questions in this section of the interview are repeated from the fall 2009 survey. We will skip any questions you answered at that time so your interview will be shorter.]

*Note: Question wording was customized in the survey instrument such that the language in brackets was displayed if the respondent was the same as the base year respondent.*

**Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and his/her Hispanicity was collected in the base year, skip to P2 E03. Otherwise, go to P2 E01.

~~~~~

**Screen:** P2 E01

**Question Wording:** [Are/Is] [you/parent 1] Hispanic or [Latino/Latina]?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1.*

**Variable:** P2HISP1

1=Yes

0=No

**Routing:** If parent 1 is Hispanic, go to P2 E02; Else if parent 1 is not Hispanic, or no response, go to P2 E03.

**Administered to:** All respondents except those who were the same as the base year respondent and provided Hispanicity for parent 1 in the base year

~~~~~  
**Screen:** P2 E02

**Question Wording:** [Are/Is] [you/he/she]...

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section 2.2.2 for a definition of parent 1.*

**Variable:** P2HISPOR1

1=Mexican, Mexican-American or [Chicano/Chicana]

2=Cuban

3=Dominican

4=Puerto Rican

5=Central American such as Guatemalan, Salvadoran, Nicaraguan, Costa Rican, Panamanian, or Honduran

6=South American such as Colombian, Argentinian, or Peruvian or

7=Other Hispanic or [Latino/Latina]?

**Routing:** Go to P2 E03.

**Administered to:** Respondents who reported Hispanicity in P2HISP1

~~~~~

**Screen:** P2 E03

**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and race data were provided in the base year for parent 1, then skip to P2 E05.

**Question Wording:** [In addition to learning about [your/parent 1's] Hispanic background, we would also like to know about [your/his/her] racial background.]

What is [your/parent 1's] race?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1. If the respondent answered yes to P2HISP1, the first sentence was displayed; otherwise, the first sentence was not displayed.*

**Variable:** P2WHITE1

Item Wording: White

0=No

1=Yes

**Variable:** P2BLACK1

Item Wording: Black or African American

0=No

1=Yes

**Variable:** P2ASIAN1

Item Wording: Asian

0=No

1=Yes

**Variable:** P2PACISLE1

Item Wording: Native Hawaiian or other Pacific Islander

0=No

1=Yes

**Variable: P2AMINDIAN1**

Item Wording: American Indian or Alaska Native

0=No

1=Yes

**Routing:** If parent 1 is Asian, go to P2 E04; Otherwise skip to P2 E05.**Administered to:** All respondents except those who are the same as the base year respondent and provided race data for parent 1 in the base year~~~~~  
**Screen:** P2 E04**Question Wording:** [Are/Is] [you/he/she]...*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1.***Variable: P2ASIANOR1**

1=Chinese

2=Filipino

3=Southeast Asian such as Vietnamese or Thai

4=South Asian such as Asian Indian or Sri Lankan, or

5=Other Asian such as Korean or Japanese?

**Routing:** Go to P2 E05.**Administered to:** Respondents who reported Asian ethnicity in P2ASIAN1~~~~~  
**Screen:** P2 E05**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and birth year was provided in the base year for parent 1, then skip to P2 E06.**Question Wording:** In what year [were/was] [you/parent 1] born?*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1.***Variable: P2YRBORN1**

Item Wording: (Please enter your answer in this format: 19XX)

**Routing:** Go to P2 E06**Administered to:** All respondents except those who are the same as the base year respondent and provided birth year for parent 1 in the base year~~~~~  
**Screen:** P2 E06**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and place of birth was provided in the base year for parent 1 then -If there is a parent 2 then skip to P2 E08; - Else skip to P2 E15**Question Wording:** [Were/Was] [you/he/she] born in the United States, in Puerto Rico or another U.S. territory, or in another country?*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1.*

**Variable:** P2USBORN1

1=United States

2=Puerto Rico or another U.S. territory

3=Another country

**Routing:** If parent 1 was born in Puerto Rico or another U.S. territory or in another country, go to P2 E07; Else if there is a parent 2, go to P2 E08; Otherwise skip to P2 E15.

**Administered to:** All respondents except those who are the same as the base year respondent and provided place of birth for parent 1 in the base year

~~~~~

**Screen:** P2 E07

**Question Wording:** In what year did [you/he/she] come to the [continental] United States to stay permanently?

*Note: Question wording was customized in the survey instrument such that the language in brackets depended on whether the parent 1 was the respondent or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 1. If the respondent answered Puerto Rico or another US territory to P2USBORN1, "continental" was displayed.*

**Variable:** P2USYR1

Item Wording: (Please enter your answer in the following format: 19XX or 20XX)

**Variable:** not delivered on data file as a separate variable, but incorporated into P2USYR1

Item Wording: (Check here if [you/he/she] [are/is] not in the United States to stay.)

0=No

1=Yes

**Routing:** If there is a parent 2, go to P2 E08; Otherwise skip to P2 E15.

**Administered to:** Respondents who reported parent 1 was born in Puerto Rico or another country in P2USBORN1

~~~~~

**Screen:** P2 E08

**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1) and parent 2 is the same as the base year parent 2 (P2SAMESPS=1) and Hispanicity for parent 2 was collected in the base year, skip to P2 E10. Otherwise, go to P2 E09.

**Question Wording:** Is [your spouse/your partner/parent 2] Hispanic or [Latino/Latina]?

*Note: Question wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2.*

**Variable:** P2HISP2

1=Yes

0=No

**Routing:** If parent 2 is Hispanic, then go to P2 E09; Else go to P2 E10.

**Administered to:** All respondents except those who are the same as the base year respondent, whose parent 2 is the same as the base year parent 2, and who provided Hispanicity for parent 2 in the base year



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**Screen: P2 E09****Question Wording:** Is [he/she/parent 2]...

*Note: Question wording was customized in the survey instrument such that the language in brackets (he/she/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2*

**Variable:** P2HISPOR2

1=Mexican, Mexican-American or [Chicano/Chicana]

2=Cuban

3=Dominican

4=Puerto Rican

5=Central American such as Guatemalan, Salvadoran, Nicaraguan, Costa Rican, Panamanian, or Honduran

6=South American such as Colombian, Argentinian, or Peruvian or

7=Other Hispanic or [Latino/Latina]?

**Routing:** Go to P2 E10**Administered to:** Respondents who reported Hispanicity in P2HISP2

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**Screen: P2 E10**

**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1), and parent 2 is the same as the base year parent 2 (P2SAMESPS=1), and race data were provided in the base year for parent 2, then skip to P2 E12.

**Question Wording:** [In addition to learning about [your spouse's/your partner's/parent 2's] Hispanic background, we would also like to know about [his/her/your spouse's/your partner's/parent 1's] racial background.]

What is [your spouse's/your partner's/parent 2's] race?

*Note: Question wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2. If the respondent answered yes to P2HISP2, the first sentence of the question was displayed; otherwise, the first sentence was not displayed.*

**Variable:** P2WHITE2

Item Wording: White

0=No

1=Yes

**Variable:** P2BLACK2

Item Wording: Black or African American

0=No

1=Yes

**Variable:** P2ASIAN2

Item Wording: Asian

0=No

1=Yes

**Variable:** P2PACISLE2

Item Wording: Native Hawaiian or other Pacific Islander

0=No

1=Yes

**Variable:** P2AMINDIAN2

Item Wording: American Indian or Alaska Native

0=No

1=Yes

**Routing:** If Asian, go to P2 E11; Otherwise, skip to P2 E12.

**Administered to:** All respondents except those who are the same as the base year respondent, have the same parent 2 as the base year parent 2, and provided race data for parent 2 in the base year

~~~~~  
**Screen:** P2 E11

**Question Wording:** Is [he/she/parent 2]...

*Note: Question wording was customized in the survey instrument such that the language in brackets (he/she/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section 2.2.2 for a definition of parent 2.*

**Variable:** P2ASIANOR2

1=Chinese

2=Filipino

3=Southeast Asian such as Vietnamese or Thai

4=South Asian such as Asian Indian or Sri Lankan, or

5=Other Asian such as Korean or Japanese?

**Routing:** Go to P2 E12.

**Administered to:** Respondents who reported Asian ethnicity in P2ASIAN2

~~~~~  
**Screen:** P2 E12

**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1), and parent 2 is the same as the base year parent 2 (P2SAMESPS=1), and birth year was provided in the base year for parent 2, then skip to P2 E13.

**Question Wording:** In what year was [your spouse/your partner/parent 2] born?

*Note: Question wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2.*

**Variable:** P2YRBORN2

Item Wording: (Please enter your answer in this format: 19XX)

**Routing:** Go to P2 E13.

**Administered to:** All respondents except those who are the same as the base year respondent, have the same parent 2 as the base year parent 2, and provided birth year for parent 2 in the base year

~~~~~  
**Screen:** P2 E13

**Pre-Routing:** If respondent is the same as the base year respondent (P2SAMER=1), and parent 2 is the same as the base year parent 2 (P2SAMEPS=1), and place of birth was provided in the base year for parent 2, then skip to P2 E15.

**Question Wording:** Was [your spouse/your partner/parent 2] born in the United States, in Puerto Rico or another U.S. territory, or in another country?

*Note: Question wording was customized in the survey instrument such that the language in brackets (your spouse/your partner/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2.*

**Variable:** P2USBORN2

1=United States

2=Puerto Rico or another U.S. territory

3=Another country

**Routing:** If parent 2 was born in Puerto Rico or another country, go to P2 E14; Otherwise, skip to P2 E15.

**Administered to:** All respondents except those who are the same as the base year respondent, have the same parent 2 as the base year parent 2, and provided place of birth for parent 2 in the base year

~~~~~  
**Screen:** P2 E14

**Question Wording:** In what year did [he/she/parent 2] come to the [continental] United States to stay permanently?

*Note: Question wording was customized in the survey instrument such that the language in brackets (he/she/parent 2) depended on whether the parent 2 was the respondent's spouse or partner or another parent or guardian in the household. See the Data File Documentation section X.X.X for a definition of parent 2. If the respondent answered Puerto Rico or another US territory to P2USBORN2, "continental" was displayed.*

**Variable:** P2USYR2

Item Wording: (Please enter your answer in the following format: 19XX or 20XX)

**Variable:** not delivered on data file as a separate variable, but incorporated into P2USYR2

Item Wording: (Check here if [he/she/parent 2] is not in the United States to stay.)

0=No

1=Yes

**Routing:** Go to P2 E15.

**Administered to:** Respondents who reported parent 2 was born in Puerto Rico or another country in P2USBORN2

~~~~~  
**Screen:** P2 E15

**Pre-Routing:** If the teenager's place of birth was collected in the base year, then skip to P2 E19

**Question Wording:** Now we have a question about [Teenager].

Was [he/she] born in the United States, in Puerto Rico or another U.S. territory, or in another country?

**Variable:** P2USBORNT

1=United States

2=Puerto Rico or another U.S. territory

3=Another country

**Routing:** If student born in another country, go to P2 E16; If student born in Puerto Rico or another U.S. territory, go to P2 E17; Otherwise, skip to P2 E19.

**Administered to:** All respondents except those for whom their teenager's place of birth was reported in the base year

~~~~~

**Screen:** P2 E16

**Question Wording:** In which country was [he/she] born?

**Variable:** P2COUNTRYT

**Routing:** Go to P2 E17.

**Administered to:** Respondents who reported the teenager was born in another country in P2USBORNT

~~~~~

**Screen:** P2 E17

**Question Wording:** In what year did [he/she] come to the [continental] United States to stay permanently?

*Note: Question wording was customized in the survey instrument such that "continental" displayed if the respondent answered Puerto Rico or another US territory to P2USBORNT.*

**Variable:** P2USYRT

Item Wording: (Please enter your answer in the following format: 19XX or 20XX)

**Variable:** not delivered, but incorporated into P2USYRT

Item Wording: (Check here if [Teenager] is not in the United States to stay permanently.)

0=No

1=Yes

**Routing:** Go to P2 E18.

**Administered to:** Respondents with teenagers born in Puerto Rico, another U.S. territory, or another country outside the United States

~~~~~

**Screen:** P2 E18

**Question Wording:** In what grade was [Teenager] placed when [he/she] started school in the United States?

**Variable:** P2USGRADE

1=Prekindergarten

2=Kindergarten

3=1st grade

4=2nd grade

5=3rd grade

6=4th grade

7=5th grade

8=6th grade

9=7th grade

10=8th grade

11=9th grade

**Routing:** Go to P2 E19.

**Administered to:** Respondents with teenagers born in Puerto Rico, another U.S. territory, or another country outside the United States

~~~~~

**Screen:** P2 E19

**Question Wording:** Is any language other than English regularly spoken in your home?

**Variable:** P2HOMELANG

1=Yes

0=No

**Routing:** If another language is spoken, go to P2 E20; If only English is spoken, skip to P2FINTRO.

**Administered to:** All respondents

~~~~~

**Screen:** P2 E20

**Question Wording:** What languages other than English are regularly spoken in your home?

**Variable:** P2SPANISH

Item Wording: Spanish

0=No

1=Yes

**Variable:** P2EUROLANG

Item Wording: A European language other than Spanish such as French, German or Russian

0=No

1=Yes

**Variable:** P2CHINESE

Item Wording: A Chinese language

0=No

1=Yes

**Variable:** P2FILIPINO

Item Wording: A Filipino language

0=No

1=Yes

**Variable:** P2SEASIAN

Item Wording: A Southeast Asian language such as Vietnamese, Thai or Cambodian

0=No

1=Yes

**Variable:** P2SASIAN

Item Wording: A South Asian language such as Hindi or Tamil

0=No

1=Yes

**Variable:** P2OTHRASIAN

Item Wording: Another Asian language such as Japanese or Korean

0=No

1=Yes

**Variable:** P2MIDEAST

Item Wording: A Middle Eastern language such as Arabic or Farsi

0=No

1=Yes

**Variable:** P2OTHLANG

Item Wording: Another language

0=No

1=Yes

**Routing:** Go to P2 E21.

**Administered to:** Respondents who have languages other than English regularly spoken in their home

~~~~~  
**Screen:** P2 E21

**Question Wording:** Is English also regularly spoken in your home?

**Variable:** P2ENGLISH

1=Yes

0=No

**Routing:** If more than one language is spoken in the home, then go to P2 E22; Otherwise, skip to P2FINTRO.

**Administered to:** Respondents who have languages other than English regularly spoken in their home

~~~~~  
**Screen:** P2 E22

**Question Wording:** What language do you usually speak to [Teenager] in your home?

*Note: Only the languages that the respondent reported being spoken in the home were displayed as response options.*

**Variable:** P2RSPLANG

0=English

1=Spanish

2=A European language other than Spanish (such as French, German or Russian)

3=A Chinese language

4=A Filipino language

5=A Southeast Asian language (such as Vietnamese, Thai, or Cambodian)

6=A South Asian language (such as Hindi or Tamil)

7=An Asian language (such as Japanese or Korean)

8=A Middle Eastern language (such as Arabic or Farsi)

9=Another language

**Routing:** Go to P2 E23.

**Administered to:** Respondents who have more than one language regularly spoken in their home

~~~~~  
**Screen:** P2 E23

**Question Wording:** What language does [he/she] usually speak to you in your home?

*Note: Only the languages that the respondent reported being spoken in the home were displayed as response options.*

**Variable: P2LANGTEEN**

- 0=English
- 1=Spanish
- 2=A European language other than Spanish (such as French, German or Russian)
- 3=A Chinese language
- 4=A Filipino language
- 5=A Southeast Asian language (such as Vietnamese, Thai, or Cambodian)
- 6=A South Asian language (such as Hindi or Tamil)
- 7=An Asian language (such as Japanese or Korean)
- 8=A Middle Eastern language (such as Arabic or Farsi)
- 9=Another language

**Routing:** Go to P2FINTRO.

**Administered to:** Respondents who have more than one language regularly spoken in their home

## Section F: Locating Information

### Screen: P2FINTRO

**Question Wording:** Now in the last part of the interview we will ask you for information that will make it possible for us to locate you and [Teenager] more easily in the future for the HSL:09 study.

This information will be kept in secure and protected data files separate from the responses you've already provided in your interview.

**Routing:** Collect locating information and then go to P2 F01

### Screen: P2 F01

**Question Wording:** [Besides me,] did anyone help you complete this questionnaire?

*Note: Question wording was customized in the survey instrument such that the language in brackets was displayed if the interview was completed over the phone.*

#### Variable: P2QHELP

- 1=Yes
- 0=No

**Routing:** If anyone helped parent complete questionnaire, go to P2 F02; Else, go to END.

**Administered to:** All respondents

### Screen: P2 F02

**Question Wording:** Who helped you complete this questionnaire?

#### Variable: P2QHELP1

Item Wording: [Teenager]

- 0=No
- 1=Yes

#### Variable: P2QHELP2

Item Wording: Another family member

- 0=No
- 1=Yes

**Variable:** P2QHELP3

Item Wording: One of your friends

0=No

1=Yes

**Variable:** P2QHELP4

Item Wording: Another person

0=No

1=Yes

**Administered to:** Respondents who received help completing the questionnaire



## Administrator

### Section A: School Characteristics

**Screen:** A2 AINTRO

**Question Wording:** First we have a few questions about [school name]'s characteristics.  
[Unless otherwise noted, please answer all questions based on the 2011–2012 school year, that is, last school year.]

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "name school."*

**Routing:** Go to A2 A01.

**Administered to:** All first follow-up respondents in base-year schools.

**Screen:** A2 A01

**Question Wording:** Which of the following best describes [school name]?

*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name," and the first item included instructions for respondents from public schools to exclude charter schools. Private schools did not see the second option.*

**Variable:** A2SCHTYPE

1=A regular school

2=A charter school (a school that has been granted a charter exempting it from selected state or local rules and regulations)

3=A special program school, such as a science or math school, performing arts school, talented or gifted school, or a foreign language immersion school

4=A career, technical or vocational school

5=An alternative school (a school that offers a curriculum designed to provide nontraditional education to students, for example, to students at risk of school failure or dropout in a traditional setting)

**Routing:** If school is private, skip to A2 A07. Else to go A2 A02.

**Administered to:** All first follow-up respondents.

**Screen:** A2 A02

**Question Wording:** Does this school have a magnet program?

(A magnet program offers enhancements such as special curricular themes or methods of instruction to attract students from outside their normal attendance area.)

**Variable:** A2MAGNET

1=Yes, a school-wide magnet program in which all students in this school participate in the program

2=Yes, a magnet program in which some students in this school participate in the program

3=No

**Routing:** If school has a magnet program, go to A2 A03. Else go to A2 A05.

**Administered to:** First follow-up respondents in base-year, public schools.

~~~~~  
**Screen:** A2 A03

**Question Wording:** Is [school name]’s magnet program or special focus on...

*Note: Question wording was customized in the survey instrument such that the respondent’s school name appeared in place of “school name.”*

**Variable:** A2STEMFOCUS

1=Science, Technology, Engineering, or Math or

2=something else such as performing arts, education for talented or gifted students, or foreign language immersion?

**Routing:** Go to A2 A05.

**Administered to:** First follow-up respondents in base-year schools that have a magnet program.

~~~~~

**Screen:** A2 A05

**Question Wording:** Does [school name] participate in a public school choice program? School choice programs are those aimed at giving families the opportunity to choose the school their children will attend, such as magnet schools, charter schools, and school vouchers. Do not include public school choice that is mandatory due to Adequate Yearly Progress requirements.

*Note: Question wording was customized in the survey instrument such that the respondent’s school name appeared in place of “school name.”*

**Variable:** A2CHOICE

1=Yes

0=No

**Routing:** If school participates in a school choice program, go to A2 A06. Else, go to A2 A07.

**Administered to:** First follow-up respondents in base-year, public schools.

~~~~~

**Screen:** A2 A06

**Question Wording:** In which of the following types of public school choice programs does [school name] participate?

*Note: Question wording was customized in the survey instrument such that the respondent’s school name appeared in place of “school name.”*

**Variable:** A2CHOICEIN

Item Wording: Students assigned to [school name] can choose to enroll in [school name] or another school within the district.

1=Yes

0=No

**Variable:** A2CHOICEOUT

Item Wording: Students can enroll in a public school in another district at no tuition cost to themselves or their families.

1=Yes

0=No

**Variable:** A2CHOICESCH

Item Wording: Students from other districts can enroll in [school name] at no tuition cost to themselves or their families.

1=Yes

0=No

**Variable:** A2CHOICEPRIV

Item Wording: Students assigned to [school name] can choose to enroll in a private school using state or district funds.

1=Yes

0=No

**Routing:** Go to A2 A07.

**Administered to:** First follow-up respondents in base-year schools that participate in a public school choice program.

**Screen:** A2 A07

**Question Wording:** Is [school name] a year round school?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2YRROUND

1=Yes

0=No

**Routing:** Go to A2 A08.

**Administered to:** All first follow-up respondents in base-year schools.

**Screen:** A2 A08

**Question Wording:** What kind of academic calendar does [school name] have for grades 9 through 12?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2CALENDAR

1=Semester calendar

2=Trimester calendar

3=Quarter calendar

4=Other calendar

**Routing:** Go to A2 A09.

**Administered to:** All first follow-up respondents in base-year schools.

**Screen:** A2 A09

**Question Wording:** On average, how many hours of instruction per day do students in grades 9 through 12 receive at [school name]? Please exclude study hall and lunch. Report both hours and minutes, such as 6 hours and 0 minutes or 5 hours and 45 minutes.

*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2CLASSHRS

Item Wording: hours and

**Variable:** A2HRSINSMIN

Item Wording: minutes

**Routing:** Go to A2 A10.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** A2 A10

**Question Wording:** How are courses scheduled in [school name] for grades 9 through 12?

*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2SCHEDULE

- 1=Traditional scheduling only (no block scheduling)
- 2=Block scheduling only (such as 4x4 or A/B)
- 3=Both traditional and block scheduling

**Routing:** Go to A2 A11.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** A2 A11

**Question Wording:** What percentage of your high school students attend a shared-time area or regional career and technical school?

(Please round to the nearest whole number, and enter '0' if none.)

**Variable:** A2CTESHSC

Item Wording: percent

**Routing:** Go to A2BINTRO

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

## Section B: Programs, Policies, and Statistics

~~~~~

**Screen:** A2BINTRO

**Question Wording:** Now we would like to ask you some questions about [school name]'s programs and policies. We will also be asking you to provide us with some statistics for [school name]. [Unless otherwise noted, please answer all questions in this section based on the 2011–2012 school year, that is, last school year.] Some questions may request information that is time-consuming to report with exact numbers. For those questions, informed estimates are acceptable.

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Routing:** Go to A2 B01.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B01

**Question Wording:** As of the first of October 2011, how many students in grades 9–12 were enrolled in this school?

*Note: This item was included in the abbreviated instrument.*

**Variable:** A2HSSIZE

Item Wording: students

**Routing:** Go A2 B02.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** A2 B02**Question Wording:** What is [school name]'s current enrollment for grades 9 through 12 expressed as a percentage of capacity, such as 90 percent filled or 105 percent filled?*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable:** A2CAPACITY

Item Wording: % (Please round to the nearest whole number.)

**Routing:** Go to A2 B03.**Administered to:** All first follow-up respondents in base-year schools.  
~~~~~**Screen:** A2 B03**Question Wording:** What percentage of students in grades 9 through 12 in [school name]... (Please round to the nearest whole number, and enter '0' if none.)*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable:** A2FREELUNCH

Item Wording: receive free or reduced-price lunch? %

**Variable:** A2ELL

Item Wording: are English Language Learners/have limited English proficiency? %

**Variable:** A2SPECIALED

Item Wording: receive special education services for students with disabilities? %

**Routing:** Go to A2 B04.**Administered to:** All first follow-up respondents.  
~~~~~**Screen:** A2 B04**Question Wording:** In terms of a percentage, what was the average daily attendance (ADA) for students in the following grades in your school last year?

(Please round to the nearest whole number.)

**Variable:** A2ADA9

Item Wording: 9th grade

**Variable:** A2ADA10

Item Wording: 10th grade

**Variable:** A2ADA11

Item Wording: 11th grade

**Variable:** A2ADA12

Item Wording: 12th grade

**Routing:** Go to A2 B05.**Administered to:** All first follow-up respondents in base-year schools.  
~~~~~**Screen:** A2 B05**Question Wording:** Which of the following can occur when high school students are absent without an excuse?

**Variable:** A2NOTIFY

Item Wording: Parents are notified.

1=Yes

0=No

**Variable:** A2DETENTION

Item Wording: Students receive detentions.

1=Yes

0=No

**Variable:** A2INSUSPEND

Item Wording: Students receive in-school suspensions.

1=Yes

0=No

**Variable:** A2OUTSUSPEND

Item Wording: Students receive out-of-school suspensions.

1=Yes

0=No

**Routing:** Go to A2B06.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B06

**Question Wording:** Does [school name] have a course failure policy that is tied to absenteeism?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2ABSENTFAIL

1=Yes

0=No

**Routing:** Go to A2 B07.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B07

**Question Wording:** Are high school students at [school name] required to earn a certain number or type of credits to be academically promoted to the next grade?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2PROMCRED

1=Yes

0=No

**Routing:** If school does require a certain number or type of credits for academic promotion, go to A2 B08. Otherwise, go to A2 B09.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B08

**Question Wording:** In the 2010–2011 school year, what percentage of [school name]'s 11th grade class did not accumulate enough credits to be promoted to 12th grade academic status for the 2011–2012 school year?

**Variable: A2REPEATG11**

Item Wording: % (Please round to the nearest whole number.)

**Routing:** Go to A2 B09.

**Administered to:** First follow-up respondents in base-year schools that require high school students to earn a certain number or type of credits to be academically promoted to the next year.

**Screen:** A2 B09

**Question Wording:** Does your high school offer any of the following programs to assist students who are struggling academically?

**Variable: A2RECOVERY**

Item Wording: Credit recovery program targeted at standards in which students were deficient. Programs may be offered by computer software, online instruction (such as a virtual school), or teacher-guided instruction

1=Yes

0=No

**Variable: A2SUMRSCH**

Item Wording: Summer programs that provides supplemental instruction

1=Yes

0=No

**Variable: A2LRNCMNITY**

Item Wording: Small learning communities for over-aged students who have not met criteria for promotion to the next grade

1=Yes

0=No

**Variable: A2CATCHUP**

Item Wording: Catch-up courses

1=Yes

0=No

**Variable: A2DOUBLEDOSSE**

Item Wording: "Double-dosing" of classes

1=Yes

0=No

**Variable: A2STUDYCLASS**

Item Wording: Classes in study skills

1=Yes

0=No

**Variable: A2G11TEACHER**

Item Wording: Specific professional development, coaches, or technical assistance for teachers working with struggling students

1=Yes

0=No

**Variable: A2TUTORSTRG**

Item Wording: Tutoring

1=Yes

0=No

**Routing:** If school has any credit recovery programs, then go to A2 B10. Otherwise, skip to A2 B12.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B10

**Question Wording:** Is the credit recovery program offered...

**Variable:** A2RECOVONSITE

Item Wording: on-site, such as teacher-guided instruction or program software in a classroom?

1=Yes

0=No

**Variable:** A2RECOVONLINE

Item Wording: online, such as a state virtual school?

1=Yes

0=No

**Routing:** If school offers either onsite or online credit recovery, then go to A2 B11. Otherwise go to A2 B12.

**Administered to:** First follow-up respondents in base-year schools that offer programs to assist students who are struggling academically through a credit recovery program.

~~~~~

**Screen:** A2 B11

**Question Wording:** During the 2010–2011 school year, approximately what percentage of 11th and 12th grade students participated in these credit recovery programs?

**Variable:** A2PCTRECOVERY

1=5 percent or less

2=6 to 10 percent

3=11 to 24 percent

4=25 to 49 percent

5=50 percent or more

**Routing:** Go to A2 B12.

**Administered to:** First follow-up respondents in base year schools that offer programs to assist students who are struggling academically through an onsite or online credit recovery program.

~~~~~

**Screen:** A2 B12

**Question Wording:** What percentage of your high school's September 2010 11th-graders returned in September of 2011, regardless of grade level?

**Variable:** A2RETURN11

Item Wording: % (Please round to the nearest whole number.)

**Routing:** If school is an alternative school, then go to A2 B14. Otherwise go to A2 B13.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B13

**Question Wording:** What percentage of students attending [school name] in the 2010–2011 school year were transferred to an alternative program or school, such as one with a program, curriculum, or teaching approach that helps students who are at risk of dropping out?



*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2TRANSFRALT

Item Wording: % (Please round to the nearest whole number. Enter '0' if none.)

**Routing:** Go to A2 B14.

**Administered to:** First follow-up respondents in base-year schools except those in alternative schools.

~~~~~  
**Screen:** A2 B14

**Question Wording:** Which of the following programs or courses does [school name] offer to help students at risk of dropping out of high school?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2DOPRVON

Item Wording: Dropout prevention program on-site

1=Yes

0=No

**Variable:** A2DOPRVOFF

Item Wording: Dropout prevention program off-site

1=Yes

0=No

**Variable:** A2STUDYPRGON

Item Wording: Programs to develop student study skills (such as AVID or GEAR UP) on-site

1=Yes

0=No

**Variable:** A2STUDYPRGOFF

Item Wording: Programs to develop student study skills (such as AVID or GEAR UP) off-site

1=Yes

0=No

**Variable:** A2CHILDCAREON

Item Wording: Childcare services on-site

1=Yes

0=No

**Variable:** A2CHILDCAREOFF

Item Wording: Childcare services off-site

1=Yes

0=No

**Routing:** If the school has onsite or offsite dropout prevention programs, then go to A2 B15; Else skip to A2 B16.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 B15

**Question Wording:** What percentage of [school name]'s students in grades 9 through 12 are currently enrolled in a dropout prevention program, either on-site at [school name] or off-site?

(Please round to the nearest whole number, and enter '0' if none.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2PCTDOPRVON

Item Wording: On-site %

**Variable:** A2PCTDOPRVOFF

Item Wording: Off-site %

**Routing:** Go to A2 B16.

**Administered to:** First follow-up respondents whose schools offer onsite or offsite dropout prevention programs.

~~~~~  
**Screen:** A2 B16

**Question Wording:** Does your school do any of the following to raise high school students' interest and achievement in math or science?

**Variable:** A2MTHSCIFAIR

Item Wording: Hold school-wide math or science fairs, workshops, or competitions

1=Yes

0=No

**Variable:** A2MSSUMMER

Item Wording: Partner with community colleges or universities that offer math or science summer programs or camps for high school students

1=Yes

0=No

**Variable:** A2MSMENTOR

Item Wording: Pair students with mentors in math or science

1=Yes

0=No

**Variable:** A2MSSPEAKER

Item Wording: Bring in guest speakers to talk to students about math or science

1=Yes

0=No

**Variable:** A2MSFLDTRIP

Item Wording: Take students on math- or science-relevant field trips

1=Yes

0=No

**Variable:** A2MSPRGMS

Item Wording: Tell students about math or science contests, web sites, blogs, or programs (such as the Intel Student Research Contest or Girls Incorporated Operation SMART)

1=Yes

0=No

**Variable:** A2MSPDLEARN

Item Wording: Require teacher professional development in how students learn math or science

1=Yes

0=No

**Variable: A2MSPDINTRST**

Item Wording: Require teacher professional development in increasing student interest in math or science

1=Yes

0=No

**Routing:** Go to A2 B17.

**Administered to:** All first follow-up respondents in base-year schools.

**Screen: A2 B17**

**Question Wording:** In each of the following subjects, how many years of coursework are required to meet high school graduation requirements in [school name]? Please answer with the graduating class of 2013 in mind.

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable: A2ENGREQHS**

Item Wording: English

1=Not required

2=Less than 1 year

3=1 to less than 2 years

4=2 to less than 3 years

5=3 to less than 4 years

6=4 years

**Variable: A2MTHREQHS**

Item Wording: Mathematics

1=Not required

2=Less than 1 year

3=1 to less than 2 years

4=2 to less than 3 years

5=3 to less than 4 years

6=4 years

**Variable: A2SCIREQHS**

Item Wording: Science

1=Not required

2=Less than 1 year

3=1 to less than 2 years

4=2 to less than 3 years

5=3 to less than 4 years

6=4 years

**Variable: A2HISTREQHS**

Item Wording: History or social studies

1=Not required

2=Less than 1 year

3=1 to less than 2 years

4=2 to less than 3 years

5=3 to less than 4 years

6=4 years

**Variable:** A2LANGREQHS

Item Wording: Foreign language

- 1=Not required
- 2=Less than 1 year
- 3=1 to less than 2 years
- 4=2 to less than 3 years
- 5=3 to less than 4 years
- 6=4 years

**Routing:** Go to A2 B18.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 B18

**Question Wording:** For a high school diploma, are [school name]'s requirements for graduation less than, equal to, or more than the requirements for entry into a public, 4-year college in your state? Please answer with the graduating class of 2013 in mind.

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2ENGREQ4YR

Item Wording: English

- 1=Less than
- 2=Equal to
- 3=More than
- 4=Do not know

**Variable:** A2MTHREQ4YR

Item Wording: Mathematics

- 1=Less than
- 2=Equal to
- 3=More than
- 4=Do not know

**Variable:** A2SCIREQ4YR

Item Wording: Science

- 1=Less than
- 2=Equal to
- 3=More than
- 4=Do not know

**Variable:** A2HISTREQ4YR

Item Wording: History or social studies

- 1=Less than
- 2=Equal to
- 3=More than
- 4=Do not know

**Variable:** A2LANGREQ4YR

Item Wording: Foreign language

1=Less than

2=Equal to

3=More than

4=Do not know

**Routing:** Go to A2 B19.**Administered to:** All first follow-up respondents in base-year schools.~~~~~  
**Screen:** A2 B19**Question Wording:** What percentage of the 2010–2011 12th grade class...

(Please round your answers to whole numbers, and answer ‘0’ if there are no students in a category.)

*Note: This item was included in the abbreviated instrument.***Variable:** A2HIGHERED

Item Wording: entered higher education programs (such as a 4-year college, 2-year community college, or school that provides occupational training)?

**Variable:** A2WORK

Item Wording: entered the labor market?

**Variable:** A2MILITARY

Item Wording: joined the military?

**Routing:** Go to A2CINTRO.**Administered to:** All first follow-up respondents.~~~~~  
**Section C: Teachers**~~~~~  
**Screen:** A2CINTRO**Question Wording:** Now we would like to ask you some questions about [school name]’s teachers for grades 9 through 12. [Unless otherwise noted, please answer all questions in this section based on the 2011–2012 school year, that is, last school year.]

Some questions may request information that is time-consuming to report with exact numbers. For those questions, informed estimates are acceptable.

*Note: This item was included in the abbreviated instrument.***Routing:** Go to A2 C01.**Administered to:** All first follow-up respondents.~~~~~  
**Screen:** A2 C01**Question Wording:** As of the first of October 2011, about how many high school teachers held full-time or part-time positions or assignments at [school name]? Include regular classroom teachers; special area or resource teachers such as teachers of special education, Title I, art, music, physical education; and long-term substitute teachers. Include as PART-TIME teachers, itinerant teachers who teach part-time at this school. Do not include student teachers, short-term substitute teachers, or teachers who teach only postsecondary or adult education.

(Please use whole numbers, and enter ‘0’ if none.)

*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2FTTCHRS

Item Wording: full-time teachers

**Variable:** A2PTTCHRS

Item Wording: part-time teachers

**Routing:** Go to A2 C02.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** A2 C02

**Question Wording:** Of the [X] full-time [and [X] part-time] teachers who instruct high school students at [school name], how many teach in each of the following subject areas?

Please give your best estimate. [If a teacher works full-time in your high school, but divides his or her time between subject areas, count that teacher as part-time in each subject area.]

(Please use whole numbers, and enter '0' if none.)

*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name," and the total number of full-time/part-time teachers was filled based on respondent's previous responses, where applicable. Number of part-time teachers, in brackets, was not included if no part-time teachers were reported in previous response.*

**Variable:** A2FTMTCHRS

Item Wording: Math (full-time)

**Variable:** A2PTMTCHRS

Item Wording: Math (part-time)

**Variable:** A2FTSTCHRS

Item Wording: Science (full-time)

**Variable:** A2PTSTCHRS

Item Wording: Science (part-time)

**Variable:** A2FTOTHTCHRS

Item Wording: All other subjects (full-time)

**Variable:** A2PTOTHTCHRS

Item Wording: All other subjects (part-time)

**Variable:** A2PTALLTCHRS

Item Wording: Part-time

**Variable:** A2FTALLTCHRS

Item Wording: Full-time

**Routing:** Go to A2 C03.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** A2 C03

**Question Wording:** How many of [school name]'s teachers are currently collecting a pension from a teacher retirement system or drawing money from a school or system sponsored 401(k) or 403(b) plan?

(Please use whole numbers, and enter '0' if none.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2PENSION

Item Wording: teachers

**Routing:** Go to A2 C04

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 C04

**Question Wording:** How many full-time high school math teachers who taught in [school name] last year (2010–11), did not return to teach high school math at [school name] this year (2011–12)?

(Please use whole numbers, and enter '0' if all math teachers returned this school year.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2MTNORETURN

Item Wording: math teachers

**Routing:** Go to A2 C05

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 C05

**Question Wording:** How many full-time high school science teachers who taught in [school name] last year (2010–11), did not return to teach high school science students at [school name] this year (2011–12)?

(Please use whole numbers, and enter '0' if all science teachers returned this school year.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2STNORETURN

Item Wording: science teachers

**Routing:** Go to A2 C06

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 C06

**Question Wording:** What percentage of [school name]'s high school teachers are absent on an average day?

(Please round to the nearest whole number.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2ABSENTTCHR

Item Wording: %

**Routing:** Go to A2 C07

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 C07

**Question Wording:** Which of the following kinds of support does your school provide to high school math and science teachers who are new to the profession?

**Variable: A2MSINDUCTION**

Item Wording: Formal new teacher induction program

1=Yes

2=No

3=Don't know

**Variable: A2MSREDUCETCH**

Item Wording: Reduced teaching schedule or increased number of preparations

1=Yes

2=No

3=Don't know

**Variable: A2MSPLANNING**

Item Wording: Common planning time with other math and science teachers

1=Yes

2=No

3=Don't know

**Variable: A2MSRELEASE**

Item Wording: Release time for professional development or to observe other teachers

1=Yes

2=No

3=Don't know

**Variable: A2MSSEMINAR**

Item Wording: Seminars or classes for beginning teachers

1=Yes

2=No

3=Don't know

**Variable: A2MSMENTORMS**

Item Wording: Ongoing guidance or feedback from a master or mentor teacher in the same subject area

1=Yes

2=No

3=Don't know

**Variable: A2MSMENTOROTH**

Item Wording: Ongoing guidance or feedback from a master or mentor teacher in a different subject area

1=Yes

2=No

3=Don't know

**Variable: A2MSPROFDEVMS**

Item Wording: Opportunities to attend subject-specific professional development

1=Yes

2=No

3=Don't know



**Variable: A2MSPROFDEVOTH**

Item Wording: Opportunities to attend non-subject-specific professional development

1=Yes

2=No

3=Don't know

**Variable: A2MSPLC**

Item Wording: Opportunities to join a teacher study group, sometimes called a professional learning community (PLC)

1=Yes

2=No

3=Don't know

**Routing:** Go to A2DINTRO.

**Administered to:** All first follow-up respondents in base-year schools.

## SECTION D. OPINIONS AND BACKGROUND

**Screen:** A2DINTRO

**Question Wording:** THIS SECTION SHOULD ONLY BE COMPLETED BY THE SCHOOL PRINCIPAL. This section of the interview asks about your opinions and background.

**Routing:** Go to A2 D01

**Administered to:** All first follow-up respondents in base-year schools.

**Screen:** A2 D01

**Question Wording:** We would like to ask you a couple of questions about your school's counseling program. Which one of the following goals does your school's counseling program emphasize the most?

**Variable:** A2GOAL1

1=Helping students plan and prepare for their work roles after high school

2=Helping students with personal growth and development

3=Helping students plan and prepare for postsecondary schooling

4=Helping students improve their achievement in high school

**Routing:** If respondent answers the question, then go to A2 D02; Else go to A2 D04.

**Administered to:** All first follow-up respondents in base-year schools.

**Screen:** A2 D02

**Question Wording:** Of the three goals remaining, which one does your school's counseling program emphasize most?

**Variable:** A2GOAL2

1=Helping students plan and prepare for their work roles after high school

2=Helping students with personal growth and development

3=Helping students plan and prepare for postsecondary schooling

4=Helping students improve their achievement in high school

**Routing:** If respondent answers the question, then go to A2 D03; Else go to A2 D04.

**Administered to:** First follow-up respondents in base-year schools who answered A2GOAL1.

~~~~~  
**Screen:** A2 D03

**Question Wording:** Of the two goals remaining, which one does your school's counseling program emphasize more?

**Variable:** A2GOAL3

- 1=Helping students plan and prepare for their work roles after high school
- 2=Helping students with personal growth and development
- 3=Helping students plan and prepare for postsecondary schooling
- 4=Helping students improve their achievement in high school

**Routing:** Go to A2 D04.

**Administered to:** First follow-up respondents in base-year schools who answered A2GOAL2.

~~~~~

**Screen:** A2 D04

**Question Wording:** For the 2011–12 school year, how easy or difficult was it to fill the teaching vacancies in the high school mathematics department in [school name]?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2FILLMTH

- 1=Easy
- 2=Somewhat difficult
- 3=Very difficult
- 4=You could not fill the vacancies in the math department
- 5=There were no vacancies in the math department

**Routing:** Go to A2 D05.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 D05

**Question Wording:** How easy or difficult was it to fill the high school teaching vacancies in the high school science department in [school name]?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2FILLSCI

- 1=Easy
- 2=Somewhat difficult
- 3=Very difficult
- 4=You could not fill the vacancies in the science department
- 5=There were no vacancies in the science department

**Routing:** Go to A2 D06.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 D06

**Question Wording:** Does your school or district offer signing bonuses or incentives such as monetary bonuses, tuition aid, or tuition tax credits to attract qualified full-time high school math and science teachers?

**Variable: A2MSINCENTIVE**

1=Yes

0=No

**Routing:** Go to A2 D07.**Administered to:** All first follow-up respondents in base-year schools.**Screen:** A2 D07**Question Wording:** To what degree is each of the following a problem at [school name]?*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable: A2TARDY**

Item Wording: Student tardiness

1=Not a problem

2=Minor problem

3=Moderate problem

4=Serious problem

**Variable: A2STUABSENT**

Item Wording: Student absenteeism

1=Not a problem

2=Minor problem

3=Moderate problem

4=Serious problem

**Variable: A2CUT**

Item Wording: Student class cutting

1=Not a problem

2=Minor problem

3=Moderate problem

4=Serious problem

**Variable: A2DROPOUT**

Item Wording: Students dropping out

1=Not a problem

2=Minor problem

3=Moderate problem

4=Serious problem

**Variable: A2APATHY**

Item Wording: Student apathy

1=Not a problem

2=Minor problem

3=Moderate problem

4=Serious problem

**Variable: A2PRNTINV**

Item Wording: Lack of parental involvement

1=Not a problem

2=Minor problem

3=Moderate problem

4=Serious problem

**Variable: A2UNPREP**

Item Wording: Students coming to school unprepared to learn

- 1=Not a problem
- 2=Minor problem
- 3=Moderate problem
- 4=Serious problem

**Variable: A2HEALTH**

Item Wording: Poor student health

- 1=Not a problem
- 2=Minor problem
- 3=Moderate problem
- 4=Serious problem

**Variable: A2RESOURCES**

Item Wording: Lack of resources and materials for teachers

- 1=Not a problem
- 2=Minor problem
- 3=Moderate problem
- 4=Serious problem

**Routing:** Go to A2 D08.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen: A2 D08**

**Question Wording:** To the best of your knowledge, how often do the following types of problems occur at [school name]?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable: A2CONFLICT**

Item Wording: Physical conflicts among students

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2ROBBERY**

Item Wording: Robbery or theft

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2VANDALISM**

Item Wording: Vandalism

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2DRUGUSE**

Item Wording: Student use of illegal drugs while at school

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2ALCOHOL**

Item Wording: Student use of alcohol while at school

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2DRUGSALE**

Item Wording: The sale of drugs on the way to or from school or on school grounds

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Routing:** Go to A2 D09.**Administered to:** All first follow-up respondents in base-year schools.

---

**Screen: A2 D09****Question Wording:** To the best of your knowledge, how often do the following types of problems occur at [school name]?*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable: A2WEAPONS**

Item Wording: Student possession of weapons

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2PHYSABUSE**

Item Wording: Physical abuse of teachers

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2TENSION**

Item Wording: Student racial tensions

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2CYBERBULLY**

Item Wording: Cyber-bullying

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2OTHERBULLY**

Item Wording: Other types of student bullying

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2VERBAL**

Item Wording: Student verbal abuse of teachers

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2MISBEHAVE**

Item Wording: Student in-class misbehavior

- 1=Daily
- 2=At least once a week
- 3=At least once a month
- 4=On occasion
- 5=Never happens

**Variable: A2DISRESPECT**

Item Wording: Student acts of disrespect for teachers

1=Daily

2=At least once a week

3=At least once a month

4=On occasion

5=Never happens

**Variable: A2GANG**

Item Wording: Student gang activities

1=Daily

2=At least once a week

3=At least once a month

4=On occasion

5=Never happens

**Routing:** Go to A2 D10.**Administered to:** All first follow-up respondents in base-year schools.**Screen:** A2 D10**Question Wording:** What is your sex?**Variable: A2SEX**

1=Male

2=Female

**Routing:** Go to A2 D11.**Administered to:** All first follow-up respondents in base-year schools.**Screen:** A2 D11**Question Wording:** Are you of Hispanic or [Latino/Latina] origin?**Variable: A2HISP**

1=Yes

0=No

**Routing:** Go to A2 D12.**Administered to:** All first follow-up respondents in base-year schools.**Screen:** A2 D12**Question Wording:** [In addition to learning about your Hispanic background, we would also like to know about your racial background.]

What is your race?

*Note: Question wording was customized in survey instrument such that if respondent indicated they were of Hispanic/Latino origin, then bracketed text above was displayed.***Variable: A2WHITE**

Item Wording: White

0=No

1=Yes

**Variable: A2BLACK**

Item Wording: Black or African American

0=No

1=Yes

**Variable: A2ASIAN**

Item Wording: Asian

0=No

1=Yes

**Variable: A2PACISLE**

Item Wording: Native Hawaiian or other Pacific Islander

0=No

1=Yes

**Variable: A2AMINDIAN**

Item Wording: American Indian or Alaska Native

0=No

1=Yes

**Routing:** Go to A2 D13.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 D13

**Question Wording:** What is the highest degree you have earned?

**Variable: A2HIDEG**

1=You do not have a degree

2=Associate's degree

3=Bachelor's degree

4=Master's degree

5=Educational Specialist diploma

6=Ph.D., EdD, MD, law degree, or other high level professional degree

**Routing:** If principal has a postsecondary degree, go to A2 D14. Otherwise, if no response, skip to A2 D15. Otherwise, skip to A2 D16.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 D14

**Question Wording:** What was your major field of study for your [highest degree]?

(Please type your major in the space below and click on 'Search for major.' Do not enter abbreviations.)

*Note: Question wording was customized in survey instrument such that the respondent's actual highest degree earned appeared in place of "highest degree earned."*

**Variable: A2HIMAJV**

**Variable: A2HIMAJ6**

**Variable: A2HIMAJ2**

**Routing:** If principal has a Master's degree or higher go to A2 D15. Otherwise, skip to A2 D16.

**Administered to:** First follow-up respondents in base-year schools who earned a postsecondary degree.



~~~~~  
**Screen:** A2 D15

**Question Wording:** What was your major field of study for your Bachelor's degree?  
 (Please type your major in the space below and click on 'Search for Major.' Do not enter abbreviations.)

**Variable:** A2BAMAJV

**Variable:** A2BAMAJ6

**Variable:** A2BAMAJ2

**Routing:** Go to A2 D16.

**Administered to:** First follow-up respondents in base-year schools who earned a Master's degree or higher.

~~~~~

**Screen:** A2 D16

**Question Wording:** Before you became a principal, did you have any management experience outside of the field of education?

**Variable:** A2MANAGEMENT

1=Yes

0=No

**Routing:** Go to A2 D17.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 D17

**Question Wording:** How much training, if any, have you received in each of the following areas? If you have received training in more than one way in a particular area, please choose the type of training that required the most hours.

**Variable:** A2SCHLAW

Item Wording: School law

1=No training

2=Topic of a workshop or seminar

3=Part of a college course

4=An entire college course

5=Two or more college courses

**Variable:** A2FISCAL

Item Wording: Fiscal management

1=No training

2=Topic of a workshop or seminar

3=Part of a college course

4=An entire college course

5=Two or more college courses

**Variable:** A2LTPLANS

Item Wording: Long-range planning

1=No training

2=Topic of a workshop or seminar

3=Part of a college course

4=An entire college course

5=Two or more college courses

**Variable: A2PHYSPLANT**

Item Wording: Physical plant management

- 1=No training
- 2=Topic of a workshop or seminar
- 3=Part of a college course
- 4=An entire college course
- 5=Two or more college courses

**Variable: A2PERSMGMT**

Item Wording: Personnel management

- 1=No training
- 2=Topic of a workshop or seminar
- 3=Part of a college course
- 4=An entire college course
- 5=Two or more college courses

**Variable: A2INSTLDRS**

Item Wording: Instructional leadership

- 1=No training
- 2=Topic of a workshop or seminar
- 3=Part of a college course
- 4=An entire college course
- 5=Two or more college courses

**Variable: A2DATADEC**

Item Wording: Data-driven decision making

- 1=No training
- 2=Topic of a workshop or seminar
- 3=Part of a college course
- 4=An entire college course
- 5=Two or more college courses

**Routing:** Go to A2 D18.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 D18

**Question Wording:** Did you become a principal through an alternative principal preparation program, such as New Leaders for New Schools?

**Variable: A2ALTPREP**

- 1=Yes
- 0=No

**Routing:** Go to A2 D19.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~

**Screen:** A2 D19

**Question Wording:** Are you currently certified as a principal in your state?

**Variable: A2CERTIFIED**

- 1=Yes
- 0=No

**Routing:** Go to A2 D20.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 D20

**Question Wording:** Including this school year, how many years have you served as the principal of [school name] or any other school?

(Please use whole numbers.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2YRSADMIN

Item Wording: years

**Routing:** If principal has one year of teaching experience, skip to A2 D22; Otherwise go to A2 D21.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 D21

**Question Wording:** [Including this school year/Not including the 2012–2013 school year], how many years [has the current school administrator/have you] served as the principal of [school name]?

(If this is your first year as school administrator, please report for last year's administrator. Please use whole numbers.)

*Note: This item was included in the abbreviated instrument. Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name," the respondent was referred to in the third person if designee answered this item, and "not including the 2012–2013 school year" was used if the survey date was after September 1, 2012.*

**Variable:** A2YRSHSLSSCH

Item Wording: years

**Routing:** Go to A2 D22.

**Administered to:** First follow-up respondents with at least one year of experience as a principal.

~~~~~  
**Screen:** A2 D22

**Question Wording:** In addition to serving as principal, are you currently teaching at [school name]?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** A2TEACHING

1=Yes

0=No

**Routing:** Go to A2 D23.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 D23

**Question Wording:** [Including this school year, how /How] many years of middle school and high school teaching experience do you have?

(Please use whole numbers, and enter '0' if you have no teaching experience at a level.)

*Note: Question wording was customized in the survey instrument such that respondents were asked to include “this school year” if before September 1, 2012.*

**Variable:** A2YRSMSTCHR

Item Wording: Middle school (grades 6–8) years

**Variable:** A2YRSHSTCHR

Item Wording: High school (grades 9–12) years

**Routing:** If principal has experience teaching at the middle school or high school level, go to A2 D24. Otherwise go to END.

**Administered to:** All first follow-up respondents in base-year schools.

~~~~~  
**Screen:** A2 D24

**Question Wording:** What is the main subject that you [teach/taught]?

*Note: Question wording was customized in the survey instrument based on the response to A2 D22 about current teaching.*

**Variable:** A2TCHSUBJ

1=English

2=Math

3=History or social science

4=Natural or physical sciences

5=Foreign languages

6=Physical education

7=Career, technical or vocational education

8=Business

9=Other subject

**Variable:** A2TCHSUBJO

Item Wording: Please specify

**Routing:** End administrator interview.

**Administered to:** First follow-up respondents in base-year schools with at least one year of middle school or high school teaching experience.

## Counselor

### Section A: Staffing and Practices

**Screen:** C2AINTRO

**Question Wording:** First, we have some questions about staffing and common practices in the counseling department of [school name]. Unless otherwise noted, please answer all questions based on the 2011–2012 school year [that is, last school year].

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name." If after September 1, 2012, the phrase "that is, last school year."*

**Routing:** Go to C2 A01.

**Administered to:** All first follow-up respondents.

**Screen:** C2 A01

**Question Wording:** Including yourself, how many full-time and how many part-time counselors work with high school students at [school name]?

(If you share a counselor with another school, please count that counselor as part-time. If you have no full-time counselors, or have no part-time counselors, please enter '0' in the appropriate box. Please use whole numbers.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** C2FTCNLSL

Item Wording: full-time counselor(s)

**Variable:** C2PTCNLSL

Item Wording: part-time counselor(s)

**Routing:** Go to C2 A02.

**Administered to:** All first follow-up respondents.

**Screen:** C2 A02

**Question Wording:** On average, what is the caseload for a counselor in your school?

(Please enter whole numbers only. Do not enter decimals.)

**Variable:** C2CASELOAD

Item Wording: students per counselor

**Routing:** Go to C2 A03.

**Administered to:** All first follow-up respondents.

**Screen:** C2 A03

**Question Wording:** Which of the following describe how counselors are assigned to students at your school? Would you say counselors are assigned...

**Variable:** C2ASSIGNALL

Item Wording: to all students at this school?

1=Yes

0=No

**Variable:** C2ASSIGNGRADE

Item Wording: to a specific grade level such as a 11th grade counselor?

1=Yes

0=No

**Variable:** C2ASSIGNCLASS

Item Wording: to an incoming class of 9th graders and remain with them throughout their high school years such as a counselor for the class of 2015?

1=Yes

0=No

**Variable:** C2ASSIGNNAMES

Item Wording: to a group of students whose last names fall within a slice of the alphabet such as all students with last names from “A to D”?

1=Yes

0=No

**Variable:** C2ASSIGNLC

Item Wording: to small learning communities such as schools-within-a-school, pods, and houses?

1=Yes

0=No

**Routing:** Go to C2 A04

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 A04

**Question Wording:** [Last school year (2010–2011)/During the 2010–2011 school year], what percentage of work hours did your school’s counseling staff spend delivering the following services to high school students?

*Note: Question wording was customized in the survey instrument such that the 2010–11 school year was referred to as “last school year” if before September 1, 2012.*

**Variable:** C2HRSSCHED

Item Wording: Choice and scheduling of high school courses

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable:** C2HRSCOLLEGE

Item Wording: Assisting students with college readiness, selection, and applications

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable: C2HRSPERSONAL**

Item Wording: Personal development

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable: C2HRSSOCIAL**

Item Wording: Social development

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable: C2HRSACADEMIC**

Item Wording: Academic development

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable: C2HRSCAREER**

Item Wording: Occupational choice and career planning

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable: C2HRSJOBKLL**

Item Wording: Job placement and employability skill development

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable: C2HRSPROBLEM**

Item Wording: Students' attendance, discipline, and other school and personal problems

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable:** C2HRSTESTING

Item Wording: Academic testing

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Variable:** C2HRSNONCNSL

Item Wording: Non-counseling activities such as hall or lunch duty, substitute teaching, or bus duty

1=5% or less

2=6%–10%

3=11%–20%

4=21%–50%

5=More than 50%

**Routing:** Go to C2 A05

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 A05

**Question Wording:** Does your school have one or more counselors whose primary responsibility is assisting students with...

**Variable:** C2SELECTCLASS

Item Wording: selecting courses and programs?

1=Yes

0=No

**Variable:** C2SELECTCLG

Item Wording: college selection?

1=Yes

0=No

**Variable:** C2CLGAPP

Item Wording: college applications?

1=Yes

0=No

**Variable:** C2PREPJOB

Item Wording: preparation for the workforce?

1=Yes

0=No

**Variable:** C2GETJOB

Item Wording: placement into the workforce?

1=Yes

0=No

**Routing:** Go to C2BINTRO

**Administered to:** All first follow-up respondents.



## Section B: Programs and Support

**Screen:** C2BINTRO

**Question Wording:** Now we have some questions about programs and support offered by your school during the 2011–2012 school year [, that is, last school year].

*Note: Question wording was customized in the survey instrument such the 2011–12 school year was referred to as “last school year” if after September 1, 2012.*

**Routing:** Go to C2 B01.

**Administered to:** All first follow-up respondents.

**Screen:** C2 B01

**Question Wording:** Are students in your high school required to have a high school graduation, career or education plan?

**Variable:** C2PSPLAN

1=Yes

0=No

**Routing:** If high school students are required to have career/educational plan, go to C2 B02; Else go to C2 B06.

**Administered to:** All first follow-up respondents.

**Screen:** C2 B02

**Question Wording:** What does this plan include?

**Variable:** C2GRADPLAN

Item Wording: A graduation plan

1=Yes

0=No

**Variable:** C2CAREERPLAN

Item Wording: A career plan

1=Yes

0=No

**Variable:** C2EDPLAN

Item Wording: An education plan

1=Yes

0=No

**Routing:** Go to C2 B03.

**Administered to:** First follow-up respondents whose high schools require a graduation, career or education plan.

**Screen:** C2 B03

**Question Wording:** Which of the following best describes the graduation, career, or education plans of students in your school?

**Variable:** C2CUSTOMPLAN

- 1=Students create personalized plans.
- 2=Students choose one of several plans offered by the school.
- 3=Students are assigned one of several plans offered by the school.
- 4=Students are all assigned to a single plan offered by the school.

**Routing:** Go to C2 B04.

**Administered to:** First follow-up respondents whose high schools require a graduation, career or education plan.

~~~~~

**Screen:** C2 B04

**Question Wording:** Are students' plans shared with their parents or guardians?

**Variable:** C2PLANPARENT

- 1=Yes
- 0=No

**Routing:** Go to C2 B05.

**Administered to:** First follow-up respondents whose high schools require a graduation, career or education plan.

~~~~~

**Screen:** C2 B05

**Question Wording:** On average, how often do students meet with an adult in your high school to review or revise these written plans?

**Variable:** C2REVIEWPLAN

- 1=More than once each school year
- 2=Once each school year
- 3=Less than once each school year
- 4=Never

**Routing:** Go to C2 B06.

**Administered to:** First follow-up respondents whose high schools require a graduation, career or education plan.

~~~~~

**Screen:** C2 B06

**Question Wording:** Does your school offer a dual or concurrent enrollment program? A dual or concurrent enrollment program is an organized system with special guidelines that allows high school students to take college level courses, which may be taught on the campus of a postsecondary institution, through distance education, or on your high school campus. Please do not include Advanced Placement (AP) and International Baccalaureate (IB) programs.

**Variable:** C2DUALPROG

- 1=Yes
- 0=No

**Routing:** If school offers dual or concurrent enrollment, go to C2 B07; Else go to C2 B10.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** C2 B07

**Question Wording:** What type of dual or concurrent enrollment program does your school offer?

**Variable:** C2DUALCLGCRED

Item Wording: Students can earn college credits.

1=Yes

0=No

**Variable:** C2DUALCERT

Item Wording: Students can complete the requirements for a certificate program such as nursing assistant or computer network administrator.

1=Yes

0=No

**Variable:** C2DUALAA

Item Wording: Students can complete the requirements for an Associate's degree.

1=Yes

0=No

**Variable:** C2DUALCLGACC

Item Wording: Students are automatically accepted into a partner college upon high school graduation.

1=Yes

0=No

**Routing:** Go to C2 B08.**Administered to:** First follow-up respondents whose schools offer a dual or concurrent enrollment program.**Screen:** C2 B08**Question Wording:** During the 2010–2011 school year, what was the total number of high school students enrolled in courses for dual or concurrent credit? An individual high school student may be counted more than once, and should be counted for each course in which he/she was enrolled for dual credit.**Variable:** C2DUALENRACA

Item Wording: Academic course focus: students

**Variable:** C2DUALENRCTE

Item Wording: Career and technical/vocational course focus: students

**Routing:** Go to C2 B09.**Administered to:** First follow-up respondents whose schools offer a dual or concurrent enrollment program.**Screen:** C2 B09**Question Wording:** How many students graduated with a dual or concurrent enrollment designation on their diploma at the end of the 2010–2011 school year? A designation could include a stamp, sticker, seal, or text on a high school diploma that indicates completion of a dual or concurrent enrollment program.

(Please use whole numbers.)

**Variable:** C2DUALGRAD

Item Wording: students

**Routing:** Go to C2 B10.**Administered to:** First follow-up respondents whose schools offer a dual or concurrent enrollment program.

~~~~~  
**Screen: C2 B10**

**Question Wording:** In which of the following ways does [school name] support high-achieving students?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable: C2HACHTECH**

Item Wording: Technology and software to support curriculum specifically to meet the needs of the high-achieving students

1=Yes

0=No

**Variable: C2HAGIFTED**

Item Wording: Gifted students receive pull-out instruction during the regular school day

1=Yes

0=No

**Variable: C2HACHENRICH**

Item Wording: Enrichment experiences such as Odyssey of the Mind, Science Olympiad, Academic Decathlon, math or science clubs, math or science teams

1=Yes

0=No

**Variable: C2HAAPCRS**

Item Wording: Advanced Placement (AP) courses

1=Yes

0=No

**Variable: C2HAIBPRGM**

Item Wording: International Baccalaureate (IB) program

1=Yes

0=No

**Variable: C2HASCHSHP**

Item Wording: Scholarships for students to attend special events, programs, or classes

1=Yes

0=No

**Variable: C2HAPERFREW**

Item Wording: Special incentives or rewards tied to academic performance

1=Yes

0=No

**Variable: C2HAMENTOR**

Item Wording: A school-arranged match with an adult mentor

1=Yes

0=No

**Variable: C2HASUMMER**

Item Wording: Summer activities or programs appropriate for high-achieving students

1=Yes

0=No

**Variable:** C2HAONLINE

Item Wording: Access to high school courses offered online

1=Yes

0=No

**Variable:** C2HAAWRDS

Item Wording: Special recognitions such as Honor Roll, Honor Society, or department awards

1=Yes

0=No

**Routing:** Go to C2 B11.**Administered to:** All first follow-up respondents.**Screen:** C2 B11**Question Wording:** Does [school name] offer...*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable:** C2GETAHEAD

Item Wording: summer school enrichment courses that allow students to progress academically?

1=Yes

0=No

**Variable:** C2REMEDIATION

Item Wording: summer school remediation courses that support students who are struggling academically or do not have enough credits to graduate?

1=Yes

0=No

**Routing:** If offer summer school enrichment courses, go to C2 B12; Else go to C2 B13.**Administered to:** All first follow-up respondents.**Screen:** C2 B12**Question Wording:** To whom does your school offer these summer school enrichment courses?**Variable:** C2HASUMEN

Item Wording: High-achieving students

1=Yes

0=No

**Variable:** C2AVGSUMEN

Item Wording: Average students

1=Yes

0=No

**Variable:** C2STRGSUMEN

Item Wording: Struggling students

1=Yes

0=No

**Routing:** Go to C2 B13.**Administered to:** First follow-up respondents whose schools offer summer school enrichment or remediation courses.

~~~~~  
**Screen:** C2 B13

**Question Wording:** Does [school name] have any formal programs or systematic efforts to...

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** C2ENCSTEM

Item Wording: encourage underrepresented students to pursue mathematics, science, engineering, or technology?

1=Yes

0=No

**Variable:** C2INFSTEM

Item Wording: inform parents or guardians about mathematics, science, engineering, or technology higher education or career opportunities?

1=Yes

0=No

**Variable:** C2ENCCLG

Item Wording: encourage students who might not be considering college to do so?

1=Yes

0=No

**Variable:** C2UPBOUND

Item Wording: help students plan or prepare for college such as Upward Bound, GEAR UP, AVID, or MESA?

1=Yes

0=No

**Variable:** C2RESUME

Item Wording: share relevant employment information such as resumes or transcripts with local employers?

1=Yes

0=No

**Variable:** C2GUARANTEE

Item Wording: guarantee student skills to local employers?

1=Yes

0=No

**Routing:** Go to C2 B14.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** C2 B14

**Question Wording:** Are students in your school able to take a course for high school credit if it is not offered by your school?

**Variable:** C2NOTOFFERED

1=Yes

0=No

**Routing:** If students are able to take a course for credit if not offered by school, go to C2 B15; Else go to C2 B16.

**Administered to:** All first follow-up respondents.

---

**Screen: C2 B15**

**Question Wording:** Approximately what percentage of students in grades 9 to 12 take courses for credit in each of the following ways? An individual high school student may be counted more than once and should be counted for each of the ways in which he/she took courses for credit.

**Variable: C2INDSTD**

Item Wording: Independent study

- 1=Not offered
- 2=5% or less
- 3=6–10%
- 4=11–24%
- 5=25–49%
- 6=50–74%
- 7=75–100%

**Variable: C2DISTANCE**

Item Wording: On-line or distance learning courses

- 1=Not offered
- 2=5% or less
- 3=6–10%
- 4=11–24%
- 5=25–49%
- 6=50–74%
- 7=75–100%

**Variable: C2OTHHS**

Item Wording: Courses at another traditional high school in the district

- 1=Not offered
- 2=5% or less
- 3=6–10%
- 4=11–24%
- 5=25–49%
- 6=50–74%
- 7=75–100%

**Variable: C2TECHSC**

Item Wording: Courses at a local career or technical school

- 1=Not offered
- 2=5% or less
- 3=6–10%
- 4=11–24%
- 5=25–49%
- 6=50–74%
- 7=75–100%

**Variable: C2COMCOL**

Item Wording: Courses at a local community college

- 1=Not offered
- 2=5% or less
- 3=6–10%

4=11–24%  
5=25–49%  
6=50–74%  
7=75–100%

**Variable:** C24YRCOL

Item Wording: Courses at a nearby 4-year college or university

1=Not offered  
2=5% or less  
3=6–10%  
4=11–24%  
5=25–49%  
6=50–74%  
7=75–100%

**Routing:** Go to C2 B16.

**Administered to:** First follow-up respondents whose students are able to take a course for high school credit if it is not offered by the school.

~~~~~  
**Screen:** C2 B16

**Question Wording:** Which of the following steps does your school take for high school students who need extra assistance?

**Variable:** C2TUTORIN

Item Wording: Tutoring during the regular school day by an adult

1=Yes  
0=No

**Variable:** C2TUTOROUT

Item Wording: Before- or after-school tutoring by an adult

1=Yes  
0=No

**Variable:** C2TUTORPEER

Item Wording: Peer tutoring

1=Yes  
0=No

**Variable:** C2STAFF

Item Wording: School staff work with classroom teachers to provide extra assistance to the student

1=Yes  
0=No

**Variable:** C2PULLOUT

Item Wording: Pull-out instruction during the regular school day

1=Yes  
0=No

**Variable:** C2HOMEWORK

Item Wording: Homework assistance program

1=Yes  
0=No



**Variable: C2XTRAREWARD**

Item Wording: Special incentives or rewards tied to academic performance

1=Yes

0=No

**Variable: C2XTRAMENTOR**

Item Wording: A school-arranged match with an adult mentor

1=Yes

0=No

**Variable: C2HSBEP**

Item Wording: Positive behavior interventions and supports such as HS-BEP (high school behavior education program)

1=Yes

0=No

**Variable: C2SUPPORTOUT**

Item Wording: Additional support outside the regular school day such as special programs, weekend programs, or summer school programs

1=Yes

0=No

**Routing:** Go to C2 B17.**Administered to:** All first follow-up respondents.**Screen: C2 B17****Question Wording:** Does your school have a formal dropout prevention program for students in high school? This may be a whole-school restructuring program or a targeted program that operates on a smaller scale within the school or with community organization(s).**Variable: C2DROPOUT**

1=Yes

0=No

**Routing:** If school has formal dropout prevention program, go to C2 B18; Else go to C2 B20.**Administered to:** All first follow-up respondents.**Screen: C2 B18****Question Wording:** Are all students at risk of dropping out of [school name] required to participate in your dropout prevention program?*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable: C2ATRISKREQ**

1=Yes

0=No

**Routing:** Go to C2 B19.**Administered to:** First follow-up respondents whose school has a formal dropout prevention program.**Screen: C2 B19****Question Wording:** Which of the following services does your dropout prevention program offer?

**Variable:** C2DOOCCOURSE

Item Wording: Occupationally focused courses

1=Yes

0=No

**Variable:** C2DOTUTOR

Item Wording: Tutoring

1=Yes

0=No

**Variable:** C2DOINCENTIVE

Item Wording: Incentives for better attendance or classroom performance

1=Yes

0=No

**Variable:** C2DOCHILDCARE

Item Wording: Childcare for children of students

1=Yes

0=No

**Variable:** C2DOGRADCNSL

Item Wording: Graduation counseling

1=Yes

0=No

**Variable:** C2DOJOBCNSL

Item Wording: Job counseling

1=Yes

0=No

**Routing:** Go to C2 B20.

**Administered to:** First follow-up respondents whose school has a formal dropout prevention program.

~~~~~  
**Screen:** C2 B20

**Question Wording:** Does your school have a formal program on-site that prepares students for the General Education Development (GED) Test?

**Variable:** C2GEDPREP

1=Yes

0=No

**Routing:** Go to C2 B21.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 B21

**Question Wording:** In which of the following ways does [school name] assist students with college entrance exams such as the SAT and ACT?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable: C2CLGEXAMINFO**

Item Wording: Providing access to information about when and where exams are offered such as websites, flyers, or pamphlets

1=Yes

0=No

**Variable: C2CLGEXAMREG**

Item Wording: Providing assistance with exam registration such as providing copies of registration forms or assistance completing the exam registration forms

1=Yes

0=No

**Variable: C2CLGEXAMFEE**

Item Wording: Providing assistance with exam registration fees such as providing information about fee waivers or paying exam registration fees

1=Yes

0=No

**Variable: C2CLGEXAMPREP**

Item Wording: Providing assistance with exam preparation such as offering test-preparation classes or providing study materials

1=Yes

0=No

**Routing:** If respondent says yes to any items, then go to C2 B22; Else, go to C2 B23.

**Administered to:** All first follow-up respondents.

**Screen: C2 B22**

**Question Wording:** During the 2011–2012 school year, approximately what percentage of students in grades 11 and 12 take advantage of each of these college entrance exam services offered by your school?

*Note: Item wording was customized in the survey instrument such that only those programs offered by the school that the respondent reported in the previous question were displayed.*

**Variable: C2PCTEXAMINFO**

Item Wording: Providing access to information about when and where exams are offered

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTEXAMREG**

Item Wording: Providing assistance with exam registration such as providing copies registration forms or assistance completing the exam registration forms

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTEXAMFEE**

Item Wording: Providing assistance with exam registration fees such as providing information about fee waivers or paying exam registration fees

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTEXAMPREP**

Item Wording: Providing assistance with exam preparation such as offering test-preparation classes or providing study materials

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Routing:** Go to C2 B23.

**Administered to:** First follow-up respondents whose schools assist students with college entrance exams.

~~~~~  
**Screen: C2 B23**

**Question Wording:** In which of the following ways does [school name] assist students with identifying and applying to colleges, universities, or schools that provide occupational training?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable: C2CLGFAIR**

Item Wording: Holding or participating in college fairs

1=Yes

0=No

**Variable: C2INFOSESSN**

Item Wording: Holding information sessions for students and parents

1=Yes

0=No

**Variable: C2CLGAPPS**

Item Wording: Assisting students with completing college or university applications

1=Yes

0=No

**Variable: C2CLGINFO**

Item Wording: Providing access to information about colleges or universities

1=Yes

0=No

**Variable: C2CLGSELECT**

Item Wording: Helping students identify criteria for selecting colleges to which to apply such as majors offered, cost, or entry requirements

1=Yes

0=No

**Routing:** If respondent answers yet to any items, go to C2 B24; Else go to C2 B25.

**Administered to:** All first follow-up respondents.

**Screen: C2 B24**

**Question Wording:** During the 2011–2012 school year, approximately what percentage of students in grades 11 and 12 take advantage of each of these college identification and application services offered by [school name]?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name," and for item wording, only the assistance to students offered by the school that the respondent reported in the previous question was displayed.*

**Variable: C2PCTFAIR**

Item Wording: Holding or participating in college fairs

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTSESSN**

Item Wording: Holding information sessions for students and parents

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTAPPS**

Item Wording: Assisting students with completing college or university applications

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTINFO**

Item Wording: Providing access to information about colleges or universities

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable:** C2PCTSELECT

Item Wording: Helping students identify criteria for selecting colleges to apply to (such as majors offered, cost, entry requirements)

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Routing:** Go to C2 B25.

**Administered to:** First follow-up respondents whose schools assist students with identifying and applying to colleges, universities, or schools that provide occupational training.

~~~~~  
**Screen:** C2 B25

**Question Wording:** In which of the following ways does your school assist with college financial aid preparation?

**Variable:** C2AIDPROCESS

Item Wording: Offering informational meetings about the FAFSA (Free Application for Financial Student Aid) process

1=Yes

0=No

**Variable:** C2AIDFAFSA

Item Wording: Assisting students and families with completing the FAFSA

1=Yes

0=No

**Variable:** C2AIDCOMPUTER

Item Wording: Providing computer access for completing the FAFSA

1=Yes

0=No

**Variable:** C2AIDDEADLINE

Item Wording: Sending out reminders of FAFSA deadlines

1=Yes

0=No

**Variable:** C2AIDOTHAPP

Item Wording: Assisting with completing financial aid applications other than the FAFSA such as scholarships, loans, or grants

1=Yes

0=No

**Variable:** C2AIDSOURCE

Item Wording: Offering informational meetings on sources of financial aid such as scholarships, loans, or grants

1=Yes

0=No

**Variable: C2AIDCNSL**

Item Wording: Offering individual counseling sessions to help students identify possible sources of financial aid

1=Yes

0=No

**Variable: C2AIDFLYER**

Item Wording: Making information about financial aid available for students to explore on their own, such as flyers and pamphlets

1=Yes

0=No

**Routing:** If respondent answers yet to any items, go to C2 B26; Else go to C2 B27.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen: C2 B26**

**Question Wording:** During the 2011–2012 school year, approximately what percentage of students in grades 11 and 12 take advantage of each of these financial aid preparation services offered by your school?

*Note: Item wording was customized in the survey instrument such that only those ways the school assists that the respondent reported in the previous question were displayed.*

**Variable: C2PCTPROCESS**

Item Wording: Offering informational meetings about the FAFSA (Free Application for Financial Student Aid) process

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTFAFSA**

Item Wording: Assisting students and families with completing the FAFSA

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTCOMPUTER**

Item Wording: Providing computer access for completing the FAFSA

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTDEADLINE**

Item Wording: Sending out reminders of FAFSA deadlines

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTOTHAPP**

Item Wording: Assisting with completing financial aid applications other than the FAFSA such as scholarships, loans, or grants

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTSOURCE**

Item Wording: Offering informational meetings on sources of financial aid such as scholarships, loans, or grants

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTCNSL**

Item Wording: Offering individual counseling sessions to help students identify possible sources of financial aid

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable: C2PCTFLYER**

Item Wording: Making information about financial aid available for students to explore on their own, such as flyers and pamphlets

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Routing:** Go to C2 B27.



**Administered to:** First follow-up respondents whose schools assist with financial aid preparation.

~~~~~

**Screen:** C2 B27

**Question Wording:** What percentage of students who enroll in college after graduation from [school name] persist past their first year in college?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** C2PERSISTYR1

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

7=Your school does not collect this information

**Routing:** Go to C2 B28.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** C2 B28

**Question Wording:** Which of the following steps is your school taking during the 2011–2012 school year to assist students with the transition from high school to work?

**Variable:** C2JOBCAREER

Item Wording: Providing information about careers such as career awareness activities, job fairs, career nights, or career mentors

1=Yes

0=No

**Variable:** C2JOBAPTITUDE

Item Wording: Providing information about career aptitude such as career interest inventories, vocational aptitude tests, or skills assessments

1=Yes

0=No

**Variable:** C2JOBEXP

Item Wording: Providing work experience opportunities such as internships, work study, job site visits, job shadowing, or school based enterprises

1=Yes

0=No

**Variable:** C2JOBSEEK

Item Wording: Providing training in job seeking or interviewing skills

1=Yes

0=No

**Routing:** If respondent answers yes to any item, go to C2 B29; Else go to C2 B30.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 B29

**Question Wording:** During the 2011–2012 school year, approximately what percentage of students in grades 11 and 12 take advantage of each of these work preparation services offered by your school?

*Note: Item wording was customized in the survey instrument such that only those steps taken by the school that the respondent reported in the previous question were displayed.*

**Variable:** C2PCTCAREER

Item Wording: Providing information about careers such as career awareness activities, job fairs, career nights, or career mentors

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable:** C2PCTAPTITUDE

Item Wording: Providing information about career aptitude such as career interest inventories, vocational aptitude tests, or skills assessments

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable:** C2PCTEXP

Item Wording: Providing work experience opportunities such as internships, work study, job site visits, job shadowing, school based enterprises

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Variable:** C2PCTSEEK

Item Wording: Providing training in job seeking or interviewing skills

1=5% or less

2=6–10%

3=11–24%

4=25–49%

5=50–74%

6=75–100%

**Routing:** Go to C2 B30.

**Administered to:** First follow-up respondents whose schools assist students with the transition from high school to work.

~~~~~  
**Screen:** C2 B30

**Question Wording:** Does your school have formal or informal linkages with local employers to aid in student preparation for the transition to work?

**Variable:** C2EMPLINKS

1=Yes

0=No

**Routing:** Go to C2CINTRO.

**Administered to:** All first follow-up respondents.

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## Section C: Math and Science Placement

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**Screen:** C2CINTRO

**Question Wording:** Now we have some questions about factors associated with students' mathematics and science course placement. Unless otherwise noted, please answer all questions based on the 2011–2012 school year[, that is, last school year].

*Note: Question wording was customized in the survey instrument such the 2011–12 school year was referred to as “last school year” if after September 1, 2012.*

**Routing:** Go to C2 C01.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** C2 C01

**Question Wording:** After 9th grade, are all high school students within the same grade placed in the same mathematics course sequence? If all students within a grade (10, 11, or 12) are placed in the same math course, but with different teachers or different class periods, please answer “yes.”

**Variable:** C2UPMSAME

1=Yes

0=No

**Routing:** If same mathematics course sequence, go to C2 C03; Else go to C2 C02.

**Administered to:** All first follow-up respondents.

~~~~~

**Screen:** C2 C02

**Question Wording:** How important is each of the following factors in placing typical 10th through 12th grade students in mathematics courses?

**Variable:** C2UPMGRD

Item Wording: Prior grades including grades from a prerequisite class

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMEOGEXAM**

Item Wording: Results of district or state end-of-year or end-of-course exams

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMTEST**

Item Wording: Results of placement tests

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMPSAT**

Item Wording: Results of PSAT scores

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMTEACHER**

Item Wording: Previous year's teacher recommendation

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMSTUPAR**

Item Wording: Student, parent, or guardian selection

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMEDPLAN**

Item Wording: Student written graduation, career, or education plan

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMSCHEDULE**

Item Wording: Master schedule considerations

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMGRADREQ**

Item Wording: High school graduation requirements

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPMCLGREQ**

Item Wording: College entrance requirements

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Routing:** Go to C2 C03.**Administered to:** First follow-up respondents whose high school students within the same grade are not all placed in the same mathematics course sequence after 9<sup>th</sup> grade.**Screen:** C2 C03**Question Wording:** After 9th grade, are all high school students within the same grade placed in the same science course sequence? If all students within a grade (10, 11, or 12) are placed in the same science course, but with different teachers or different class periods, please answer “yes.”**Variable: C2UPSSAME**

1=Yes

0=No

**Routing:** If same science course sequence, then go to C2 C05; Else go to C2 C04.**Administered to:** All first follow-up respondents.**Screen:** C2 C04**Question Wording:** How important is each of the following factors in placing typical 10th through 12th grade students in science courses?**Variable: C2UPSGRD**

Item Wording: Prior grades including grades from a prerequisite class

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPSEOGEXAM**

Item Wording: Results of district or state end-of-year or end-of-course exams

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Variable: C2UPSTEST**

Item Wording: Results of placement tests

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable: C2UPSPSAT**

Item Wording: Results of PSAT scores

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable: C2UPSTEACHER**

Item Wording: Previous year's teacher recommendation

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable: C2UPSSTUPAR**

Item Wording: Student, parent, or guardian selection

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable: C2UPSEDPLAN**

Item Wording: Student written graduation, career, and/or education plan

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable: C2UPSSCHEDULE**

Item Wording: Master schedule considerations

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable: C2UPSGRADREQ**

Item Wording: High school graduation requirements

- 1=Not at all important
- 2=Somewhat important
- 3=Very important
- 4=Not applicable

**Variable:** C2UPSCLGREQ

Item Wording: College entrance requirements

1=Not at all important

2=Somewhat important

3=Very important

4=Not applicable

**Routing:** Go to C2 C05.**Administered to:** First follow-up respondents whose high school students within the same grade are not all placed in the same science course sequence after 9<sup>th</sup> grade.**Screen:** C2 C05**Question Wording:** Which of the following courses are offered to students enrolled in your high school?**Variable:** C2CALCONSIT

Item Wording: Calculus, not including pre-calculus, is offered on-site at your high school.

1=Yes

0=No

**Variable:** C2CALCOFFSITE

Item Wording: Calculus, not including pre-calculus, is offered off-site at your high school such as at an area career/technical school or online.

1=Yes

0=No

**Variable:** C2PHYSONSITE

Item Wording: Physics is offered on-site at your high school.

1=Yes

0=No

**Variable:** C2PHYSOFFSITE

Item Wording: Physics is offered off-site at your high school such as at an area career/technical school or online.

1=Yes

0=No

**Routing:** Go to C2 C06.**Administered to:** All first follow-up respondents.**Screen:** C2 C06**Question Wording:** What percentage of the current 12th-graders in [school name] will have taken the following courses by the end of the 2011–2012 school year?

(Please use whole numbers.)

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."***Variable:** C2PCTCALC

Item Wording: Calculus, not including pre-calculus %

**Variable:** C2PCTPHYS

Item Wording: Physics

**Routing:** If school offers AP courses, go to C2 C207; Else if school offers IB program, go to C2 C13; Else, go to C2 C19

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 C07

**Question Wording:** During the 2011–2012 school year, how many different AP courses are offered at your school across all subjects? (Count multiple sections of the same course as one course.)

**Variable:** C2NUMAP

Item Wording: courses

**Routing:** If school offers zero AP courses, but offers an IB program, go to C2 C13; Else if school offers zero AP courses and no IB program, go to C2 C19; Else, go to C2 C208.

**Administered to:** First follow-up respondents whose schools offer Advance Placement (AP) courses.

~~~~~  
**Screen:** C2 C08

**Question Wording:** During the 2011–2012 school year, how many different AP science, mathematics, and computer science courses are offered at your school? (Count multiple sections of the same course as one course.)

**Variable:** C2NUMAPSCI

Item Wording: AP science courses

**Variable:** C2NUMAPMATH

Item Wording: AP mathematics courses

**Variable:** C2NUMAPCOMP

Item Wording: AP computer science courses

**Routing:** Go to C2 C09.

**Administered to:** First follow-up respondents whose schools offered Advance Placement (AP) courses in science, mathematics, or computer science in the 2011–12 school year.

~~~~~  
**Screen:** C2 C09

**Question Wording:** What percentage of 12th-graders in [high school] have taken or are currently enrolled in at least one Advanced Placement (AP) course?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** C2PCTAP

Item Wording: %

**Routing:** Go to C2 C10.

**Administered to:** First follow-up respondents whose schools offered Advance Placement (AP) courses in science, mathematics, or computer science in the 2011–12 school year (C2HAAPCRS<>0).

~~~~~  
**Screen:** C2 C10

**Question Wording:** How many AP exams were taken during the 2010–2011 school year by students in grades 9–12 in [school name]? A student may take multiple exams, and would be counted as many times as the number of exams taken.

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*



**Variable: C2NUMAPEXAM**

Item Wording: exams

**Routing:** If zero AP exams were taken by students in 2010–11 and school offers IB program, go to C2 C13; If zero AP exams were taken by students in 2010–11 and school does not offer IB program, go to C2 C19; Else, go to C2 C11

**Administered to:** First follow-up respondents whose schools offered Advance Placement (AP) courses in science, mathematics, or computer science in the 2011–12 school year (C2HAAPCRS<>0).

**Screen: C2 C11**

**Question Wording:** Of the AP exams taken during the 2010–2011 school year by the students in grades 9–12 in [school name], how many exams received a score of 3 or higher?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable: C2NUMAP3PLUS**

Item Wording: exams

**Routing:** Go to C2 C12.

**Administered to:** First follow-up respondents whose schools had student(s) take Advance Placement (AP) exams in science, mathematics, or computer science in the 2011–12 school year.

**Screen: C2 C12**

**Question Wording:** What is your 2010–2011 school "Equity and Excellence" percentage? This can be found after "Graduating Class Summary" on the summary page of your AP grade report.

**Variable: C2PCTEQUITY**

Item Wording: %

**Variable: C2NOAPREPORT**

Item Wording: My school did not receive an AP grade report

0=No

1=Yes

**Routing:** If school offers an IB program, go to C2 C13; Else go to C2 C19.

**Administered to:** First follow-up respondents whose schools had student(s) take Advance Placement (AP) exams in science, mathematics, or computer science in the 2011–12 school year.

**Screen: C2 C13**

**Question Wording:** During the 2011–2012 school year, how many different Higher Level IB courses are offered at your school across all subjects? (Count multiple sections of the same course as one course. Do not count Standard Level IB courses.)

**Variable: C2NUMIB**

Item Wording: IB courses

**Routing:** If school does not offer any higher level IB courses, go to C2 C15; Else go to C2 C14.

**Administered to:** First follow-up respondents whose schools offer the International Baccalaureate (IB) program (C2HAIBPRGM<>0).

~~~~~  
**Screen:** C2 C14

**Question Wording:** During the 2011–2012 school year, how many different Higher Level IB science and mathematics courses are offered at your school? (Count multiple sections of the same course as one course. Do not count Standard Level IB courses.)

**Variable:** C2NUMIBSCI

Item Wording: IB science courses

**Variable:** C2NUMIBMATH

Item Wording: IB mathematics courses

**Routing:** Go to C2 C15.

**Administered to:** First follow-up respondents whose schools offered Higher Level International Baccalaureate (IB) courses in the 2011–12 school year.

~~~~~

**Screen:** C2 C15

**Question Wording:** What percentage of 12th-graders in [school name] are [currently] enrolled in an International Baccalaureate (IB) program?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name," and if before September 1, 2012, the word "currently" appeared in the question.*

**Variable:** C2PCTIB

Item Wording: %

**Routing:** Go to C2 C16.

**Administered to:** First follow-up respondents whose schools offer the International Baccalaureate (IB) program (C2HAIBPRGM<>0).

~~~~~

**Screen:** C2 C16

**Question Wording:** How many IB exams were taken during the 2010–2011 school year by the students in grades 9–12 in [school name]? Do not count IB theory of knowledge (TOK) or extended essay grades. A student may take multiple exams, and would be counted as many times as the number of exams taken.

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** C2NUMIBEXAM

Item Wording: exams

**Routing:** If zero IB exams were taken during the 2010–11 school year, go to C2 C19; Else go to C2 C17.

**Administered to:** First follow-up respondents whose schools offer the International Baccalaureate (IB) program (C2HAIBPRGM<>0).

~~~~~

**Screen:** C2 C17

**Question Wording:** Of the IB exams taken during the 2010–2011 school year by the students in grades 9–12 in [school name], how many exams received a score of 4 or higher?

*Note: Question wording was customized in the survey instrument such that the respondent's school name appeared in place of "school name."*

**Variable:** C2NUMIB4PLUS

Item Wording: exams

**Routing:** If school supports high-achieving students by offering AP courses and offers IB program, go to C2 C18; Else, go to C2 C19.

**Administered to:** First follow-up respondents whose schools offer the International Baccalaureate (IB) program and had students in grades 9–12 take IB exams in the 2010–11 school year.

~~~~~  
**Screen:** C2 C18

**Question Wording:** During the 2010–2011 school year, how many students in grades 9–12 took both an AP exam and an IB exam in the same subject?

**Variable:** C2NUMAPANDIB

Item Wording: students

**Routing:** Go to C2 C19.

**Administered to:** First follow-up respondents whose schools offer Advanced Placement (AP) courses and the International Baccalaureate (IB) program, and had students in grades 9–12 take IB exams in the 2010–11 school year.

~~~~~  
**Screen:** C2 C19

**Question Wording:** How many seniors graduated from your school in May or June of 2011? Do not count certificates of completion.

**Variable:** C2NUMGRADS

Item Wording: graduates

**Routing:** Go to C2 C20.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 C20

**Question Wording:** What were the overall mean SAT scores for your school's class of 2011? (This information can be found in the College Board College-Bound Seniors report sent to your school. The SAT Program uses the 200 to 800 point scale. If none of the students in this class took the SAT exam, please check the box. Please round to the nearest whole number.)

**Variable:** C2AVGSATREAD

Item Wording: Critical reading:

**Variable:** C2AVGSATMATH

Item Wording: Mathematics:

**Variable:** C2AVGSATWRIT

Item Wording: Writing:

**Variable:** C2AVGSATNONE

Item Wording: None of the students in this class took the SAT exam.

0=No

1=Yes

**Routing:** Go to C2 C21.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 C21

**Question Wording:** What was the average ACT score for your school's class of 2011?

(This information can be found on the ACT College Readiness Letter sent to your school. Scores range from 1 to 36. If none of the students in this class took the ACT exam, please check the box. Please round to the nearest whole number.)

**Variable:** C2AVGACTENG

Item Wording: English:

**Variable:** C2AVGACTMATH

Item Wording: Mathematics:

**Variable:** C2AVGACTREAD

Item Wording: Reading:

**Variable:** C2AVGACTSCI

Item Wording: Science:

**Variable:** C2AVGACTCOMP

Item Wording: Composite score:

**Variable:** C2AVGACTNONE

Item Wording: None of the students in this class took the ACT exam.

0=No

1=Yes

**Routing:** Go to C2DINTRO.

**Administered to:** All first follow-up respondents.

## Section D: School Analysis and Feedback

**Screen:** C2DINTRO

**Question Wording:** Now we have some questions about the types of data analyzed by your school and feedback received. Unless otherwise noted, please answer all questions based on the 2011–2012 school year [, that is, last school year].

**Routing:** Go to C2 D01.

**Administered to:** All first follow-up respondents.

*Note: Question wording was customized in the survey instrument such the 2011–12 school year was referred to as “last school year” if after September 1, 2012.*

**Screen:** C2 D01

**Question Wording:** Does your school use the following information sources to determine what students do after high school?

**Variable:** C2STUSURVEY

Item Wording: Student or alumni survey

1=Yes

0=No

**Variable:** C2DATABASE

Item Wording: A state or national database, such as the Statewide Longitudinal Data System or National Student Clearinghouse

1=Yes

0=No

**Routing:** Go to C2 D02.

**Administered to:** All first follow-up respondents.

~~~~~  
**Screen:** C2 D02

**Question Wording:** To what extent does your school receive feedback from schools that provide occupational training, 2-year community college, or 4-year college attended by your graduates in each of the following areas?

**Variable:** C2FBREMEDIAL

Item Wording: Student need for remediation

1=Not at all

2=Occasionally, but not systematically

3=Systematically

**Variable:** C2FB1STYR

Item Wording: Student persistence past the first year

1=Not at all

2=Occasionally, but not systematically

3=Systematically

**Variable:** C2FBGRAD

Item Wording: Student persistence to graduation

1=Not at all

2=Occasionally, but not systematically

3=Systematically

**Routing:** End counselor interview.

**Administered to:** All first follow-up respondents.

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## **Appendix B.**

# **HSLs:09 First Follow-up Mathematics Assessment Item Characteristics**

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**Table B-1. Item forms, item parameters and their standard errors of the HSLS:09 First Follow-up mathematics assessment items: 2012**

| Item name | Form                     | a    | s.e. | b     | s.e. | c    | s.e. |
|-----------|--------------------------|------|------|-------|------|------|------|
| Q037      | Router                   | 0.50 | 0.00 | -0.56 | 0.00 | 0.00 | 0.00 |
| Q063      | Router                   | 1.07 | 0.00 | 1.68  | 0.00 | 0.10 | 0.00 |
| Q088      | Router                   | 0.68 | 0.00 | 0.44  | 0.01 | 0.33 | 0.00 |
| Q090      | Router                   | 2.01 | 0.01 | 1.78  | 0.00 | 0.09 | 0.00 |
| Q101      | Router                   | 1.35 | 0.01 | 3.39  | 0.00 | 0.11 | 0.00 |
| Q114      | Router                   | 0.51 | 0.00 | -0.13 | 0.01 | 0.13 | 0.00 |
| Q155      | Router                   | 1.62 | 0.01 | 1.64  | 0.00 | 0.29 | 0.00 |
| Q181      | Router                   | 1.61 | 0.01 | 2.49  | 0.00 | 0.19 | 0.00 |
| Q237      | Router                   | 0.44 | 0.00 | 1.07  | 0.01 | 0.19 | 0.00 |
| Q247      | Router                   | 1.01 | 0.00 | 1.55  | 0.00 | 0.30 | 0.00 |
| Q297      | Router                   | 1.17 | 0.00 | 0.62  | 0.00 | 0.31 | 0.00 |
| Q329      | Router                   | 1.45 | 0.00 | -0.06 | 0.00 | 0.18 | 0.00 |
| Q036      | Low Stage 2              | 0.35 | 0.00 | -0.82 | 0.01 | 0.01 | 0.00 |
| Q086      | Low Stage 2              | 2.62 | 0.03 | 0.35  | 0.00 | 0.26 | 0.00 |
| Q108      | Low Stage 2              | 0.96 | 0.01 | -0.82 | 0.01 | 0.07 | 0.01 |
| Q167      | Low Stage 2              | 1.44 | 0.02 | 0.37  | 0.00 | 0.25 | 0.00 |
| Q251      | Low Stage 2              | 1.20 | 0.01 | 0.27  | 0.00 | 0.32 | 0.00 |
| Q286      | Low Stage 2              | 0.66 | 0.00 | -0.62 | 0.00 | 0.00 | 0.00 |
| Q310      | Low Stage 2              | 0.62 | 0.01 | -0.01 | 0.01 | 0.14 | 0.01 |
| Q377      | Low Stage 2              | 0.55 | 0.00 | -0.99 | 0.01 | 0.00 | 0.00 |
| Q382      | Low Stage 2              | 1.80 | 0.02 | -0.07 | 0.00 | 0.34 | 0.00 |
| Q385      | Low Stage 2              | 2.17 | 0.02 | 0.29  | 0.00 | 0.18 | 0.00 |
| Q391      | Low Stage 2              | 1.59 | 0.01 | -0.37 | 0.00 | 0.26 | 0.00 |
| Q392      | Low Stage 2              | 1.93 | 0.04 | 0.76  | 0.01 | 0.35 | 0.00 |
| Q399      | Low Stage 2              | 1.37 | 0.01 | -1.04 | 0.01 | 0.02 | 0.00 |
| Q024      | Low and Moderate Stage 2 | 1.78 | 0.01 | 1.56  | 0.00 | 0.33 | 0.00 |
| Q041      | Low and Moderate Stage 2 | 1.44 | 0.01 | 0.95  | 0.00 | 0.30 | 0.00 |
| Q075      | Low and Moderate Stage 2 | 2.64 | 0.04 | 1.91  | 0.00 | 0.33 | 0.00 |
| Q124      | Low and Moderate Stage 2 | 1.65 | 0.01 | 1.22  | 0.00 | 0.23 | 0.00 |
| Q162      | Low and Moderate Stage 2 | 1.84 | 0.01 | 1.17  | 0.00 | 0.37 | 0.00 |
| Q245      | Low and Moderate Stage 2 | 0.60 | 0.00 | 0.27  | 0.01 | 0.37 | 0.00 |
| Q252      | Low and Moderate Stage 2 | 0.80 | 0.01 | 1.55  | 0.00 | 0.27 | 0.00 |
| Q254      | Low and Moderate Stage 2 | 1.36 | 0.01 | 1.17  | 0.00 | 0.22 | 0.00 |
| Q271      | Low and Moderate Stage 2 | 2.62 | 0.02 | 1.83  | 0.00 | 0.11 | 0.00 |
| Q290      | Low and Moderate Stage 2 | 1.69 | 0.01 | 0.91  | 0.00 | 0.36 | 0.00 |
| Q313      | Low and Moderate Stage 2 | 1.74 | 0.01 | 1.71  | 0.00 | 0.27 | 0.00 |
| Q333      | Low and Moderate Stage 2 | 1.44 | 0.01 | 0.42  | 0.00 | 0.33 | 0.00 |

See notes at end of table.

**Table B-1. Item forms, item parameters and their standard errors of the HSLs:09 First Follow-up mathematics assessment items: 2012—Continued**

| Item name | Form                      | a    | s.e. | b    | s.e. | c    | s.e. |
|-----------|---------------------------|------|------|------|------|------|------|
| Q054      | Moderate Stage 2          | 1.23 | 0.02 | 1.77 | 0.00 | 0.26 | 0.00 |
| Q267      | Moderate Stage 2          | 1.23 | 0.12 | 3.28 | 0.14 | 0.23 | 0.00 |
| Q314      | Moderate Stage 2          | 2.34 | 0.03 | 1.64 | 0.00 | 0.34 | 0.00 |
| Q354      | Moderate Stage 2          | 1.19 | 0.02 | 1.38 | 0.00 | 0.43 | 0.00 |
| Q357      | Moderate Stage 2          | 1.52 | 0.05 | 2.31 | 0.02 | 0.42 | 0.00 |
| Q393      | Moderate Stage 2          | 0.99 | 0.01 | 1.26 | 0.00 | 0.15 | 0.00 |
| Q437      | Moderate Stage 2          | 1.36 | 0.01 | 0.87 | 0.00 | 0.18 | 0.00 |
| Q073      | Moderate and High Stage 2 | 1.72 | 0.01 | 2.69 | 0.00 | 0.14 | 0.00 |
| Q110      | Moderate and High Stage 2 | 1.25 | 0.01 | 2.56 | 0.00 | 0.28 | 0.00 |
| Q185      | Moderate and High Stage 2 | 1.37 | 0.01 | 3.58 | 0.01 | 0.35 | 0.00 |
| Q190      | Moderate and High Stage 2 | 3.15 | 0.04 | 3.38 | 0.00 | 0.22 | 0.00 |
| Q444      | Moderate and High Stage 2 | 1.40 | 0.01 | 2.69 | 0.00 | 0.11 | 0.00 |
| Q056      | High Stage 2              | 1.36 | 0.02 | 3.51 | 0.01 | 0.19 | 0.00 |
| Q057      | High Stage 2              | 1.67 | 0.11 | 4.73 | 0.05 | 0.28 | 0.00 |
| Q059      | High Stage 2              | 0.46 | 0.00 | 3.04 | 0.01 | 0.00 | 0.00 |
| Q062      | High Stage 2              | 1.18 | 0.01 | 2.02 | 0.02 | 0.24 | 0.01 |
| Q097      | High Stage 2              | 0.81 | 0.01 | 2.77 | 0.01 | 0.08 | 0.01 |
| Q126      | High Stage 2              | 0.94 | 0.01 | 3.47 | 0.01 | 0.15 | 0.00 |
| Q129      | High Stage 2              | 0.92 | 0.02 | 3.48 | 0.01 | 0.19 | 0.00 |
| Q169      | High Stage 2              | 0.95 | 0.01 | 3.31 | 0.01 | 0.02 | 0.00 |
| Q248      | High Stage 2              | 1.10 | 0.01 | 2.20 | 0.01 | 0.17 | 0.01 |
| Q256      | High Stage 2              | 1.28 | 0.01 | 2.70 | 0.01 | 0.26 | 0.00 |
| Q269      | High Stage 2              | 1.52 | 0.02 | 2.94 | 0.01 | 0.36 | 0.00 |
| Q343      | High Stage 2              | 1.76 | 0.02 | 3.29 | 0.00 | 0.18 | 0.00 |
| Q345      | High Stage 2              | 0.74 | 0.01 | 3.10 | 0.01 | 0.14 | 0.01 |
| Q346      | High Stage 2              | 0.46 | 0.00 | 3.24 | 0.01 | 0.00 | 0.00 |
| Q356      | High Stage 2              | 1.66 | 0.02 | 3.19 | 0.00 | 0.29 | 0.00 |
| Q404      | High Stage 2              | 1.07 | 0.01 | 2.94 | 0.01 | 0.03 | 0.00 |
| Q443      | High Stage 2              | 1.52 | 0.02 | 3.04 | 0.00 | 0.29 | 0.00 |
| Q449      | High Stage 2              | 0.72 | 0.00 | 2.53 | 0.01 | 0.01 | 0.00 |
| Q452      | High Stage 2              | 0.54 | 0.00 | 3.06 | 0.01 | 0.00 | 0.00 |
| Q453      | High Stage 2              | 1.30 | 0.01 | 3.18 | 0.00 | 0.08 | 0.00 |

NOTE: a = discrimination parameter. b = difficulty parameter. c = guessing parameter. s.e. = standard error.

Administered items that were dropped are not included in the tables.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) Base Year.

**Table B-2. Proportion correct for each of the HSLs:09 First Follow-up mathematics assessment items: 2012**

| Item name | Proportion correct unweighted | Proportion correct weighted |
|-----------|-------------------------------|-----------------------------|
| Q024      | 0.409                         | 0.397                       |
| Q036      | 0.522                         | 0.521                       |
| Q037      | 0.723                         | 0.690                       |
| Q041      | 0.522                         | 0.489                       |
| Q054      | 0.371                         | 0.370                       |
| Q056      | 0.278                         | 0.269                       |
| Q057      | 0.292                         | 0.284                       |
| Q059      | 0.371                         | 0.361                       |
| Q062      | 0.679                         | 0.686                       |
| Q063      | 0.351                         | 0.313                       |
| Q073      | 0.232                         | 0.215                       |
| Q075      | 0.351                         | 0.347                       |
| Q086      | 0.344                         | 0.329                       |
| Q088      | 0.701                         | 0.688                       |
| Q090      | 0.298                         | 0.256                       |
| Q097      | 0.424                         | 0.399                       |
| Q101      | 0.135                         | 0.128                       |
| Q108      | 0.597                         | 0.576                       |
| Q110      | 0.392                         | 0.373                       |
| Q114      | 0.694                         | 0.673                       |
| Q124      | 0.384                         | 0.368                       |
| Q126      | 0.308                         | 0.284                       |
| Q129      | 0.311                         | 0.317                       |
| Q155      | 0.467                         | 0.443                       |
| Q162      | 0.506                         | 0.485                       |
| Q167      | 0.380                         | 0.362                       |
| Q169      | 0.216                         | 0.202                       |
| Q181      | 0.274                         | 0.259                       |
| Q185      | 0.374                         | 0.366                       |
| Q190      | 0.237                         | 0.230                       |
| Q237      | 0.563                         | 0.534                       |
| Q245      | 0.690                         | 0.677                       |
| Q247      | 0.503                         | 0.486                       |
| Q248      | 0.602                         | 0.600                       |
| Q251      | 0.455                         | 0.448                       |
| Q252      | 0.434                         | 0.411                       |
| Q254      | 0.421                         | 0.387                       |
| Q256      | 0.501                         | 0.492                       |
| Q267      | 0.236                         | 0.233                       |
| Q269      | 0.512                         | 0.496                       |
| Q271      | 0.139                         | 0.134                       |
| Q286      | 0.497                         | 0.483                       |

See notes at end of table.

**Table B-2. Proportion correct for each of the HSLs:09 First Follow-up mathematics assessment items: 2012 —Continued**

| Item name | Proportion correct unweighted | Proportion correct weighted |
|-----------|-------------------------------|-----------------------------|
| Q290      | 0.561                         | 0.537                       |
| Q297      | 0.683                         | 0.650                       |
| Q310      | 0.451                         | 0.441                       |
| Q313      | 0.338                         | 0.322                       |
| Q314      | 0.406                         | 0.409                       |
| Q329      | 0.707                         | 0.734                       |
| Q333      | 0.659                         | 0.628                       |
| Q343      | 0.287                         | 0.270                       |
| Q345      | 0.393                         | 0.378                       |
| Q346      | 0.336                         | 0.325                       |
| Q354      | 0.587                         | 0.575                       |
| Q356      | 0.404                         | 0.382                       |
| Q357      | 0.444                         | 0.442                       |
| Q377      | 0.580                         | 0.563                       |
| Q382      | 0.544                         | 0.508                       |
| Q385      | 0.287                         | 0.279                       |
| Q391      | 0.565                         | 0.539                       |
| Q392      | 0.383                         | 0.386                       |
| Q393      | 0.448                         | 0.420                       |
| Q399      | 0.672                         | 0.644                       |
| Q404      | 0.323                         | 0.288                       |
| Q437      | 0.548                         | 0.534                       |
| Q443      | 0.423                         | 0.418                       |
| Q444      | 0.221                         | 0.197                       |
| Q449      | 0.444                         | 0.429                       |
| Q452      | 0.341                         | 0.334                       |
| Q453      | 0.249                         | 0.236                       |

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

## **Appendix C.**

### **Glossary of Terms**

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**Accommodations (in testing):** In HSLS:09, both in the base year and the first follow-up, certain accommodations were offered to students with barriers to participation, who otherwise may not have been able to participate. Several such accommodations focused on the assessment. In this context, an accommodation is a change in how a test is presented, in how a test is administered, or in how the test taker is allowed to respond. This term generally refers to changes that do not substantially alter what the test measures. The proper use of accommodations does not substantially change academic level or performance criteria. Appropriate accommodations were made to provide equal opportunity to demonstrate knowledge. Examples of test accommodations used in HSLS:09 include allowing extra time or conveying instructions in American Sign Language. Cases in which accommodations were implemented in HSLS:09 are specially flagged.

**Accommodations (in questionnaire administration):** Special accommodations were provided to base-year and first follow-up students who could not otherwise participate in the study by completing a questionnaire. For example, students with learning disabilities or a visual impairment could have someone read the questionnaire aloud to them. Students were given extra time on the questionnaire, the assessment, or both, if they had an Individualized Education Program that made such a stipulation.

**Adaptive testing:** In HSLS:09, both in the base year and first follow-up test administrations, three test forms of varying levels of difficulty were assigned based on the examinee's score (or more specifically, IRT-based pattern of responses) on a routing test. Thus, the specific form or set of questions that each student answered was tailored to that student's ability level. An advantage of adaptive tests is that reliability per unit of testing time is greater than in a nonadaptive test. Adaptive procedures help to minimize floor and ceiling effects, and by tailoring test items to ability level, minimize examinee frustration that could result when confronted with items far beyond the bounds of the examinee's ability. (See also *Ceiling effect* and *Floor effect*.)

**Administrator questionnaire:** This questionnaire was completed by the school principal, sometimes in part with a knowledgeable designee, at all participating base-year schools. It inquired about school characteristics, student body, faculty, curriculum, and principal background and perception of school problems. An abbreviated version was administered to principals of refusal schools, to better monitor and adjust for nonresponse bias. The questionnaire was revised and readministered to principals in base-year schools in the first follow-up. An abbreviated version was administered to principals in "transfer" schools, that is, schools to which ninth-grade cohort members had dispersed by spring term of 2012.

**American Indian or Alaska Native:** An American Indian or Alaska Native is a person who has origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment. The primary source of race/ethnicity categorization in HSLS:09 was respondent self-identification.

**Analytic weights:** Analytic weights are sometimes called nonresponse-adjusted weights, adjusted (base) weights, or final analytic weights. The analytic weights are constructed by adjusting the base weights for factors such as subsampling of sample units, one or more nonresponse mechanisms (e.g., parent refusal of student participation and student refusal), and calibration (i.e., benchmarked) to population counts. (See also *Base weights* and *Calibration weight adjustment*.)

**Asian:** An Asian is a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. The primary source of race/ethnicity categorization in HSLS:09 was respondent self-identification.

**Balanced repeated replication (BRR):** BRR weights can be used in HSLS:09 for variance estimation. BRR weights are based on a set of procedures that use a balanced set of pseudo-replicates. The BRR variance estimation process involves modeling the design as if it were a two-primary sampling unit (PSU) per stratum design. Variances are then calculated using a random group type of variance estimation procedure, with a balanced set of replicates as the groups. Balancing is done by creating replicates using an orthogonal matrix. An alternative variance estimation method available from the HSLS:09 data set is the Taylor series linearization. (See also *Taylor series linearization*.)

**Base weights:** Base weights compensate for unequal probabilities of selection into the study sample. A base weight is calculated as the inverse probability of selection and includes all stages of sample design (e.g., two design stages are used for HSLS:09). Base weights are also called raw weights, design weights, unadjusted weights, or sampling weights throughout the survey literature. Estimates using base weights may be contrasted with the corresponding estimates using weights adjusted for nonresponse.). Base weights are calculated for all sample members, respondents and nonrespondents alike. However, the base weights do not appear on the HSLS:09 data files, although they are used to generate response rates reported in the Data File Documentation. (See also *Analytic weights*, *Nonresponse bias*, and *Nonresponse bias analysis*.)

**Bias:** Bias is the difference between the reported value and the true value. An estimate of bias is calculated as the difference between the expected value of a sample estimate (e.g., estimated mean) and the corresponding true value for the population. The true values are generally not known and must also be estimated from the data. *Response bias* is the difference between respondent reports and their true behavior or characteristics. *Nonresponse bias* is defined as the (statistically significant) difference in an estimate calculated from the respondent and nonrespondent subsets of the sample. *Undercoverage bias*, a type of sampling bias, arises because some critical portion of the target population is omitted from the sampling frame. For example, if the set of schools from which a school sample is drawn is incomplete or inaccurate (owing, for example, to the birth of new schools subsequent to the time the set of schools was



identified, school undercoverage may occur. (See also *Nonresponse bias* and *Nonresponse bias analysis*.)

**Black or African American:** A Black or African American person is one having origins in any of the black racial groups of Africa. The primary source of race/ethnicity categorization in HSLS:09 was respondent self-identification.

**Burden:** Formally, burden is the aggregate hours realistically required for data providers to participate in a data collection. Burden also has a subjective or psychological dimension: the degree to which providing information is regarded as onerous may depend on the salience to the respondent of the questions that are being posed and on other factors, such as competing time demands and complexity of the information being requested.

**Calibration weight adjustment:** This is a weight adjustment that forces survey estimates to match independent population totals for specified characteristics. Poststratification is a specific type of weight calibration that uses the cross-classification of a set of variables to form poststrata (adjustment cells). Calibration adjustments for HSLS:09 were created through a model that included individual variables and a set of interaction terms (Folsom and Singh 2000).

**Ceiling effect:** Ceiling effect is the result of a test having insufficient numbers of the more difficult items. In a longitudinal study, ceiling effects in the follow-up can cause change scores to be artificially constrained for high-ability examinees. The measurement problems related to floor and ceiling effects in combination with regression effects found at the extreme score ranges seriously hamper the accuracy of change measures in longitudinal studies. More information (i.e., smaller error of measurement) is obtained with respect to ability level if high-ability individuals receive relatively harder items (and if low-ability individuals receive proportionately easier items). The matching of item difficulty to a person's ability level yields increased reliability at the extremes of the score distribution, where it is most needed for studies of longitudinal change. A strategy employed in HSLS:09 to minimize ceiling (and floor) effects is to use an array of three distinct test forms that are "adaptive" to the ability level of the examinee, as demonstrated in a first-stage test form common to all examinees. Multilevel tests—with second stage test assignment that is based on the first stage (router) performance—minimize the possibility that ceiling effects might bias the estimates of the score gains. To further protect against ceiling effects, additional items were added to the first follow-up assessment that represented the highest levels of difficulty. (See also *Floor effect* and *Adaptive testing*.)

**Classical test theory:** Classical test theory postulates that a test score can be decomposed into two parts—a true score and an error component; that the error component is random with a mean of zero and is uncorrelated with true scores; and that true scores, observed scores, and error components are linearly related.

**Closed-ended question:** A closed-ended question is a type of question in which the data provider's responses are limited to a given set of options (as opposed to an open-ended question). (See also *Open-ended question*.)

**Cluster:** A cluster is a group of sample members (or units) that is selected as one group in an early design stage. Sample members (or subsequent clusters of sample members) are then randomly selected from within the clusters chosen in the previous stage. For example, HSLS:09 clusters are schools and the sample members within the clusters are students. Examples of clusters in other studies include school districts, counties, and residential blocks. (See also *Primary sampling unit*.)

**Cluster size:** The cluster size is the number of HSLS:09 sample members attending a particular study-eligible school.

**Codebook:** A codebook is a document that contains a detailed description of each variable measured in HSLS:09 or derived from HSLS:09 variables. The description includes the variable name, values used to define each variable, unweighted frequencies, and unweighted and weighted percentages.

**Coefficient of Variation (CV):** The CV is calculated as the ratio of the estimated population standard deviation over the estimated population quantity (e.g., mean). Both estimates are calculated using the final analysis weights and software that appropriately accounts for the complex, two-stage sample design of HSLS:09. This quantity differs from the *relative standard error (relSE)*, sometimes referred to as the (estimated) CV. The *relSE* is calculated as the estimated population standard error divided by the estimated population quantity.

**Cohort:** A cohort is a group of individuals who have a statistical factor in common such as, for example, year of birth, grade in school, year of retirement, or year of high school graduation. The HSLS:09 cohort consists of ninth-grade high school students as of the fall term of the 2009–10 school year. Since no freshening was instituted for 11th grade, the 9th-grade cohort is the sole cohort in HSLS:09, unlike prior multi-cohort studies such as *NELS:88* and *ELS:2002*.

**Common Core of Data (CCD):** The CCD consists of data annually collected from all public schools in the United States by NCES. Study-eligible public schools were identified from the CCD to form the public school portion of the sampling frame for the HSLS:09 base year.

**Composite variable:** A composite variable is one that is constructed through either the combination of two or more variables (poverty status, for example, combines household size with family income) or through a mathematical function or statistical transformation (e.g., conversion of raw test scores to quintiles). A composite variable is also referred to as a derived, created, or constructed variable.

**Computer-assisted telephone interviewing (CATI):** CATI is a mode of data collection administered in HSLS:09 where an electronic questionnaire is administered to a sample member through a telephone interview.

**Confidence interval:** A confidence interval is a sample-based estimate expressed as an interval or range of values that is expected to contain the true population value given a specified degree of confidence.

**Confidentiality protections:** NCES is required by law to protect individually identifiable data from unauthorized disclosure. To this end, HSLs:09 data have been subject to a disclosure risk analysis to determine which records require masking to produce the public-use data file from the restricted-use data file. Disclosure coarsening techniques (such as recoding of continuous variables into categorical, top and bottom coding, and so on), suppression of variables, and data perturbation techniques (e.g., data swapping) have been used to provide disclosure protection to HSLs:09 data. (See also *Data swapping* and *Disclosure risk analysis*.)

**Consent, active (explicit):** One variety of informed consent is called active or explicit consent. Typically, in active consent, a signed agreement to participate in a study must be obtained. In HSLs:09, permission of parents was required before students could be surveyed. Some schools required active parental consent (i.e., that a signed permission form be obtained).

**Consent, passive (implied):** Another variety of informed consent is called passive or implied consent. In more recent terminology, this consent type is called Opt-out Notification. In this model, a permission form is sent to the relevant party (in HSLs:09, the parent or guardian of the sampled student), who has the opportunity to return the form to indicate denial of permission. If the form is not returned, it is assumed that the individual has no objection to survey participation. In the HSLs:09 base year, about 80 percent of participating schools allowed passive parental consent for their ninth-grader's participation in the study. (See also *Opt-out notification*.)

**Construct:** A construct is an abstract image, idea, or theory, formed from a number of simpler observable elements (e.g., socioeconomic status, or science self-efficacy). Constructs help summarize phenomena that are hypothesized to be in some important way(s) related.

**Contextual data:** In HSLs:09, the primary unit of analysis is the student. Survey information collected from other study participants, referred to as contextual data, should be viewed as extensions of the student data. For example, responses provided in the school administrator, teacher, counselor, and parent questionnaires on the student's school learning environment or home situation are classified as contextual data.

**Counselor questionnaire:** The base-year counselor questionnaire was designed to be completed by the most knowledgeable ninth-grade school counselor at the base-year school. The lead or senior-most ninth-grade counselor was targeted as the preferred respondent. The base-year questionnaire contains items that elicit school-level data concerning counseling practices and resources, and services provided to facilitate the transition of ninth-graders into high school. For the base-year schools in which HSLs:09 students were still enrolled, the counselor questionnaire was repeated in the HSLs:09 first follow-up, with new items appropriate to

ascertaining school policies that might affect the transition from secondary to postsecondary education.

**Coverage rate:** Coverage refers to the extent to which all elements on a sampling frame are members of the population, and to which every element in a population appears uniquely on the frame. *Coverage error* refers to the discrepancy between statistics calculated on the frame population and the same statistics calculated on the target population. *Undercoverage error* can occur if target population units are excluded from the sampling frame. *Overcoverage errors* occur either when eligible target population units are listed more than once on the frame, or sampling frame units are erroneously classified as eligible for sampling. (See also *Bias*.)

**Critical items:** Critical items are a subset of the questionnaire variables that are deemed to be of special importance. Owing to their importance, they are given a special role, so that their coverage and hence impact can be maximized. For example, critical items are overrepresented in abbreviated questionnaires, and critical item completion is used as a prime criterion for defining completed cases when only a partial interview is obtained. In addition, when a critical item is omitted in the interview, the respondent receives a special prompt, noting the importance of the item and asking the respondent to answer the question if at all possible.

**Criterion-referenced measure:** A criterion-referenced measure allows its user to measure how well a student or groups of students have learned a specific body of knowledge and skills. This measure estimates what students can do and what they know on a continuum where all examinees could in theory obtain a perfect score. The HSLS:09 IRT-estimated number-correct scores are an example of a criterion-referenced measure of status at a point in time. For this example, the criterion is the knowledge and set of skills defined by the algebraic reasoning assessment framework and represented by the assessment item pool. In contrast, the purpose of norm-referenced tests is to rank or compare students. (See also Norm-referenced test.)

**Cross-cohort (or intercohort) comparison and analysis:** The HSLS:09 base-year survey is not precisely comparable in timing or grade cohort definition to the prior studies, which involved spring data collections for 8th-, 10th-, or 12th-grade students. HSLS:09 cohort definition is based on a single grade (ninth grade) at a single point in time (autumn term of 2009). Although the transcripts will capture four years of high school coursetaking, because HSLS:09 has no 12<sup>th</sup> grade freshening, HSLS:09 transcripts cannot be compared to the NELS:88, ELS:2002, and NAEP high school transcript studies. Some longitudinal intercohort comparison is possible at a higher level of generality, however—that is, not based on a specific comparison grade—that encompasses modeling the transition from high school to postsecondary education and the workforce that is the subject of all of the secondary longitudinal studies.

**Cross-sectional analysis:** A cross-sectional design represents events and statuses at a single point in time. For example, a cross-sectional survey may measure the cumulative educational attainment (achievements, attitudes, statuses) of students at a particular stage of schooling, such as the beginning of ninth grade. Cross-sectional analysis in HSLS:09 can only be

conducted for the base year (either at the student level or the school level). In contrast, a longitudinal study (or repeated measurement of the same sample units) measures the change or growth in educational attainments that occurs over a particular period of schooling. (See also *Longitudinal or panel survey* and *Cross-cohort comparison and analysis*.)

**Data swapping:** Data swapping is defined in the *NCES Statistical Standards* (Seastrom 2003) as a perturbation disclosure limitation technique that results in a “confidentiality” edit. An example of a need for data swapping would be to assume that a data file has two variables which in combination constitute a disclosure risk, for example, sex and age. If a sample case needs disclosure protection, it is paired with another sampled case so that each element of the pair has the same age, but different sexes. The data on these two records are then swapped. After the swapping, anyone thinking they have identified either one of the paired cases gets the data of the other case, so they have not made an accurate match and the data have been protected. (See also *Confidentiality protections*.)

**Design effect:** The design effect (*deff*) is a measure of sample efficiency and is the variance of an estimate accounting for the complex nature of a survey design divided by the variance of the estimate that would have occurred if a sample of the same size had been selected using simple random sampling. Historically, the *deff* was used to adjust a variance estimate calculated with software that could not properly account for the sample design. More recently, the *deff* calculated for a set of study characteristics is used to compare the sample efficiency across surveys. Sometimes it is more useful to work with standard errors than with variances. The root design effect (*deft*) expresses the relation between the actual standard error of an estimate and the standard error of the corresponding estimates from a simple random sample. (See also *Effective sample size*.)

**Differential item functioning (DIF):** DIF exists when examinees of equal ability differ on an item solely because of their membership in a particular group (e.g., if an item favors males over females, or one racial or ethnic group over another, and cannot be explained by relevant factors such as differential coursetaking). DIF for HSLS:09 mathematics assessment items was examined in the base-year and first follow-up field tests. Items with DIF problems were revised or deleted. In both rounds, a DIF analysis was also conducted with main study data, to confirm that there were no DIF problems (none were identified).

**Disability:** A disability is a physical or mental impairment that substantially limits one or more of the major life activities (Title 42 U.S.C. Section 12102).

**Disclosure risk analysis:** This involves investigation of study data to evaluate and minimize the risk of identification of individual sample units to preserve the confidentiality of the data. HSLS:09 data have been subjected to a disclosure risk analysis to protect confidential information about individual respondents. For a more detailed account of disclosure risk analysis, and of means of altering data (including masking, data perturbation, and data swapping)

to prevent disclosure, see the current NCES Statistical Standards document. (See also *Confidentiality protections*, *Data swapping*, and *Public-use data file*.)

**Domain:** A domain, also called a subpopulation, refers to a defined universe of knowledge, skills, abilities, attitudes, interests, or other human characteristics. For example, certain estimates in the Data File Documentation are reported for the public-school domain and for the two domains within sex.

**Education Longitudinal Study of 2002 (ELS:2002):** ELS:2002 is the immediate predecessor study to HSLS:09 within the series of NCES Secondary Longitudinal Studies. It began with spring high school sophomores in 2002, with follow-up studies in 2004 (with freshening to create a senior cohort), 2006, and 2012. In addition to interview data, postsecondary transcripts also are being collected (and high school transcripts were collected) for the ELS:2002 cohorts. URL: <http://nces.ed.gov/surveys/els2002/>.

**Effective sample size:** Effective sample size is defined as the ratio of the (unweighted) sample size divided by the design effect. In essence, the effective sample size is the sample size under a simple random sample design that has the same level of precision as obtained from the complex sample design. (See also *Design effect*.)

**English language learner (ELL):** ELL is a term used to describe students who are in the process of acquiring English language skills and knowledge. However, some schools use the older term “limited English proficiency” (LEP) to refer to such students. (See also *Limited English proficiency*.)

**File:** This refers to a data file containing a set of related computerized records.

**Floor effect:** Floor effect is the result of a cognitive test being too difficult for some examinees, causing low-ability examinees to receive chance scores on the first testing, and on subsequent testings if the test remains too difficult. Floor effects result in an inability to discriminate among low-ability individuals at time one or time two, and there will be no reliable discrimination among examinees with respect to amounts of change. One solution, used in HSLS:09, is to develop test forms that are “adaptive” to the ability level of the examinee, which tends to minimize the possibility of floor effects biasing the estimates of the score gains. (See also *Adaptive testing* and *Ceiling effect*.)

**High School and Beyond (HS&B):** HS&B is the second in the series of longitudinal high school cohort studies sponsored by NCES. The HS&B base-year study surveyed sophomore and senior students in 1980. The sophomore cohort was last interviewed in 1992 and their postsecondary transcripts collected in 1993. The senior cohort was last interviewed in 1986. URL: <http://nces.ed.gov/surveys/hsb/>.

**Hispanic or Latino:** A Hispanic or Latino/Latina is a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture, origin, or ethnicity regardless of race. The primary source of race/ethnicity categorization in HSLS:09 was respondent self-

identification. Race/ethnicity was obtained for sampling purposes from administrative records provided by the *School Coordinator*.

**Hold sample:** In the base year school sample, the hold sample is the additional sample of schools randomly selected for the study to guard against lower than anticipated school eligibility and response rates. These schools were included in the complete sample from which the release pools were formed. In the first follow-up, in which parents were subsampled, a hold sample was also selected for the parent survey. (See also *Release pool*.)

**Imputation:** Imputation involves substituting values for missing or inconsistent data in a data set. Prediction of a missing value is typically based on a procedure that uses a mathematical model in combination with available information. Model covariates are identified from a set of variables known to be statistically and substantively related to the variable requiring imputation and the pattern of item nonresponse. Missing data for key items in HSLS:09 have been imputed.

**Individualized Education Program (IEP):** An IEP is a written statement or plan for each individual with a disability that is developed, reviewed, and revised in accordance with Title 42 U.S.C. Section 1414(d).

**Individually identifiable data:** These are data from any record, response form, completed survey, or aggregation about an individual or individuals from which the identity of a particular individual (or set of individuals) may be revealed.

**Institutional Contactor (IC):** An IC is a staff member who worked in the recruitment of schools for realization of the HSLS:09 sample.

**Item nonresponse:** Item nonresponse is defined as a missing response to a particular question item on an instrument when a valid response was expected. For example, a participant did not wish to provide income information and therefore left the question item unanswered (blank). Item nonresponse is generally limited to the set of sample members who have been classified as respondents by providing, for example, responses to key questionnaire items required for analysis. (See also *Nonresponse bias analysis* and *Unit nonresponse*.)

**Item response theory (IRT):** IRT is a method of estimating achievement level by considering the pattern of right, wrong, and omitted responses on all items administered to an individual student. IRT postulates that the probability of correct responses to a set of test questions is a function of true proficiency and of one or more parameters specific to each test question. Rather than merely counting right and wrong responses, the IRT procedure also considers characteristics of each of the test items, such as their difficulty and the likelihood that they could be guessed correctly by low-ability individuals. IRT scores are less likely than simple number-right or formula scores to be distorted by correct guesses on difficult items if a student's response vector also contains incorrect answers to easier questions. Another attribute of IRT that makes it useful for HSLS:09 is the calibration of item parameters for all items administered to all students. This makes it possible to obtain scores on the same scale for students who took harder

or easier forms of the test. IRT will also permit vertical scaling of the two points in time (fall term 9th grade in 2009–10, and two and a half years later in 2012). (See also *Classical test theory*.)

**Keyfitz procedure:** This is a statistical procedure for efficiently maximizing sample overlap. A Keyfitz procedure was used to augment the HSLs:09 nationally representative sample for state-level public school estimation in a subset of the states.

**Limited English proficiency (LEP):** LEP is a concept developed to assist in identifying those language-minority students (individuals from non-English language backgrounds) who need language assistance services, in their own language or in English, in the schools. (See also *English language learner*.)

**Locale codes:** In earlier NCES secondary longitudinal studies, locale codes have been referred to as metropolitan status or urbanicity codes (for example, urbanicity trichotomized into three values—urban, suburban, or rural). The former codes were metro-centric (that is, based on metropolitan statistical areas). The HSLs:09 locale codes, however, use NCES’s new urban-centric codes. The new urban-centric locale codes follow the same logic as the older locale codes, but incorporate an approach that prioritizes population size and proximity to an urbanized area in assigning locale. The highest level (four terms) of the new locale code system was used in HSLs:09 school sampling to create substrata (with geography as superstrata). The four major categories are city (large or mid-size city), suburban (urban fringe of large or mid-size city), town (large or small), and rural (outside or inside a Core-Based Statistical Area). Although HSLs:09 uses only the four major or highest categories, each of the four categories is further subdivided in the NCES geocode scheme (for example, “town” comprises three statuses in relation to an urbanized area: fringe, distant, or remote from an urbanized area).

**Longitudinal or panel study:** In a longitudinal design, similar measurements—of the same sample of individuals, institutions, households, or of some other defined unit—are taken at multiple time points. HSLs:09 employs a longitudinal design that follows the same individuals over time and permits the analysis of individual-level change. (See also *Cross-sectional analysis*.)

**Microdata (microrecords):** These are observations of individual sample members, such as those contained on the HSLs:09 public use and restricted use data files.

**Mode effects:** Mode of administration effects can sometimes present difficulties for surveys. Typically the HSLs:09 questionnaires were administered in two modes: self-administration (via web) and interviewer administration (via web-based computer-assisted telephone interview [CATI] or laptop-based computer-assisted personal interview [CAPI]). (Although the mode of administration differs, the instruments are identical.) The concern is that sometimes (and in particular when perceived social desirability of questionnaire responses is a salient consideration and the item is administered by an interviewer) respondents may respond differently to the different stimuli provided by differing administration modes. However, format



differences also can lead to mode effects, as when a question benefits from visual cues that cannot be duplicated in a telephone interview. For this reason, every effort was made in HSLs:09 to adapt questions so that differences between modes would be minimized.

**National Assessment of Educational Progress (NAEP):** NAEP is a cross-sectional assessment program that measures achievement at the group level for students in 4th, 8th, and 12th grades and provides a time series for measuring trends in academic progress of 9-, 13-, and 17-year-olds. The HSLs:09 assessment differs from but complements those of NAEP by providing a basis for measuring individual-level achievement growth between fall of 9th and spring of (modal) 11th grade in mathematics (with a focus on algebraic reasoning) and relating cognitive gains in this subject to the individual, school, and family factors and processes that are measured in the various HSLs:09 questionnaires. NAEP also conducts high school transcript studies however, the NAEP transcript collections are based on high school seniors, the HSLs:09 transcript study will be based on fall term 2009 9<sup>th</sup> graders in schools with both a 9<sup>th</sup> and 11<sup>th</sup> grade. URL: <http://nces.ed.gov/nationsreportcard/>.

**National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education (NCES):** This governmental agency is the sponsor of such current studies as HSLs:09 and ELS:2002, and is also the sponsoring agency for (among other studies) the National Assessment of Educational Progress, and the following completed secondary longitudinal studies: National Education Longitudinal Study of 1988, the High School and Beyond longitudinal study, and the National Longitudinal Study of the High School Class of 1972.

**National Education Longitudinal Study of 1988 (NELS:88):** NELs:88 was the third in the series of longitudinal high school cohort studies sponsored by NCES. The study represents three cohorts: the eighth-grade class of 1988, the sophomore class of 1990, and the senior class of 1992. The study collected questionnaire and test data in 1988, 1990, and 1992 on students' school experiences, and background information from school administrators, teachers, parents (in the base year and second follow-up only), and school records. Data on postsecondary and out-of-school experiences were collected in interviews conducted in 1994 and 2000 and through a postsecondary education transcripts study in 2000–01. URL: <http://nces.ed.gov/surveys/nels88/>.

**National Longitudinal Study of the High School Class of 1972 (NLS:72):** This project was the first in the series of longitudinal high school cohort studies sponsored by NCES. The final round of data collection took place in 1986. URL: <http://nces.ed.gov/surveys/nls72/>.

**National Science Foundation (NSF):** NSF has collaborated with NCES in support of HSLs:09, particularly in matters that reflect state-level samples and records systems.

**Native Hawaiian or Other Pacific Islander:** A Native Hawaiian or Other Pacific Islander is any person having origins in any of the original peoples of Hawaii, Guam, Samoa, or

other Pacific Islands. The primary source of race/ethnicity categorization in HSLS:09 was respondent self-identification.

**Ninth-grade cohort (HSLS:09):** To be eligible for HSLS:09, a student had to be a fall-term ninth-grader in a U.S. school with both grades 9 and 11. Given this definition, HSLS:09 does not represent all ninth-grade students, since schools with grade spans such as K–9, 6–9, 7–9, 8–9, and so on, were ineligible for the study.

**Noncoverage:** Noncoverage is defined as target population members that have been excluded from the sampling frame population. (See also *Coverage rate*.)

**Nonresponse bias:** Nonresponse bias may occur as a result of not obtaining 100 percent response from the selected cases. More specifically, nonresponse bias occurs when the population parameter estimated from the respondent data deviates from the population parameter. The potential magnitude of nonresponse bias is estimated as the product of the nonresponse rate and the difference in values of a characteristic between respondents and nonrespondents. (See also *Nonresponse bias analysis*.)

**Nonresponse bias analysis:** Nonresponse bias analysis compares the characteristics of respondents and nonrespondents. Both unit nonresponse (school and student) and item nonresponse on questionnaires were subject to bias analyses in HSLS:09. For example, certain key data items were obtained in the base year for both responding and nonresponding schools, so that a school nonresponse bias analysis could be conducted, and bias in school-level estimates quantified and tested.

**Nonsampling error:** This is an error in sample estimates that cannot be attributed to sampling fluctuations. Such errors may arise from many sources including unit or item nonresponse across subgroups or errors in the respondent data such as through a student's keying error.

**Norm-referenced test:** A norm-referenced test is used to rank or compare students or groups of students relative to each other. It is interpreted based on comparison of an examinee's performance relative to the performance of others in a specified reference population, or by a comparison of a group to other groups. The base-year weighted quintile score and the theta scores are examples of norm-referenced scores in the HSLS:09 mathematics assessment. (See also Criterion-referenced measure.)

**Occupational Information Network (O\*NET):** O\*NET is the primary industry and occupation coding scheme used in HSLS:09. The O\*NET database was developed for the U.S. Department of Labor and represents an extensive set of worker attributes and job characteristics. O\*NET provides a nested coding structure: 23 general-level categories expand to 96 mid-level categories that can be expanded further to 821 specific-level categories.

**Office of Management and Budget, U.S. Executive Branch (OMB):** OMB is a federal agency with the responsibility for reviewing all studies funded by executive branch agencies.

OMB reviewed, commented on, and approved the HSLs:09 questionnaires, and all study components including the sample design.

**Open-ended question:** This is a type of question in which the data provider's responses are not limited to given alternatives.

**Opt-out notification:** Opt-out notification is more commonly known as passive consent or as implied consent. In HSLs:09 base year, about four-fifths of schools agreed to "opt-out notification" in which parents or guardians were required to sign and return a form only if they refused to permit their child to participate in the study. Written parent permission—sometimes known as active or explicit consent—was required by other schools. In this case, no student could participate in the research who lacked a signed parental consent form.

**Oversampling:** Oversampling is the deliberate sampling of a group (subpopulation) within the target population at a higher rate than the proportion exhibited in the population. For example, Catholic schools and other private schools were oversampled. Asian ninth-grade students were oversampled within schools to ensure sufficient sample to conduct analysis.

**Parent/guardian questionnaire:** The base-year HSLs:09 parent component sought to collect information from parents/guardians of all base-year student sample members. Unlike the base year, the first follow-up HSLs:09 parent component comprised a subsample of parents. For both base year and first follow-up, the parent or guardian most knowledgeable about his or her student's educational experience was asked to complete the questionnaire.

**Population variance:** This is a measure of dispersion defined as the average of the squared deviations between the population values and the mean of those population values.

**Precision:** Precision is calculated in terms of the sampling error (or standard error) of an estimate. Theoretically, precision is the deviation among estimates for a set of samples.

**Primary sampling unit (PSU):** The PSU is the unit chosen at the first stage of a sample design and is typically reserved for clusters of units selected at a subsequent stage of sampling in a multistage design. The HSLs:09 PSU is the base-year school that represents a cluster of students used to select the second-stage sample. In other studies, geographical units such as a county or metropolitan statistical area (MSA) may serve as the PSU.

**Private School Universe Survey (PSS):** The PSS is an NCES universe survey conducted every two years, encompassing the nation's private schools. Study-eligible private schools were identified from the PSS to form the private school sampling frame for the HSLs:09 base-year study.

**Probability sample:** A probability sample is a subset of the target population selected by a random mechanism using a fixed and predetermined probability of selection for each unit (i.e., each population unit has a known, nonzero chance of being included).

**Proficiency score:** Proficiency scores (or criterion-referenced mastery scores) are based on clusters of items that are of similar content and difficulty. Mathematics proficiency scores are reported in HSLs:09 and reflect such skills as, for example, understanding proportions or demonstrating an understanding of linear functions.

**Public-use data file:** A public-use file includes data that have been coded, aggregated, or otherwise altered to mask individually identifiable information. This file is available to the public through NCES. Unique identifiers, geographic detail, and other variables that cannot be suitably altered are suppressed in public-use data files. Public-use edits are based on an assumption that the public may have access to both individual respondent records and secondary data sources that include data that could be used to identify respondents. For this reason, the editing process is relatively extensive. When determining an appropriate masking process, the public-use edit takes into account and guards against matches on common variables from all known files that could be matched to the public-use file. The analysis used to determine which records require masking is called a disclosure risk analysis. (See also *Restricted-use data file* and *Disclosure risk analysis*.)

**Questionnaire-incapable students:** It was determined that, as in past surveys, some students could not be validly assessed or surveyed (even with accommodations) owing to severe physical, mental, or emotional limitations, or because of language barriers. These students were classified as “questionnaire-incapable” students but they were not deemed ineligible for the study. Contextual information was collected for these students including responses from some but not all parents, school administrators, teachers, and counselors, and they were given positive weights as applicable (student, parent, teacher, etc.). These students’ status was reviewed in the first follow-up and those whose situation had changed (for example, a student had become proficient in English over the ensuing two and a half years) were invited to participate.

**Range check:** A range check is a determination of whether responses fall within a predetermined set of acceptable values.

**Record format:** This is the layout of the information contained in a data record and includes the name, type, and size of each field in the record.

**Relative bias:** Relative bias is the bias of the estimate divided by the estimate. This measure identifies the magnitude of the bias relative to the point estimate.

**Release pool:** A release pool is a randomly chosen subgroup of sample units formed within the design strata ). For HSLs:09 base year, school release pools were formed by randomly subsampling schools from the complete sample. These pools were released only when additional schools were needed for recruitment based on a combination of study goals, projected response rates, and preliminary nonresponse bias analysis. In the first follow-up, a release pool was formed for the parent survey (a survey that was based on subsampling.) (See also *Hold sample* and *Stratification*.)

**Reliability:** Reliability is the consistency in results of a test or measurement including the tendency of the test or measurement to produce the same results when applied twice to some entity or attribute believed not to have changed in the interval between measurements.

**Reserve(d) code:** Certain codes have been reserved to stand for a number of situations in which missing data occur in response frequencies. In HSLs:09, the reserve code conventions are as follows:

- -1 = Don't Know (legitimate response)
- -5 = "Data Suppressed"—indicates values that are available on the restricted-use data but suppressed on the public-use data.
- -7 = "Item legitimate skip/NA"—indicates items that are programmatically skipped based on rules in the questionnaire and are not applicable to those respondents.
- -8 = "Nonrespondent/component N/A"—indicates that data are not available because of nonresponse or the interview component did not apply (e.g., student has no math class, thus the math teacher interview does not apply).
- -9 = "Missing"—question may apply to the respondent but it is not answered

-2, -3, -4, and -6 are reserved for subsequent rounds where new reserve code values may apply.

**Response rate (weighted):** In general, *unit response rates* are calculated as the ratio of the weighted number of completed instruments to the weighted number of eligible (in-scope) sample units, using the sample base weight (the inverse of the probability of selection). In multistage samples such as HSLs:09, overall student-level response is the product of both stages (although for many purposes, the stages are reported separately). *Item response rates* are calculated as the weighted ratio of the number of respondents for whom an in-scope response was obtained to the number of respondents who are asked to answer a given item. More detailed information can be found by consulting NCES Standard 1-3 in the NCES 2002 Statistical Standards document (Seastrom 2003). Bias analyses conducted when response rates are below targets help to assess any possible limitations to the generalizability of survey estimates. (See also *Nonresponse bias analysis*.)

**Restricted-use data file:** A restricted-use file includes individually identifiable information that is confidential and protected by law. The basic strategy for HSLs:09 public-versus restricted-use file construction was to include the variables with limited disclosure treatment on the restricted-use file, and to modify or suppress values for these same variables on the public-use version. Use of the restricted data requires the researcher to obtain a special license from NCES. (See also *Public-use data file* and *Disclosure risk analysis*.)

**RTI International (RTI):** RTI is a nonprofit university-affiliated research organization with headquarters in Research Triangle Park, North Carolina. RTI conducted the HSLS:09 base-year study and is currently conducting the first follow-up study on behalf of NCES. RTI International is a trade name of Research Triangle Institute. URL: <http://www.rti.org/>.

**Sampling error:** Sampling error is the difference between a value for an entire population and an estimate of that value derived from a probability sample (i.e., subset of the population).

**Sampling frame:** A sampling frame is a list of all of the sampling units for the target population associated with a particular stage of the sample design. The Common Core of Data and Private School Universe Survey were the basis of the HSLS:09 school (first-stage) sampling frame. The student sampling frame was equivalent to the ninth-grade enrollment lists (rosters) provided by the HSLS:09 sampled schools. The *sampling frame population* is the set of elements associated with this list. As with every survey, the sampling frame is constructed in an attempt to enumerate every member of the target population. Differences between the sampling frame and target populations are linked to coverage errors. (See also *Bias*, *Coverage rate*, and *Target population*.)

**Sampling variance:** Sampling variance is the variation associated with the set of estimates generated from (theoretical) repeated implementation of the essential survey conditions (sample design, frame, sample size, instrument, data collection methodology, etc.). The square root of the sampling variance is the standard error. These statistics are estimated using the sample data from a single survey and the final analytic weights.

**Scaling:** Scaling refers to the process of assigning a scale score based on the pattern of responses. (See also *Item response theory*.)

**School Administrator questionnaire:** This questionnaire was completed by the base-year school administrator (e.g., principal) or someone designated by the administrator, and the first follow-up school administrator (or designee). This instrument contains questions on basic information about school policies and teacher and student characteristics. The school questionnaire was completed primarily in a web-survey self-administered mode. In the first follow-up, an administrator questionnaire targeted base-year schools where student sample members remained, and, in abbreviated form, included questions also for administrators of schools transferred to by the ninth-grade cohort.

**School climate:** The school climate is defined as the social system and ethos or culture of the school, including the organizational structure of the school and values and expectations within it.

**School Coordinator (SC):** The SC is a person designated in each school to act as a contact person between the school and RTI. This individual assisted with establishing a Survey Day in the school and preparing for the survey.

**Section 504:** Section 504 of the Rehabilitation Act of 1973, as amended (Title 29 U.S.C. 794 Section 504), prohibits discrimination on the basis of disability in federally assisted programs and activities.

**Selection probability:** The selection probability, also referred to as the inclusion probability, is the random chance that a particular sampling unit has of being selected into the sample. These values are greater than zero and, in general, less than or equal to one. Selection probabilities equal to zero are only (theoretically) associated with ineligible sampling frame units.

**Serpentine sorting:** Serpentine sorting is a method of sorting in which records are ordered in an alternating ascending and descending pattern, so that any two consecutive records in the sorted file are more similar with respect to their values on the sort variables than in traditional sorting. This method was used in various HSLs:09 statistical procedures such as with the weighted hot-deck imputation methodology.

**Session Administrator (SA):** The SA is a member of the field staff in charge of conducting in-school data collection sessions, including proctoring of the assessment. (See also *Survey Day*.)

**Session Administrator Assistant (SAA):** The SAA is a member of the field staff working under the direction of a session administrator to conduct in-school data collection sessions.

**Simple random sampling (SRS):** SRS uses equal probability sampling with no strata or clusters. The HSLs:09 sample is stratified and clustered. Standard statistical analysis software assumes SRS and independently distributed errors. For studies such as HSLs:09, special variance estimation software (such as SUDAAN, WesVar, AM, Stata, or R) is required to compute (Taylor Series) linearization or replication variance estimates. The HSLs:09 restricted-use data files contain linearization weights and balanced repeated replication weights ) are available on all files. (See also *Analytic weights* and *Balanced repeated replication*.)

**Socioeconomic status (SES):** A socioeconomic status variable has been created for subpopulation definition and as an independent or control variable. SES is a social status construct represented by an index in HSLs:09 that takes account of the student's home background as represented by parent's education, parent's occupation, and family income. Two SES measures are available on the data files, both in continuous form as well as weighted quintiles. The first HSLs:09 SES index is similar to measures employed in *NELS:88* and *ELS:2002*. A second version of the SES index was created for HSLs:09 that includes a covariate adjustment based on school urbanicity (city, suburban, town, or rural locale). In this alternative version of the SES composite, urbanicity is accorded a role as a factor that differentially affects the impact of education, occupation, and income on relative social position.

**Sojourn:** The HSLS:09 base year and first follow-up included a computerized assessment of students conducted on school computers when possible. When school computers were not compatible with RTI's computerized assessment, RTI-provided laptops were used in their place. When school computers were compatible and a computer lab at the school was available, RTI used a custom Linux distribution called Sojourn to launch the survey and math-assessment software. Using Sojourn allows for a high degree of interoperability with hardware based on i486-compatible processors, creates a controlled testing environment, and secures the computer against key loggers, viruses, or other malicious code. This ensures that any sensitive information entered by the student is not compromised.

**Speededness:** One dimension of the assessments involves the question of whether the test was speeded. A common two-part rule of thumb (Rock and Pollack, 1991) for determining whether a test is speeded is as follows. A test is considered to be unspeeded if nearly all test-takers reached the three-quarters point of the test, and at least 80 percent of the students answered the last item (in the test or in their form). While in principle the HSLS:09 assessments need not be time-limited, in practice, for practical reasons time constraints were imposed for almost test administrations and therefore the question of speededness is a legitimate one.

**Standard deviation:** This is the square root of the population (unit) variance used in, for example, the calculation of the standardized theta score in the mathematics assessment.

**Standard error:** This is the square root of the population sampling variance. It is a measure of the dispersion of the sampling distribution of a statistic. Standard errors are used to establish confidence intervals for the statistics being analyzed and are constructed using the final analysis weights and software that accounts for the complex HSLS:09 sample design.

**Standard error of measurement (sem) for theta (or standard error of estimation):** For the assessment, the standard error of measurement (*sem*) for each student's theta score is calculated from the sum of item information functions for all items answered by that student. The standard error of measurement is a transformation of the test information function. The precision of parameter estimates can be computed as a function of the reciprocal of the measurement error, or the variability of repeated estimates of the value of the parameter. More specifically, the standard error of measurement is computed from the reciprocal of the square root of the test information function. (See also *Test information function*.)

**Statistical significance:** Statistical significance is the finding (based on a derived probability, rather than a certitude) that, for example, two or more estimates are truly different from one another and not a merely apparent difference reflecting chance variation.

**Stratification:** Stratification is the division of a population into distinct, mutually exclusive and exhaustive subgroups (strata). Strata are generally defined to include relatively homogeneous units on characteristics that are of interest to the study. Stratification is used to reduce sampling error. In HSLS:09, the first-stage strata were formed and schools were selected



independently within each stratum. Students were independently selected within strata defined by race/ethnicity.

**Student questionnaire:** This is one of the two parts of the HSLS:09 base-year and first follow-up student survey (the other part is the algebraic reasoning assessment). The student questionnaire contained a locator section for tracing sample members for future waves of HSLS:09 and a series of questions about school and home environments, time use, attitudes, values, expectations, and aspirations. In the first follow-up, the branching of the student questionnaire accommodated out-of-school statuses such as dropping out or change to a homeschooling environment, as well as in-school (base-year school or transfer school) statuses.

**Study-eligible school:** Base-year study-eligible schools are generally defined as U.S. schools (public or private) that provide educational instruction to 9th- and 11th-grade students and distribute high school diplomas based on a preset list of criteria. Note that schools with a grade span that did not include 11th grade were excluded from the eligibility pool, and that the base year therefore does not represent all 9th-grade schools or all 9th-grade students. (See also *Target population*.)

**Study-eligible student:** All ninth-grade students enrolled in study-eligible schools on the Survey Day in the fall semester of the 2009–10 school year were classified as study eligible. This set includes students identified as questionnaire incapable and students who were able to complete all components of the study. All foreign exchange students were excluded from the study. (See also *Survey Day*.)

**Survey Day:** This is a day chosen by the school coordinator during the data collection period when a session administrator and assistant oversaw the computerized administration of the survey to the school's sample of students. Make-up days were normally offered for students who missed Survey Day.

**Target population:** Target population is defined as the elements identified for a particular study. The weighted results tabulated from the HSLS:09 data provide estimates for target populations and population domains. In HSLS:09, the base-year target population was fall-term 9th-graders in all regular public and private schools with 9th and 11th grades in the 50 states and the District of Columbia.

**Taylor series linearization:** The Taylor series variance estimation procedure is used to estimate the variance of linear statistics (e.g., estimated totals) and nonlinear statistics (e.g., proportions or ratios). For nonlinear statistics, the procedure takes the first-order Taylor series approximation of the nonlinear statistics and then substitutes the linear representation into the appropriate variance formula based on the sample design. Because HSLS:09 is a stratified multistage survey, the Taylor series procedure requires analytic strata and analytic primary sampling units, defined from the sampling strata and primary sampling units (HSLS:09 schools). (See also *Balanced repeated replication*.)

**Teacher (contextual) sample:** In the HSLS:09 base year, as applicable, two teacher reports were sought for each student, one from the student's fall-term mathematics teacher and one from the student's fall-term science teacher. However, some students were not enrolled in the target subjects, or were not enrolled at the time of the survey (owing to block scheduling or other special arrangements). There was no teacher survey in the first follow-up.

**Teacher questionnaire:** In the base year, mathematics and science teachers of HSLS:09 sampled students were asked to complete a teacher questionnaire. This instrument was used to collect data on school and teacher characteristics (including teacher qualifications and experience) and some classroom-level information. Unlike the *NELS:88* and *ELS:2002* teacher surveys, no direct teacher ratings or evaluations of specific sampled students were sought and the names of the sampled students were kept anonymous.

**Technical Review Panel (TRP):** A TRP is a specially appointed, independent group of substantive, methodological, and technical experts who offer advice to the study contractor on issues of study design and content. TRP members are nominated by RTI and approved by NCES. Typically TRPs are convened prior to and subsequent to a field test.

**Test information function:** The test information function provides a visual representation of the measurement accuracy of the theta estimates across the range of ability levels. A transformation of the test information function provides the standard error of measurement (*sem*) of the ability estimate (*theta*).

**Unit nonresponse:** Unit nonresponse is the failure of a survey unit (e.g., at the institutional level, a school, or at the individual level, a respondent, such as a student or a teacher) to cooperate or complete a survey instrument. *Overall unit nonresponse* reflects a combination of unit nonresponse across two or more levels of data collection, where participation at the second stage of data collection is conditional upon participation in the first stage of data collection. In HSLS:09, overall nonresponse is the product of school-level nonresponse times student nonresponse. *Total item nonresponse* reflects a combination of the overall unit nonresponse and item nonresponse. (See also *Item nonresponse* and *Nonresponse bias*.)

**Validity:** Validity is the capacity of an item or instrument to measure what it was designed to measure, stated most often in terms of the correlation between scores in the instrument and measures of performance on some external criterion. It is the extent to which a test or set of operations measures what it is supposed to measure. Reliability, on the other hand, refers to consistency of measurement over time. (See also *Reliability*.)

**Variance estimation:** Variance estimation is the measure of the variability of a statistic and includes the standard error and error variance. Two procedures for estimating variances of survey statistics in HSLS:09 are the BRR (balanced repeated replication) and Taylor series. BRR (available on both the public-use and restricted-use files) is recommended for HSLS:09 data. (See also *Balanced repeated replication* and *Taylor series linearization*.)

**Wave:** A wave is a single implementation of the survey within the larger longitudinal survey (e.g., the base year and each successive follow-up are each waves of data collection).

**Weighted estimates:** Weighted estimates (are survey estimates generated from survey data that have been statistically weighted (multiplied) by factors reflecting the sample design. The general purpose of weighting is to compensate for unequal probabilities of selection into the sample and to adjust for the fact that not all schools or individuals selected into the sample actually participated. (See also *Analytic weights*.)

**White:** A White person is one having origins in any of the original peoples of Europe, the Middle East, or North Africa. The primary source of race/ethnicity categorization in HSLS:09 was respondent self-identification.

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## **Appendix D.**

### **Data Collection Materials: Contacting and Permission Forms**

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## District Notification Letter

January 21, 2011

Dear Superintendent,

During the 2009-2010 school year, one or more schools in your district graciously participated in the High School Longitudinal Study of 2009 (HSLs:09). I am writing to thank you for the district's continued support and to inform you that we will soon be contacting your school(s) to discuss plans for the first follow-up data collection activities which will be conducted in the spring of 2012.

HSLs:09 is a comprehensive longitudinal study that focuses on understanding students' trajectories from the beginning of high school into higher education or the workforce and beyond. What students decide to pursue when, why, and how are crucial questions for HSLs:09, especially, but not solely, in regard to science, technology, engineering, and math (STEM) courses, majors, and careers. HSLs:09 is sponsored by the National Center for Education Statistics (NCES) in the U.S. Department of Education's Institute for Education Sciences and is being conducted by RTI International. The U.S. Department of Education is authorized by federal law (Public Law 107-279) to conduct HSLs:09. Data will be used only for statistical purposes and may not be disclosed or used in identifiable form for any other purpose except as required by law (Public Law 107-279, Section 183).

In the next few days, an RTI HSLs:09 study representative will be contacting the school(s) to discuss the upcoming HSLs:09 data collection activities, including:

- Verifying the enrollment status of the students at your school who were selected to participate in the study in the fall of 2009,
- Confirming the parent contact information for those same students, and
- Discussing the details regarding data collection scheduled to begin in January of 2012.

Data collection will comprise a 90-minute student survey and assessment, web surveys by principals and counselors, and a collection of your school's course catalogs to facilitate the transcript collection that will occur during the 2013-2014 school year. As with the base year study, students will be asked to complete the data collection in the school's computer lab, or using laptop computers provided by RTI. Participating students will receive a \$10 incentive for their participation.

As a thank you for your school's continued support of this important research, participating schools will be asked to select from a list of token incentives, such as a one-year subscription to a scientific periodical. Schools will also receive a copy of the NCES report "Coursetaking at the End of High School", a sample of the kind of research that will be generated from HSLs:09. A copy of the HSLs:09 First Look Report will be sent to schools later this spring. For more reports and results from similar studies, please visit <http://nces.ed.gov/pubsearch/>.

Enclosed you will find a HSLs:09 brochure to offer further explanation of the study. For additional study details please visit the HSLs:09 study website: <https://surveys.nces.ed.gov/hsls>.

Should you have any questions, please call the HSLS:09 toll-free information number, 866-253-1063, or send an e-mail to [hsls@rti.org](mailto:hsls@rti.org)

Your continued support in this endeavor is important to advance the quality of education for our country's secondary students. We look forward to working with your school(s) to make HSLS:09 a success.

Sincerely,



Laura LoGerfo  
NCES Project Officer



Dan Pratt  
RTI Project Director

Enclosures



## School Recruitment Letter

<DATE>

<NAME>  
<SCHOOL NAME>  
<ADDRESS>  
<CITY, STATE, ZIP>

Dear <NAME>:

During the 2009-2010 school year, <SCHOOL NAME> participated in the High School Longitudinal Study of 2009 (HSLs:09). I am writing to thank you and your staff who have contributed to the success of HSLs:09, and to request your help to obtain information needed for the first follow-up round of the study (HSLs:09).

HSLs:09 is a comprehensive longitudinal study that focuses on understanding students' trajectories from the beginning of high school into higher education or the workforce and beyond. What students decide to pursue when, why, and how are crucial questions for HSLs:09, especially, but not solely, in regard to science, technology, engineering, and math (STEM) courses, majors, and careers. HSLs:09 is sponsored by the National Center for Education Statistics (NCES) in the U.S. Department of Education's Institute for Education Sciences and is being conducted by RTI International. The U.S. Department of Education is authorized by federal law (Public Law 107-279) to conduct HSLs:09. Data will be used only for statistical purposes and may not be disclosed or used in identifiable form for any other purpose except as required by law (Public Law 107-279, Section 183).

In the next few days, an RTI HSLs:09 study representative will contact you to discuss the upcoming HSLs:09 data collection activities, including:

- Verifying the enrollment status of the students at your school who were selected to participate in the study in the fall of 2009,
- Confirming the parent contact information for those same students, and
- Discussing the details regarding data collection scheduled to begin in January of 2012.

Data collection will comprise a 90-minute student survey and assessment, web surveys by principals and counselors, and a collection of your school's course catalogs to facilitate the transcript collection that will occur during the 2013-2014 school year.


We greatly appreciate your continued and gracious participation in HSLs:09. Participating students will receive a \$10 incentive for their participation. As a thank you for your school's continued support of this important research, your school will be asked to select from a list of token incentives, such as a one-year subscription to a scientific periodical. We also are including a copy of the NCES report "Coursetaking at the End of High School", a sample of the kind of research that will be generated from HSLs:09. A copy of the HSLs:09 First Look Report <IF THE SCHOOL QUALIFIES ADD: and your school's base year results> will be sent to you later

this spring. For more reports and results from similar studies, please visit <http://nces.ed.gov/pubsearch/>.

Enclosed you will find a brochure describing the study. For additional study details please visit the HSLS:09 study website: <https://surveys.nces.ed.gov/hsls>. Should you have any questions, please call the HSLS:09 toll-free information number, 866-253-1063, or send an e-mail to [hsls@rti.org](mailto:hsls@rti.org).

Your participation in this endeavor is important to advance the quality of education for our country's secondary students. We look forward to working with your school to make HSLS:09 a success. Thank you again for your support.

Sincerely,



Laura LoGerfo  
NCES Project Officer



Dan Pratt  
RTI Project Director

Enclosures

## **HSLs:09 Brochure Text**

### **High School Longitudinal Study of 2009 First Follow-Up Study (HSLs:09/12); NCES logo**

**Conducted for:** National Center for Education Statistics of the U.S. Department of Education

**Conducted by:** RTI International

### **What is HSLs:09/12?**

HSLs:09/12 is the High School Longitudinal Study of 2009, a nationally representative, longitudinal study of more than 21,000 students who will be surveyed periodically through their secondary and postsecondary years.

### **What is the focus of the study?**

The focus of the study is to understand the impact of the high school experience on students' learning and their education and career choices, and also to explore the transitions students make from high school to postsecondary education, the labor force, and adult roles. One distinctive feature of HSLs:09/12 is that the same students will be followed over time, regardless of the path they take (for example, those who have left school, those who go directly into the military or work force after high school, and those who are college-bound). The other distinctive feature is that in addition to surveying and testing students, information will be gathered from parents, school administrators, and counselors to better understand the many home, school, peer, and community influences on students' development and choices. While all education and career choices are of interest, additional information will be collected about science, technology, engineering, and mathematics (STEM) coursetaking and career preparation.

### **When is the study being conducted?**

The initial data collection occurred in the fall of 2009. The first follow-up data collection with students and school personnel will take place in the spring of 2012.

### **How will HSLs:09/12 data be used?**

HSLs:09/12 data will allow researchers, educators, and policymakers to examine motivation, achievement, and persistence in high school coursetaking and entry into careers (either directly or by way of postsecondary education). More generally, HSLs:09/12 data will allow researchers to examine changes in young people's lives and the influence of communities, schools, teachers, families, parents, and friends on student transitions, progress, and outcomes.

### **Why is participation important?**

HSLs:09/12 will build upon and extend a series of longitudinal high school studies that have been conducted each decade since 1972. The study will measure achievement and various influences on both learning and the decisionmaking of high school students. Information collected from students, parents, counselors, and school administrators will help influence

educational policy for years to come, shaping efforts to improve the quality of the high school experience and the quality of math and science education in America.

**How many schools and students will be involved?**

Over 21,000 students from over 900 schools have participated in the study to date. An average of 30 students per school were selected to participate. The students who were selected as 9<sup>th</sup> graders in 2009 will be asked to participate in the follow-up.

**What is involved for students?**

Sampled students will complete a mathematics assessment and a questionnaire. The in-school sessions will take about 90 minutes. The assessments and questionnaires will be completed on school computers, if available, or laptop computers will be brought to the school for students to use. Participating students will receive \$10 as a token of our appreciation for their time. High school transcripts of coursework and grades will be collected during the 2013-2014 school year. Students also will participate in follow-ups after high school.

**What is involved for school staff?**

A school administrator will be asked to complete a questionnaire about the school and its environment. A school counselor will be asked to complete a questionnaire about school counseling practices. Each questionnaire will take approximately 30 minutes to complete.

**What is involved for parents?**

Parents of sampled students will be asked to complete a 30-minute questionnaire.

**Who will be responsible for data collection?**

Trained HSLS:09/12 staff will administer assessments and questionnaires and provide all required materials. Schools will be asked to designate a school contact to assist HSLS:09/12 staff with in-school arrangements.

**Do students, staff or parents have to participate?**

Participation is voluntary, but is important to ensure the completeness and accuracy of the results.

**Will names of participants and their responses be kept confidential?**

Student, parent, and staff answers may be used only for statistical purposes and may not be disclosed or used, in identifiable form for any other purpose except as required by law (Public Law 107-279, Section 183). The data collected will be used in analyses to understand students' coursetaking behaviors, motivation and achievement, and how students decide what to do after high school.

**Who do I contact for further information about HSLS:09/12?**

For additional information, email [hsls@rti.org](mailto:hsls@rti.org), call (866) 253-1063, or contact:

RTI Project Director:

Mr. Dan Pratt  
(919) 541-6615

RTI Principal Investigator:

Dr. Steven Ingels  
(202) 974-7834

NCES Project Officer:

Dr. Laura LoGerfo  
(202) 502-7402

## **Organizations endorsing HSLs:09/12:**

American Association of School Administrators

American Counseling Association

American Federation of Teachers

Council of Chief State School Officers

National Association of Secondary School Principals

National Catholic Educational Association, Department of Secondary Schools

National Center for Improving Science Education/WestED

National Council of Teachers of Mathematics

National Education Association

National Parent Teacher Association

National School Boards Association

National Science Teachers Association

## Explicit (Written) Parental Permission Form for Students Who Participated in the Base Year Study

Dear parent/guardian:

About two years ago, your teenager participated in the High School Longitudinal Study of 2009 (HSLS:09), a national longitudinal research study that began with ninth graders in 2009. I am writing to ask for your help with the HSLS:09 first follow-up study.

The purpose of HSLS:09 is to understand the impact of the high school experience on students' learning and their education and career choices and to explore the transitions students make from high school to further education, the labor force, and adulthood. HSLS:09 is sponsored by the National Center for Education Statistics in the U.S. Department of Education's Institute of Education Sciences. The study is being conducted under contract by RTI International, a nonprofit research organization based in North Carolina.

In a few weeks, your teenager will be asked to spend approximately 90 minutes completing a computerized questionnaire and a math assessment in school. Over 21,000 students from over 900 high schools across the country have taken part in this study to date. We will also ask a school administrator and a school counselor to each complete a questionnaire which will provide information about programs and practices at the school. In addition, we may ask you to complete a parent questionnaire that will provide important background information.

An important feature of HSLS:09 is that it is longitudinal, meaning it follows the same students as they progress through school and eventually enter the workforce and/or go to college. We plan to contact your teenager or you in about one year to discuss plans after high school and for another follow-up about two years later, so we will ask for his/her address and telephone number and those of a relative or close friend. High school transcripts will also be collected from the school in the 2013-2014 school year.

The U.S. Department of Education is authorized by federal law to conduct HSLS:09. All information provided will be used for statistical purposes only and may not be disclosed or used in identifiable form for any other purpose, except as required by law (Public Law 107-279, Section 183). Participation is voluntary, and there is no penalty if your teenager decides not to participate. Your teenager may choose not to answer any question. The data will be collected and analyzed to understand students' coursetaking patterns, students' motivation and achievement, and how students decide what to do after high school.

**Please take a moment to fill out the enclosed form and return it to your teenager's school in the envelope provided. We cannot allow your teenager to participate without your written consent. As a token of our appreciation for your teenager's participation, he or she will receive \$10.**

The enclosed brochure provides more information about HSLS:09. If you have questions about the study, please call Mr. Dan Pratt at RTI, toll-free, at 1-866-253-1063, between 9 AM and 5 PM Eastern Time, Monday through Friday. If you have questions about your rights as a study participant, you may call RTI's Office for Research Protection, toll-free, at 1-866-214-2043. Both Mr. Pratt and staff from the Office for Research Protection can be reached at: RTI, P.O. Box 12194, Research Triangle Park, NC 27709.

We thank you in advance for your cooperation in this important research.

Sincerely,



Laura LoGerfo, Project Officer  
National Center for Education Statistics  
Institute of Education Sciences, U.S. Department of Education

**High School Longitudinal Study of 2009 (HSLs:09) First Follow-Up**

**PARENT PERMISSION FORM**

Please check only one option below to indicate your decision about your teenager's participation in the study. Then sign the form, providing your telephone number; and print the student name and school name, where indicated.

**Please return this form to your teenager's school as soon as possible. We have enclosed an envelope addressed to the person coordinating the study at your teenager's school.**

Please check one:

☐ **I GIVE PERMISSION** for my teenager, \_\_\_\_\_, to participate in the study.  
(print student name)

☐ **I DO NOT GIVE PERMISSION** for my teenager, \_\_\_\_\_, to participate in the study.  
(print student name)

\_\_\_\_\_  
(Signature of parent or guardian)

AND

Print parent/guardian name:

\_\_\_\_\_

Date of signature: \_\_\_\_\_

(\_\_\_\_\_) \_\_\_\_\_  
Area code Telephone number

\_\_\_\_\_  
Email address

PLEASE PRINT:

Student name: \_\_\_\_\_

School name: \_\_\_\_\_

FOR OFFICE USE ONLY:

Student ID: \_\_\_\_\_



## Explicit (Written) Parental Permission Form for Base Year Nonparticipants

Dear parent/guardian:

About two years ago, your teenager was selected to participate in the High School Longitudinal Study of 2009 (HSLs:09), a national longitudinal research study that began with ninth graders in 2009. I am writing to ask for your help with the HSLs:09 first follow-up study.

The purpose of HSLs:09 is to understand the impact of the high school experience on students' learning and their education and career choices and to explore the transitions students make from high school to further education, the labor force, and adulthood. HSLs:09 is sponsored by the National Center for Education Statistics in the U.S. Department of Education's Institute of Education Sciences. The study is being conducted under contract by RTI International, a nonprofit research organization based in North Carolina.

In a few weeks, your teenager will be asked to spend approximately 90 minutes completing a computerized questionnaire and a math assessment in school. Over 21,000 students from over 900 high schools across the country have taken part in this study to date. We will also ask a school administrator and a school counselor to each complete a questionnaire which will provide information about programs and practices at the school. In addition, we may ask you to complete a parent questionnaire that will provide important background information.

An important feature of HSLs:09 is that it is longitudinal, meaning it follows the same students as they progress through school and eventually enter the workforce and/or go to college. We plan to contact your teenager or you in about one year to discuss plans after high school and for another follow-up about two years later, so we will ask for his/her address and telephone number and those of a relative or close friend. High school transcripts will also be collected from the school in the 2013-2014 school year.

The U.S. Department of Education is authorized by federal law to conduct HSLs:09. All information provided will be used for statistical purposes only and may not be disclosed or used in identifiable form for any other purpose, except as required by law (Public Law 107-279, Section 183). Participation is voluntary, and there is no penalty if your teenager decides not to participate. Your teenager may choose not to answer any question. The data will be collected and analyzed to understand students' coursetaking patterns, students' motivation and achievement, and how students decide what to do after high school.

**Please take a moment to fill out the enclosed form and return it to your teenager's school in the envelope provided. We cannot allow your teenager to participate without your written consent. As a token of our appreciation for your teenager's participation in the study, he or she will receive \$10.**

The enclosed brochure provides more information about HSLs:09. If you have questions about the study, please call Mr. Dan Pratt at RTI, toll-free, at 1-866-253-1063, between 9 AM and 5 PM Eastern Standard Time, Monday through Friday. If you have questions about your rights as a study participant, you may call RTI's Office for Research Protection, toll-free, at 1-866-214-2043. Both Mr. Pratt and staff from the Office for Research Protection can be reached at: RTI, P.O. Box 12194, Research Triangle Park, NC 27709.

We thank you in advance for your cooperation in this important research.

Sincerely,



Laura LoGerfo, Project Officer  
National Center for Education Statistics  
Institute of Education Sciences, U.S. Department of Education

**High School Longitudinal Study of 2009 (HSLs:09) First Follow-Up**

**PARENT PERMISSION FORM**

Please check only one option below to indicate your decision about your teenager's participation in the study. Then sign the form, providing your telephone number; and print the student name and school name, where indicated.

Please return this form to your teenager's school as soon as possible. We have enclosed an envelope addressed to the person coordinating the study at your teenager's school.

Please check one:

☐ I GIVE PERMISSION for my teenager, \_\_\_\_\_, to participate in the study.  
(print student name)

☐ I DO NOT GIVE PERMISSION for my teenager, \_\_\_\_\_, to participate in the study.  
(print student name)

\_\_\_\_\_  
(Signature of parent or guardian)

AND

Print parent/guardian name:

\_\_\_\_\_

Date of signature: \_\_\_\_\_

(\_\_\_\_\_) \_\_\_\_\_  
Area code Telephone number

\_\_\_\_\_  
Email address

PLEASE PRINT:

Student name: \_\_\_\_\_

School name: \_\_\_\_\_

FOR OFFICE USE ONLY:

Student ID: \_\_\_\_\_

## Implicit (Passive) Parental Permission Form for Students Who Participated in the Base Year Study

Dear parent/guardian:

About two years ago, your teenager participated in the High School Longitudinal Study of 2009 (HSLs:09), a national longitudinal research study that began with ninth graders in 2009. I am writing to ask for your help with the HSLs:09 first follow-up study.

The purpose of HSLs:09 is to understand the impact of the high school experience on students' learning and their education and career choices and to explore the transitions students make from high school to further education, the labor force, and adulthood. HSLs:09 is sponsored by the National Center for Education Statistics in the U.S. Department of Education's Institute of Education Sciences. The study is being conducted under contract by RTI International, a nonprofit research organization based in North Carolina.

In a few weeks, your teenager will be asked to spend approximately 90 minutes completing a computerized questionnaire and a math assessment in school. Over 21,000 students from over 900 high schools across the country have taken part in this study to date. We will also ask a school administrator and a school counselor to each complete a questionnaire which will provide information about programs and practices at the school. In addition, we may ask you to complete a parent questionnaire that will provide important background information. You will be contacted separately to complete the parent questionnaire.

An important feature of HSLs:09 is that it is longitudinal, meaning it follows the same students as they progress through school and eventually enter the workforce and/or go to college. We plan to contact your teenager or you in about one year to discuss plans after high school and for another follow-up about two years later, so we will ask for his/her address and telephone number and those of a relative or close friend. High school transcripts will also be collected from the school in the 2013-2014 school year.

The U.S. Department of Education is authorized by federal law to conduct HSLs:09. All information provided will be used for statistical purposes only and may not be disclosed or used in identifiable form for any other purpose, except as required by law (Public Law 107-279, Section 183). Participation is voluntary, and there is no penalty if your teenager decides not to participate. Your teenager may choose not to answer any question. The data will be collected and analyzed to understand students' coursetaking patterns, students' motivation and achievement, and how students decide what to do after high school.

**If you allow your teenager to participate, you do not need to return this form. If for any reason you object to his or her participation, please fill out the enclosed form and return it to his/her school as soon as possible. As a token of our appreciation for your teenager's participation, he or she will receive \$10.**

The enclosed brochure provides more information about HSLs:09. If you have questions about the study, please call Mr. Dan Pratt at RTI, toll-free, at 1-866-253-1063, between 9 AM and 5 PM Eastern Standard Time, Monday through Friday. If you have questions about your rights as a study participant, you may call RTI's Office for Research Protection, toll-free, at 1-866-214-2043. Both Mr. Pratt and staff from the Office for Research Protection can be reached at: RTI, P.O. Box 12194, Research Triangle Park, NC 27709.

We thank you for your cooperation in this important research.

Sincerely,



Laura LoGerfo, Project Officer  
National Center for Education Statistics  
Institute of Education Sciences, U.S. Department of Education

**High School Longitudinal Study of 2009 (HSLs:09) First Follow-Up**

**PARENT PERMISSION FORM**

**IF YOU GRANT YOUR PERMISSION FOR YOUR TEENAGER TO PARTICIPATE IN THE STUDY, YOU DO NOT NEED TO RETURN THIS FORM.**

IF YOU DO NOT CONSENT TO YOUR TEENAGER'S PARTICIPATION IN HSLs:09, PLEASE COMPLETE AND RETURN THIS FORM TO YOUR TEENAGER'S SCHOOL AS SOON AS POSSIBLE.

**I DO NOT GRANT PERMISSION** for my teenager, \_\_\_\_\_, to participate in the High School Longitudinal Study. (print student name)

Please sign and return only if you do not grant permission for your teenager to participate.

\_\_\_\_\_  
(Signature of parent or guardian)

AND

Print parent/guardian name: \_\_\_\_\_

Date of signature: \_\_\_\_\_

(\_\_\_\_\_) \_\_\_\_\_  
Area code Telephone number

\_\_\_\_\_  
Email address

PLEASE PRINT:

Student name: \_\_\_\_\_

School name: \_\_\_\_\_

FOR OFFICE USE ONLY:

Student ID: \_\_\_\_\_

## Explicit (Written) Parental Permission Form for Base Year Nonparticipants

Dear Parent/Guardian:

About two years ago, your teenager was selected to participate in the High School Longitudinal Study of 2009 (HSLs:09), a national longitudinal research study that began with ninth graders in 2009. I am writing to ask for your help with the HSLs:09 first follow-up study.

The purpose of HSLs:09 is to understand the impact of the high school experience on students' learning and their education and career choices and to explore the transitions students make from high school to further education, the labor force, and adulthood. HSLs:09 is sponsored by the National Center for Education Statistics in the U.S. Department of Education's Institute of Education Sciences. The study is being conducted under contract by RTI International, a nonprofit research organization based in North Carolina.

In a few weeks, your teenager will be asked to spend approximately 90 minutes completing a computerized questionnaire and a math assessment in school. Over 21,000 students from over 900 high schools across the country have taken part in this study to date. We will also ask a school administrator and a school counselor to each complete a questionnaire which will provide information about programs and practices at the school. In addition, we may ask you to complete a parent questionnaire that will provide important background information.

An important feature of HSLs:09 is that it is longitudinal, meaning it follows the same students as they progress through school and eventually enter the workforce and/or go to college. We plan to contact your teenager or you in about one year to discuss plans after high school and for another follow-up about two years later, so we will ask for his/her address and telephone number and those of a relative or close friend. High school transcripts will also be collected from the school in the 2013-2014 school year.

The U.S. Department of Education is authorized by federal law to conduct HSLs:09. All information provided will be used for statistical purposes only and may not be disclosed or used in identifiable form for any other purpose, except as required by law (Public Law 107-279, Section 183). Participation is voluntary, and there is no penalty if your teenager decides not to participate. Your teenager may choose not to answer any question. The data will be collected and analyzed to understand students' coursetaking patterns, students' motivation and achievement, and how students decide what to do after high school.

**If you allow your teenager to participate, you do not need to return this form. If for any reason you object to his or her participation, please fill out the enclosed form and return it to his/her school as soon as possible. As a token of our appreciation for your teenager's participation, he or she will receive \$10.**

The enclosed brochure provides more information about HSLs:09. If you have questions about the study, please call Mr. Dan Pratt at RTI, toll-free, at 1-866-253-1063, between 9 AM and 5 PM Eastern Standard Time, Monday through Friday. If you have questions about your rights as a study participant, you may call RTI's Office for Research Protection, toll-free, at 1-866-214-2043. Both Mr. Pratt and staff from the Office for Research Protection can be reached at: RTI, P.O. Box 12194, Research Triangle Park, NC 27709.

We thank you in advance for your cooperation in this important research.

Sincerely,



Laura LoGerfo, Project Officer  
National Center for Education Statistics  
Institute of Education Sciences, U.S. Department of Education

**High School Longitudinal Study of 2009 (HSLs:09) First Follow-Up**

**PARENT PERMISSION FORM**

**IF YOU GRANT YOUR PERMISSION FOR YOUR TEENAGER TO PARTICIPATE IN THE STUDY, YOU DO NOT NEED TO RETURN THIS FORM.**

IF YOU DO NOT CONSENT TO YOUR TEENAGER'S PARTICIPATION IN HSLs:09, PLEASE COMPLETE AND RETURN THIS FORM TO YOUR TEENAGER'S SCHOOL AS SOON AS POSSIBLE.

**I DO NOT GRANT PERMISSION** for my teenager, \_\_\_\_\_, to participate in the High School Longitudinal Study. (print student name)

Please sign and return only if you do not grant permission for your teenager to participate.

\_\_\_\_\_  
(Signature of parent or guardian)

AND

Print parent/guardian name:

\_\_\_\_\_

Date of signature: \_\_\_\_\_

(\_\_\_\_\_) \_\_\_\_\_

Area code Telephone number

\_\_\_\_\_  
Email address

PLEASE PRINT:

Student name: \_\_\_\_\_

School name: \_\_\_\_\_

FOR OFFICE USE ONLY:

Student ID: \_\_\_\_\_

## Enrollment Status Update Letter to SC

[DATE]

«sch\_coord\_name»

«sch\_entity\_name»

Web Address: www.xxx.xxx.gov

«sch\_address»

Your USER ID: &lt;XXXXXXX&gt;

«sch\_cityzip»

Your PASSWORD: &lt;XXXXXXX&gt;

Dear «sch\_coord\_name»,

We are looking forward to working with you and your school this school year on the first follow-up to the High School Longitudinal Study of 2009 (HSLs:09). As the designated School Coordinator for HSLs:09, you play a critical and invaluable role in assisting us with study preparations. We really appreciate your assistance, particularly given the many demands on your time.

At this point in the data collection process, we ask that you verify the enrollment status of the students at your school who were selected to participate in the study in the fall of 2009 and confirm the parent contact information for those same students.

Instructions for completing this task are included with this letter, with information about accessing our website at the top of this letter. This task is critically important for data collection and we would appreciate your help in completing this task via our study website within three weeks of receipt of this letter.

A HSLs:09 study representative will contact you to answer questions about this task and to begin discussing data collection logistics. In-school data collection is scheduled to begin in January 2012. The student data collection will include a student survey and a mathematics assessment administered on school computers, if possible, or using laptops supplied by HSLs:09 staff. The student component will take about 90 minutes. We will also be requesting a copy of your school's course catalog to facilitate the transcript collection that will occur in 2013-2014.

<<At the conclusion of data collection at your school, you will be offered a <<\$100>> honorarium as a token for your assistance, <<with the opportunity to earn up to an additional \$50 based on student response rates.>> If your IT coordinator assists with the student data collection, he/she will receive a <<\$50>> honorarium. >> RTI will provide a trained Session Administrator (SA) to conduct the student sessions and to assist with the consent form process. A school administrator, a school counselor, and parents of sampled students will also be asked to complete a 30-minute questionnaire. Each will be contacted separately, and their data will be collected through a web-based application or telephone interview.

HSLs:09 is sponsored by the U.S. Department of Education's National Center for Education Statistics (NCES) and conducted by RTI International (RTI). All information provided will be used for statistical purposes only and may not be disclosed or used in identifiable form for any other purpose except as required by law. (Public Law 107-279, Section 183). The data collected

will be used in analyses to understand students' coursetaking patterns, motivation and achievement, and how students decide what to do after high school.

We sincerely appreciate your help in preparing for the session at your school and in ensuring that HSLs:09 is a success. Information collected from students, parents, counselors, and school administrators will help to create policies and programs designed to improve the quality of math and science education in the U.S, increase our global competitiveness in math and science-related fields, and improve the overall high school experience. Each school's participation is critical to the success of the study, and reports will not identify participating districts, schools, students, or individual staff.

If you have any questions, please contact us at RTI at (866) 253-1063 or by email at [hsls@rti.org](mailto:hsls@rti.org).

Thank you for your support of education through participating in HSLs:09.

Sincerely,

A handwritten signature in black ink that reads "Dan Pratt". The signature is written in a cursive, slightly slanted style.

Dan Pratt  
Project Director, High School Longitudinal Study of 2009



## **HSLs:09 First Follow-Up Study Student Script For In-School Data Collection**

INSTRUCTION TO SA: READ THE FOLLOWING SCRIPT VERBATIM TO THE STUDENTS PRIOR TO STARTING THE STUDENT ASSESSMENT.

Good morning/afternoon. I would like to thank you for participating in the first follow-up of the High School Longitudinal Study of 2009 — HSLs:09 for short. My name is \_\_\_\_\_ and I represent RTI, a non-profit research organization that has been hired to administer the study by the National Center for Education Statistics from the U.S. Department of Education.

We think the best way to learn about students' school-related experiences, decisions, and plans for the future—is by asking the students themselves! Therefore we're asking you to complete a computerized questionnaire which will help educators and policy makers understand your needs and interests better.

We're also assessing the level of academic achievement of students in the United States so that effective programs and services for future high school students can be developed—so we'll be asking you to complete a computerized mathematics assessment too! You'll complete the student questionnaire first and then fill out the mathematics assessment—it will take no more than 90 minutes total.

All of the information you give us will be strictly protected and your teachers, school, and parents will never know how you answered. The math assessment will not affect your grades—in fact, no one at the school will ever see your scores!

[DO NOT READ IF STUDENTS ARE NOT ALLOWED TO RECEIVE THE \$10]

When you have finished both the assessment and questionnaire, [IF INCENTIVE PERMITTED, USE APPLICABLE PHRASING: I will give you \$10/I will give you a \$10 gift card/your school will receive \$10 for each participating student] as a thank you for your participation.

Your participation in HSLs:09 is voluntary, and you don't have to answer any questions you don't want to. Your answers will be used for statistical purposes only and will be combined with other students' responses for things like statistical reports to Congress. Your answers won't be disclosed, or used, in identifiable form for any purpose unless otherwise compelled by law (Public Law 107-279, Section 183).

We are also asking your principal, school counselor and one parent or guardian to complete a questionnaire. This will help provide contextual information such as school programs and practices.

In about a year, you will be contacted again about participating in another follow-up to this study. Therefore we'll be asking you to provide contact information today so that we will be able to get in touch with you then.

When you first log in, you will be asked to complete a questionnaire. When you finish the questionnaire or after 35-minutes, you will see a series of instructions for the math assessment which are also printed on the scratch paper that you received. This test contains 40 multiple-choice mathematics items separated into two parts. You will have 15 minutes for part 1 and 25 minutes for part 2. For each item:

- Read the item carefully and try your best to identify the correct answer from among the four choices. If you can eliminate at least one answer, you are encouraged to guess the answer. You will not lose any credit for guessing when you aren't completely sure of the answer.
- Use scratch paper if necessary.
- To answer a question, click on the answer you think is correct.
- Then click on the **Next** button to move on to the next item.
- You may use a scientific calculator for any item on this test. If you do not have a calculator of your own, you may use the online calculator by clicking on the **Show Calculator** button.
- If time permits, you will be able to return to the questions that you have skipped or marked for review at the end of each section.

You each received a card with a unique user ID and password to log into the questionnaire and math test. Please enter that now. [Wait here: Assist students that have trouble entering their passwords] This will take you to the "Welcome" screen where you will see instructions for completing the questionnaire. If you need help, raise your hand and I will assist you.

You may now begin.

## School Administrator Lead Letter

[Date]

«adminname»  
«schoolname»  
«addr1» «addr2»  
«citystzip»

Web Address: <https://surveys.nces.ed.gov/hsls/>  
(Click on “Admin login”)  
Your Study ID: «caseID»  
Your Password: «passwd»m

Dear «adminname»:

<< PARTICIPATING SCHOOL: The first follow-up to the High School Longitudinal Study of 2009 (HSLS:09) is now underway and we thank you for your school’s continued participation in this important research.>> <<NONPARTICIPATING SCHOOL: <SAMPLED SCHOOL NAME> participated in the U.S. Department of Education’s High School Longitudinal Study (HSLS:09) in the fall of 2009. We understand that your school is unable to participate in the student component of the first follow-up study and we respect your decision. However, it is important that we collect follow-up data from each of the schools that participated in 2009. For that reason, we ask that you complete an administrator questionnaire. >> HSLS:09 seeks to understand the impact of the high school experience on students’ learning and their education and career choices, and explores the transitions students make from high school to further education, the labor force, and adulthood. HSLS:09 is being conducted by RTI International for the U.S. Department of Education’s National Center for Education Statistics (NCES).

We are asking you to complete a 30-minute questionnaire to provide your insight into the administration and policies at your school. To access the questionnaire, the web address and your unique study ID and password are provided above. The questionnaire’s first three sections mainly request factual information about your school and its programs and can be answered by you or a designee who is able to provide this information. The final section asks for subjective reports on the school climate, and we ask that this section be completed by the principal only. If someone other than you completes the initial portion of the questionnaire, please let us know so that we can give that person their own log-in credentials.

Data collected are used **only for statistical purposes and may not be disclosed or used, in identifiable form for any other purpose except as required by law** (Public Law 107-279, Section 183). **The data collected will be used by researchers, educators, and policymakers to understand students’ coursetaking behaviors, motivation and achievement, and how students decide what pathways to follow during and after high school.** Information collected from students, parents, teachers, counselors, and school administrators will help to inform and shape efforts to improve the quality of the high school experience, including math and science education in America.

HSLS:09 is endorsed by the National Association of Secondary School Principals, the American Association of School Administrators, the National Education Association and the National School Boards Association, among others. The enclosed brochure provides more information about HSLS:09. If you have any questions about your participation in the survey, please call Ms.

Jane Griffin at RTI, toll-free at 1-877-292-HSLS (1-877-292-4757). If you have questions about your rights as a study participant, you may call RTI's Office for Research Protection at 919-316-3358 in Durham, NC or toll-free at 1-866-214-2043.

We thank you in advance for your cooperation in this important research.

Sincerely,



Jack Buckley  
Commissioner  
National Center for Education Statistics  
Institute of Education Sciences  
U.S. Department of Education

Enclosure:HSLS:09 Brochure

NCES is authorized to conduct HSLS:09 under the Education Sciences Reform Act of 2002 (Public Law 107-279, Section 153). According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number of this information collection is 1850-0852, and the study is completely voluntary. The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving the interview, please write to: U.S. Department of Education, 400 Maryland Avenue SW, Washington, DC 20202. If you have any comments or concerns regarding the status of your individual submission of this survey, write directly to: High School Longitudinal Study of 2009 (HSLS:09), National Center for Education Statistics, 1990 K Street NW, Washington, DC 20006.

## Transfer School Administrator Questionnaire

June 1, 2012

«adminname»  
«schoolname»  
«addr1» «addr2»  
«citystzip»

Web Address: <https://surveys.nces.ed.gov/hsls/>  
Study ID: «caseID»  
Password: «passwd»m

Dear «adminname»:

The first follow-up to the High School Longitudinal Study of 2009 (HSLs:09) is now underway and we understand that at least one student selected for HSLs:09 is currently enrolled at your school. HSLs:09 seeks to understand the impact of the high school experience on students' learning and their education and career choices, and explores the transitions students make from high school to postsecondary education, the labor force, and adulthood. HSLs:09 is being conducted by RTI International for the U.S. Department of Education's National Center for Education Statistics (NCES).

We are asking you to complete a 10-minute questionnaire to provide your insight into the administration and policies at your school. To access the questionnaire, the web address and your unique study ID and password are provided above. You may also call us toll-free at 1-877-292-4757 to complete the interview with one of our professional telephone interviewers.

Data collected are used **only for statistical purposes and may not be disclosed or used, in identifiable form for any other purpose except as required by law** (Public Law 107-279, Section 183). **The data collected will be used by researchers, educators, and policymakers to understand students' coursetaking behaviors, motivation and achievement, and how students decide what pathways to follow during and after high school.** Information collected from students, parents, teachers, counselors, and school administrators will help to inform and shape efforts to improve the quality of the high school experience, including math and science education in America.

HSLs:09 is endorsed by the National Association of Secondary School Principals, the American Association of School Administrators, the National Education Association and the National School Boards Association, among others. The enclosed brochure provides detailed information about HSLs:09. If you have any questions about your participation in the survey, please call Ms. Jane Griffin at RTI, toll-free at 1-877-292-HSLs (1-877-292-4757). If you have questions about your rights as a study participant, you may call RTI's Office for Research Protection at 919-316-3358 in Durham, NC or toll-free at 1-866-214-2043.

We thank you in advance for your cooperation in this important research.

Sincerely,



Jack Buckley  
Commissioner  
National Center for Education Statistics  
Institute of Education Sciences  
U.S. Department of Education

Enclosure:HSLs:09 Brochure

NCES is authorized to conduct HSLs:09 under the Education Sciences Reform Act of 2002 (Public Law 107-279, Section 153). According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number of this information collection is 1850-0852, and it is completely voluntary. The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving the interview, please write to: U.S. Department of Education, 400 Maryland Avenue SW, Washington, DC 20202. If you have any comments or concerns regarding the status of your individual submission of this survey, write directly to: High School Longitudinal Study of 2009 (HSLs:09), National Center for Education Statistics, 1990 K Street NW, Washington, DC 20006.

## School Counselor Lead Letter

[Date]

«counselorname»

«schoolname»

«addr1» «addr2»

«citystzip»

Web Address: <https://surveys.nces.ed.gov/hsls/>

(Click on “Counselor login”)

Your Study ID: «caseID»

Your Password: «passwd»m

Dear «counselorname»:

Two years ago, «schoolname» participated in the High School Longitudinal Study of 2009 (HSLS:09), sponsored by the National Center for Education Statistics (NCES) in the U.S. Department of Education. Data collection has begun for the next round of the study and we need your unique perspective as a school counselor to make the study as successful as possible. The purpose of HSLS:09 is to understand the impact of the high school experience on students’ learning and educational and career choices and to explore the transitions from high school to further education, the work force, and adulthood. Students, counselors, and administrators from over 900 schools have participated in HSLS:09.

Your participation is voluntary; however, as a counselor at «schoolname», your understanding of the influence of the school’s academic policies and programs on the overall learning environment is crucial to the study. Therefore, we are asking that you complete an online questionnaire, which will take approximately 30 minutes to complete. To begin the questionnaire, please log in using the web link and unique study ID and password provided above.

Data collected are used **only for statistical purposes and may not be disclosed or used, in identifiable form for any other purpose except as required by law** (Public Law 107-279, Section 183). Information collected from students, parents, counselors, and school administrators will help to inform and shape efforts to improve the quality of the high school experience, including math and science education in America.

HSLS:09 is endorsed by the National Association of Secondary School Principals, the American Association of School Administrators, the National Education Association and the National School Boards Association, among others. The enclosed brochure provides more information about HSLS:09. If you have any questions about your participation in the survey, please call Ms. Jane Griffin at RTI, toll-free at 1-877-292-HSLS (1-877-292-4757). If you have questions about your rights as a study participant, you may call RTI’s Office for Research Protection at 919-316-3358 in Durham, NC or toll-free at 1-866-214-2043.

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Jack Buckley  
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Institute of Education Sciences  
U.S. Department of Education

Enclosure: HSLS:09 Brochure

NCES is authorized to conduct HSLS:09 under the Education Sciences Reform Act of 2002 (Public Law 107-279, Section 153). According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number of this information collection is 1850-0852, and the study is completely voluntary. The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving the interview, please write to: U.S. Department of Education, 400 Maryland Avenue SW, Washington, DC 20202. If you have any comments or concerns regarding the status of your individual submission of this survey, write directly to: High School Longitudinal Study of 2009 (HSLS:09), National Center for Education Statistics, 1990 K Street NW, Washington, DC 20006.



## Parent Lead Letter

[DATE]

<PARENT NAME>  
<ADDR1>  
<ADDR2>  
<CITY STATE ZIP>

Web Address: surveys.nces.ed.gov/hsls  
Your Study ID: <XXXXXXXX>  
Your Password: <XXXXXXXX><PW\_ind>

Dear <Parent or Guardian Name>:

About two-and-a-half years ago, <STUDENT NAME> <“participated” / “was selected to participate”> in the High School Longitudinal Study of 2009 (HSLs:09), sponsored by the National Center for Education Statistics (NCES) in the U.S. Department of Education’s Institute of Education Sciences. A follow-up survey to the HSLs:09 is now underway, and we would like you to complete an interview. On average, the interview will take about 30 minutes to complete.

Your participation is voluntary, but as a parent of a sampled student your input is extremely important and provides a unique source of information. With more than 21,000 students in the study, HSLs:09 will inform policymakers on how the experience of high school impacts learning, as well as future educational and career pathways. Even large educational organizations have endorsed HSLs:09, such as the National Parent Teacher Association (National PTA), the National Education Association (NEA), and the American Federation of Teachers (AFT). To complete the online survey, please log in using the web address, study ID, and password provided at the top right of this page.

HSLs:09 is conducted by RTI International under contract with NCES. Data collected are used **only for statistical purposes and may not be disclosed or used, in identifiable form for any other purpose except as required by law** (Public Law 107-279, Section 183). The enclosed brochure provides more information about HSLs:09 and RTI. In addition, results from prior studies are available on the HSLs:09 website given above. If you have questions about the study, please call Randy Ottem toll-free at 1-877-282-4757. If you have questions about your rights as a study participant, you may call RTI’s Office for Research Protection toll-free at 1-866-214-2043.

We thank you in advance for your cooperation in this important research.

Sincerely,



Jack Buckley, Commissioner  
National Center for Education Statistics  
Institute of Education Sciences  
U.S. Department of Education

Enclosure: HSLs:09 Brochure

NCES is authorized to conduct HSLS:09 under the Education Sciences Reform Act of 2002 (Public Law 107-279, Section 153). According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number of this information collection is 1850-0852, and the study is completely voluntary. The time required to complete this information collection is estimated to average 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving the interview, please write to: U.S. Department of Education, 400 Maryland Avenue SW, Washington, DC 20006.

## Out-of-School Student Lead Letter

[DATE]

<STUDENT NAME>

<ADDR1>

<ADDR2>

<CITY STATE ZIP>

Web Address: surveys.nces.ed.gov/hsls

Student Study ID: <XXXXXXXX>

Student Password: <XXXXXXXX><PW\_ind>

Dear <Student Name>:

About two-and-a-half years ago, you < “participated” / “were selected to participate”> in the High School Longitudinal Study of 2009 (HSLS:09), sponsored by the Institute of Education Science’s National Center for Education Statistics (NCES), which is the statistical agency of the U.S. Department of Education. As you may remember, HSLS:09 will follow a group of high school students through high school and beyond, such as college and the labor force, to understand how the experiences of high school impact student learning and decisions about education and careers. Along with 21,000 students from across the United States, your answers could contribute to research and influence policymakers’ decisions about high school education in the U.S.

Your participation is voluntary but extremely important to the success of this study. The study will include a 35-minute questionnaire and a 40-minute mathematics assessment. Your answers will never be shared with your parents, teachers, or school staff. We will send you a check for \$<int\_inc> after you complete the interview, and another \$10 after you complete the math assessment. You may access the interview and the assessment by using the web link and the unique student study ID and password provided above.

HSLS:09 is conducted by RTI International under contract with NCES. Data collected are used **only for statistical purposes and may not be disclosed or used, in identifiable form for any other purpose except as required by law** (Public Law 107-279, Section 183). The enclosed brochure provides more information about HSLS:09 and RTI. In addition, results from the first round of the study are available on the HSLS website given above. If you have questions about the study, please call Randy Ottem toll-free at 1-877-282-4757. If you have questions about your rights as a study participant, you may call RTI’s Office for Research Protection toll-free at 1-866-214-2043. We thank you in advance for your cooperation in this important research.

Sincerely,



Jack Buckley  
Commissioner  
National Center for Education Statistics  
Institute of Education Sciences  
U.S. Department of Education

Enclosure: HSLS:09 Brochure

NCES is authorized to conduct HSLS:09 under the Education Sciences Reform Act of 2002 (Public Law 107-279, Section 153). According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number of this information collection is 1850-0852, and the study is completely voluntary. The time required to complete the information collection for students is estimated to average 75 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate or suggestions for improving the interview, please write to: U.S. Department of Education, 400 Maryland Avenue SW, Washington, DC 20006.

## **Appendix E.**

# **Documentation for Composite Variables**

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A number of composite variables have been constructed in order to enhance substantive analysis. These constructed variables are listed below. Readers should note that not all of the composite variables are available on the public-use file. Examples of restricted-use composites unavailable on the public-use file include (among many others) X2NCESID, X2AMINDIAN, X2HISPTYPE, X2NATIVELANG, and X2FREELUNCH. In addition, other variables have been coarsened through recoding (X2STDOB is an example of such a recoded variable). For a comparison of variables in the public and restricted files, with indication of how variables have been altered or suppressed for the public use file, see Appendix J of this document. The High School Longitudinal Study of 2009 (HSLs:09) first follow-up composites are listed immediately below.

**X2NCESID**

X2NCESID stores the 12-character National Center for Education Statistics (NCES) ID of the sample member's current or last attended school (2011–12 school year). The NCES ID is the school identifier used to link to the Common Core of Data (CCD) file and the Private School Survey (PSS) file. The source of the NCES ID was the 2011–12 CCD and 2011–12 PSS.

**X2UNIV1**

Indicates simultaneously the base-year and first follow-up status of sample members. This variable has valid values that account for every pattern encountered by HSLs:2009 sample members.

**X2UNIV2A**

Indicates the base-year status (respondent, nonrespondent, questionnaire ineligible) for base-year sample members.

**X2UNIV2B**

Indicates first follow-up status of sample member (i.e., in school, in 11th grade; in school, not in 11th grade; dropout; homeschooled; early graduate; out of scope; first follow-up nonrespondent).

**X2ENROLSTAT**

Enrollment status reported by the student, and if missing, by the school for the spring term, 2012.

**X2ENRSTATSCH**

Enrollment status reported by the school for the spring term, 2012.

**X2DROPOUT**

Dropout status indicator for the spring term, 2012

## **X2EVERDROP**

Ever dropped out of school as of the spring term, 2012.

## **X2SEX**

X2SEX is the sample member's sex. The composite is based on data from the base-year student questionnaire, parent questionnaire, or school-provided sampling roster, and then updated when missing with data from the first follow-up student questionnaire.

## **X2RACE**

X2RACE characterizes the sample member's race/ethnicity by summarizing the following six dichotomous race/ethnicity composites: X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). X2RACE is derived from the six dichotomous race/ethnicity variables listed above (although the imputed values of X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN are not stored on the data file). If any of these input variables are imputed, then the imputation flag for X2RACE (X2RACE \_IM) is set (1 = imputed in base year, 2 = imputed in first follow-up).

## **X2HISPANIC**

The sample member's race/ethnicity is characterized by a series of six dichotomous composite variables (the student is/is not white, the student is/is not black, etc.). The six dichotomous composite race/ethnicity variables are X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). The six dichotomous race/ethnicity composites are then used in conjunction to produce the summary race/ethnicity composite X2RACE.

## **X2WHITE**

The sample member's race/ethnicity is characterized by a series of six dichotomous composite variables (the student is/is not white, the student is/is not black, etc.). The six dichotomous composite race/ethnicity variables are X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). The six dichotomous



race/ethnicity composites are then used in conjunction to produce the summary race/ethnicity composite X2RACE.

**X2BLACK**

The sample member's race/ethnicity is characterized by a series of six dichotomous composite variables (the student is/is not white, the student is/is not black, etc.). The six dichotomous composite race/ethnicity variables are X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). The six dichotomous race/ethnicity composites are then used in conjunction to produce the summary race/ethnicity composite X2RACE.

**X2ASIAN**

The sample member's race/ethnicity is characterized by a series of six dichotomous composite variables (the student is/is not white, the student is/is not black, etc.). The six dichotomous composite race/ethnicity variables are X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). The six dichotomous race/ethnicity composites are then used in conjunction to produce the summary race/ethnicity composite X2RACE.

**X2PACISLE**

The sample member's race/ethnicity is characterized by a series of six dichotomous composite variables (the student is/is not white, the student is/is not black, etc.). The six dichotomous composite race/ethnicity variables are X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). The six dichotomous race/ethnicity composites are then used in conjunction to produce the summary race/ethnicity composite X2RACE.

**X2AMINDIAN**

The sample member's race/ethnicity is characterized by a series of six dichotomous composite variables (the student is/is not white, the student is/is not black, etc.). The six dichotomous composite race/ethnicity variables are X2HISPANIC, X2WHITE, X2BLACK, X2ASIAN, X2PACISLE, and X2AMINDIAN. Each of these dichotomous composites is pulled from the base-year composite when not imputed, otherwise it is based on data from the first follow-up student questionnaire; if still missing, they are based on the presence of the race/ethnicity from the first follow-up parent questionnaire (if parent questionnaire data includes race/ethnicity information for biological parents). The six dichotomous race/ethnicity composites are then used in conjunction to produce the summary race/ethnicity composite X2RACE.

**X2HISPTYPE**

X2HISPTYPE indicates the sample member's Hispanic subgroup, where applicable. Information on Hispanic subgroup is pulled from the base-year composite (X1HISPTYPE) except when updated by the student in the first follow-up student questionnaire. If missing, the data are pulled from the first follow-up parent questionnaire (when the parent questionnaire includes information about a particular Hispanic subgroup for both biological parents or one of the biological parents if the other biological parent is not Hispanic or is missing).

**X2ASIAN TYPE**

X2ASIAN TYPE indicates the sample member's Asian subgroup, where applicable. Information on Asian subgroup is pulled from the base-year composite (X1ASIAN TYPE) except when updated by the student in the first follow-up student questionnaire. If missing, the data are pulled from the first follow-up parent questionnaire (when the parent questionnaire includes information about a particular Asian subgroup for both biological parents or one of the biological parents if the other biological parent is not Asian or is missing).

**X2NATIVE LANG**

Indicates the language the sample member first learned to speak. X2NATIVE LANG is first pulled from the base-year composite (X1NATIVE LANG) when not imputed. Otherwise the source is the first follow-up student questionnaire (i.e., S2LANG1ST—whether sample member first learned to speak English, Spanish, or another language—and S2LANG1STOS—non-English language sample member first learned to speak); if missing in first follow-up student questionnaire, X2NATIVE LANG is taken from the first follow-up parent questionnaire (i.e., P2HOMELANG—whether a language other than English is spoken in the home—and P2RSPLANG—language parent respondent usually speaks to sample member). If missing from all sources, X2NATIVE LANG is pulled from the imputed version of X1NATIVE LANG, and if still missing statistically imputed for first follow-up

student survey respondents (imputed values in X2NATIVELANG can be identified using X2NATIVEL\_IM). For sample members who first learned both English and a non-English language, X2NATIVELANG is coded with the applicable non-English language (see also X2DUALLANG).

**X2DUALLANG**

Indicates whether the language the sample member first learned to speak was English only, a non-English language only, or English and a non-English language equally. This variable is pulled from the base-year composite (X1DUALLANG) when not imputed. Otherwise the source is the first follow-up student questionnaire (S2LANG1ST). See also X2NATIVELANG for further specificity of non-English languages.

**X2STDOB**

Indicates the sample member's birth year and month; X2STDOB is taken from the base-year student questionnaire, and, if missing from the first follow-up student questionnaire. In cases where the birth date does not come from the base-year or first follow-up student questionnaire, only the birth year is provided from the sampling roster, and X2STDOB is filled with YYYY00.

**X2SAMEPAR1**

Indicates whether the first follow-up parent 1 is the same parent 1 as in the base year.

**X2SAMEPAR2**

Indicates whether the first follow-up parent 2 is the same parent 2 as in the base year.

**X2NUMHS**

Indicates the total number of high schools the sample member has attended

**X2TXMTH**

The math theta score represents the student's ability level on a continuous scale. The theta score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated scale score which represents status with respect to achievement on a particular criterion set of test items). When the score is not available, X2TXMTH1-5 are created as the multiple imputation values for X2TXMTH. X2TXMTH is the mean of X2TXMTH1-5. The standard error of measurement for the theta score is X2TXMSEM. The standardized form of the mathematics theta score is X2TXMTSCOR. See chapter 2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math theta score.

### **X2TXMSEM**

The standard error of measurement (SEM) for the theta score indicates the precision in the ability estimate. It is calculated from the sum of item information functions for each item answered by each student. Unlike the classical standard error of measurement, which is a constant, the IRT standard error varies across the scale-score continuum. It is typically smaller for students whose theta score falls toward the center of the distribution because more students answered the items with average difficulty. However, students whose theta scores fall at the extremes of the distribution tend to have a higher SEM because their scores are based on items answered by fewer students overall. When the score is not available, X2TXMSEM1-5 are created as the multiple imputation values for X2TXMSEM.

X2TXMSEM is the mean of X2TXMSEM1-5. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math theta SEM.

### **X2TXMSCR**

The math IRT-estimated number correct is a criterion-referenced measure at the time of the first follow-up assessment. The criterion is the set of skills defined by both the HSLS:09 base-year and first follow-up framework and represented by the 118 items used to score HSLS:09 first follow-up math assessment. The estimated number correct for math is an estimate of the number of items students would have answered correctly had they responded to all 118 items in the item pool. The ability estimates (thetas) from the first follow-up and item parameters derived from the IRT calibration were used to calculate each student's probability of a correct answer for each of the items in the pool. These probabilities are summed to produce the IRT-estimated number-correct scale score. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math estimate number correct.

### **X2X1TXMSCR**

The math IRT-estimated number correct is a criterion-referenced measure of achievement at the time of the base-year assessment. The criterion is the set of skills defined by both the HSLS:09 base-year and first follow-up framework and represented by the 118 items used to score the HSLS:09 first follow-up mathematics assessment. The estimated number correct for math is an estimate of the number of items students would have answered correctly had they responded to all 118 items in the item pool. The ability estimates (thetas) from the base year and item parameters derived from the IRT calibration were used to calculate each student's probability of a correct answer for each of the items in the pool. These probabilities are summed to produce the IRT-estimated number-correct scale score. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math estimated number correct.

**X2TXMTSCOR**

The math standardized T score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated percent-correct score which represents status with respect to achievement on a particular criterion set of test items). The standardized T score is a transformation of the IRT theta (ability) estimate, rescaled to a mean of 50 and standard deviation of 10. An advantage of the standardized score over the raw theta score is that it facilitates comparisons in standard deviation units. See chapter 2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math T score.

**X2TXMQUINT**

The math quintile score is a norm-referenced measure of achievement. The quintile score divides the weighted (population estimate) achievement distributions into five equal groups, based on math score (X2TXMTSCOR). Quintile 1 corresponds to the lowest achieving one-fifth of the population, quintile 5 the highest. To determine the quintile cut-points, the weighted distribution of the standardized scores was divided at the 20th, 40th, 60th, and 80th percentiles. See chapter 2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math quintile score.

**X2TXMPROF1**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLs:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLs:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were identified that marked mathematics level 1: algebraic expressions. Students able to answer questions such as these have an understanding of algebraic basics including evaluating simple algebraic expressions and translating between verbal and symbolic representations of expressions. See chapter 2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability score.

**X2TXMPROF2**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLs:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLs:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were identified that marked mathematics level 2: multiplicative and proportional thinking.

Students able to answer questions such as these have an understanding of proportions and multiplicative situations and can solve proportional situation word problems, find the percent of a number, and identify equivalent algebraic expressions for multiplicative situations. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability scores.

### **X2TXMPROF3**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLS:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLS:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were identified that marked mathematics level 3: algebraic equivalents. Students able to answer questions such as these have an understanding of algebraic equivalents and can link equivalent tabular and symbolic representations of linear equations, identify equivalent lines and find the sum of variable expressions. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability scores.

### **X2TXMPROF4**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLS:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLS:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were identified that marked mathematics level 4: systems of equations. Students able to answer questions such as these have an understanding of systems of linear equations and can solve such systems algebraically and graphically and characterize the lines (parallel, intersecting, collinear) represented by a system of linear equations. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability scores.

### **X2TXMPROF5**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLS:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLS:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were

identified that marked mathematics level 5: linear functions. Students able to answer questions such as these have an understanding of linear functions and can find and use slopes and intercepts of lines, and use functional notation. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability scores.

**X2TXMPROF6**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLS:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLS:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were identified that marked mathematics level 6: quadratic functions. Students able to answer questions such as these have an understanding of quadratic functions and can solve quadratic equations and inequalities and understand the relationship between roots and the discriminant. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability scores.

**X2TXMPROF7**

The math proficiency probability scores are criterion-referenced and are based on clusters of items that mark seven levels on the mathematics scale developed in the HSLS:09 first follow-up. The levels are hierarchical in the sense that mastery of a higher level typically implies proficiency at the lower levels. The HSLS:09 first follow-up proficiency probabilities were computed using IRT-estimated item parameters. Each proficiency probability represents the probability that a student would pass a given proficiency level. Clusters of four items were identified that marked mathematics level 7: log and exponential functions. Students able to answer questions such as these have an understanding of exponential and log functions, including geometric sequences and can identify inverses of log and exponential functions and when geometric sequences converge. See chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361) for more information on the derivation of the math proficiency probability scores.

**X2MACC**

Whether accommodation(s) were provided for assessment administration to students with special needs—either identified in an IEP or specified by a school official at the time of test administration—no accommodation needed; extra time for test or other special test accommodations needed (e.g., use of calculator, tests read to student). X2MACC was set to 1 if special test accommodations or extra time were needed. Those taking a test but not requiring test accommodations had X2MACC = 0. X2MACC = -8 for those who did not take the test.

**X2PARRESP**

Indicates whether the parent questionnaire respondent is “parent 1”; that is, the parent to whom all “parent 1” variables (e.g., X2P1RELATION, X2PAR1EMP, P2YRBORN1, P2USYR1) refer. The parent questionnaire respondent is always “parent 1” except in cases where (1) the respondent is a grandparent, other adult relative, or other nonparent guardian, and (2) there are two biological, adoptive, step, or foster parents in the home. In such cases (i.e., where P2RELSHP > 8 and P2HHPARENT = 2), “parent 1” and “parent 2” are the parents identified in P2HHPARREL1 and P2HHPARREL2.

**X2P1RELATION**

Indicates the relationship of the first parent to the sample member; that is, the parent to whom all “parent 1” variables (e.g., X2P1RELATION, X2PAR1EMP, P2YRBORN1, P2USYR1) refer. X2P1RELATION is pulled from the first follow-up parent questionnaire, and if missing it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2P1RELATION is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2P1RELATION can be identified using X2P1RELAT\_IM = 2).

**X2PAR1EDU**

Indicates the highest level of education achieved by parent 1. X2PAR1EDU is pulled from the first follow-up parent questionnaire, and if missing it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2PAR1EDU is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2PAR1EDU can be identified using X2PAR1EDU\_IM = 2).

**X2PAR1EMP**

Indicates the employment status of parent 1. X2PAR1EMP is pulled from the first follow-up parent questionnaire, and if missing it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2PAR1EMP is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2PAR1EMP can be identified using X2PAR1EMP\_IM = 2).

**X2PAR1OCC2**

X2PAR1OCC2 stores the 2-digit Occupational Information Network (O\*NET) code of parent 1’s current (or most recent) job. Use X2PAR1EMP to distinguish whether the code stored in X2PAR1OCC2 refers to a current or most recent job. X2PAR1OCC2 is pulled from the first follow-up parent questionnaire, and if missing or uncodeable it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2PAR1OCC2 is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2PAR1OCC2 can be identified using



X2PAR1OCC\_IM = 2). See also <http://www.onetcenter.org> for further information on the O\*NET taxonomy.

**X2PAR1OCC6**

X2PAR1OCC6 stores the 6-digit O\*NET code of parent 1's current (or most recent) job. Use X2PAR1EMP to distinguish whether the code stored in X2PAR1OCC6 refers to a current or most recent job. See also <http://www.onetcenter.org> for further information on the O\*NET taxonomy. Please note that if the value of X2PAR1OCC2 was imputed to a value of "XX," X2PAR1OCC6 is imputed to a value of "XX0000" (as opposed to a more specifically imputed value of "XXXXXX"). Imputed values in these variables can be identified by using the variable X2PAR1OCC\_IM.

**X2PAR1RACE**

Characterizes the race/ethnicity of parent 1. X2PAR1RACE summarizes the following six dichotomous race/ethnicity variables drawn from the parent questionnaire: P2HISP1, P2WHITE1, P2BLACK1, P2ASIAN1, P2PACISLE1, and P2AMINDIAN1.

**X2P2RELATION**

Indicates the relationship of the second parent to the sample member; that is, the parent to whom all "parent 2" variables (e.g., X2P2RELATION, X2PAR2EMP, P2YRBORN1, P2USYR1) refer. X2P2RELATION is pulled from the first follow-up parent questionnaire, and if missing it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2P2RELATION is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2P2RELATION can be identified using X2P2RELAT\_IM = 2).

**X2PAR2EDU**

Indicates the highest level of education achieved by parent 2. X2PAR2EDU is pulled from the first follow-up parent questionnaire, and if missing it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2PAR2EDU is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2PAR2EDU can be identified using X2PAR2EDU\_IM = 2).

**X2PAR2EMP**

Indicates the employment status of parent 2. X2PAR2EMP is pulled from the first follow-up parent questionnaire, and if missing it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2PAR2EMP is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2PAR2EMP can be identified using X2PAR2EMP\_IM = 2).

**X2PAR2OCC2**

X2PAR2OCC2 stores the 2-digit O\*NET code of parent 2's current (or most recent) job. Use X2PAR2EMP to distinguish whether the code stored in X2PAR2OCC2 refers to a current or most recent job. X2PAR2OCC2 is pulled from the first follow-up parent questionnaire, and if missing or uncodeable it is imputed from the base-year parent questionnaire and the first follow-up student questionnaire. X2PAR2OCC2 is statistically imputed for first follow-up student sample members when all sources of parent data are missing (imputed values in X2PAR2OCC2 can be identified using X2PAR2OCC\_IM=2). See also <http://www.onetcenter.org> for further information on the O\*NET taxonomy.

**X2PAR2OCC6**

X2PAR2OCC6 stores the 6-digit O\*NET code of parent 2's current (or most recent) job. Use X2PAR2EMP to distinguish whether the code stored in X2PAR2OCC6 refers to a current or most recent job. See also <http://www.onetcenter.org> for further information on the O\*NET taxonomy. Please note that if the value of X2PAR2OCC2 was imputed to a value of "XX," X2PAR2OCC6 is imputed to a value of "XX0000" (as opposed to a more specifically imputed value of "XXXXXX"). Imputed values in these variables can be identified by using the variable X2PAR2OCC\_IM = 2.

**X2PAR2RACE**

Characterizes the race/ethnicity of parent 2. X2PAR2RACE summarizes the following six dichotomous race/ethnicity variables drawn from the parent questionnaire: P2HISP2, P2WHITE2, P2BLACK2, P2ASIAN2, P2PACISLE2, and P2AMINDIAN2.

**X2PAREDU**

Indicates the highest level of education achieved by either parent 1 or parent 2. X2PAREDU is constructed from two composite variables (X2PAR1EDU and X2PAR2EDU) which can contain imputed values; if either of these two input variables are imputed and the highest level of education could not be inferred from nonimputed data, then the imputation flag for X2PAREDU (X2PAREDU\_IM) is set to 2.

**X2PARPATTERN**

This variable indicates (1) whether there are one or two parents in sample member's home, (2) the relationship of those parent(s) to the sample member, and (3) if there are two parents in the home, the relationship of those parents to each other. This variable was derived from two composite variables (X2P1RELATION and X2P2RELATION) which contain imputed values, as well as one parent questionnaire variable (P2HHTIME) which was imputed, when missing, for the purposes of constructing X2PARPATTERN (although the imputed values of P2HHTIME are not delivered).

Note: Combined "Bio/adoptive mother and non-partner guardian" with "Bio/adoptive mother and non-bio/adoptive partner" into "Bio/adoptive mother and other guardian" and combined

“Bio/adoptive father and non-partner guardian” with “Bio/adoptive father and non-bio/adoptive partner” into “Bio/adoptive father and other guardian” on the public use file. (“Other guardian” includes stepparent, foster parent, partner, grandparent, and other relative, as well as other guardian.)

**X2MOMRESP**

Indicates whether the first follow-up parent questionnaire respondent is a biological, adoptive, or stepmother. X2MOMRESP is derived from three composite variables (X2P1RELATION, X2P2RELATION, and X2PARRESP).

**X2MOMREL**

Indicates whether there is a biological, adoptive, or stepmother in the sample member’s household identified in the first follow-up parent questionnaire. X2MOMREL is derived from two composite variables (X2P1RELATION and X2P2RELATION) which can contain imputed values; if either of these two input variables is imputed and the presence of a mother in the household could not be determined from unimputed data, then the imputation flag for X2MOMREL (X2MOMREL\_IM) is set to 2.

**X2MOMEDU**

For sample members who have a biological, adoptive, or stepmother living in their household, X2MOMEDU indicates the highest level of education achieved by that biological, adoptive, or stepmother identified in the first follow-up parent questionnaire. X2MOMEDU is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1EDU, and X2PAR2EDU) which can contain imputed values; if any of these four input variables are imputed, then the imputation flag for X2MOMEDU (X2MOMEDU\_IM) is set to 2.

**X2MOMEMP**

For sample members who have a biological, adoptive, or stepmother living in their household, X2MOMEMP indicates the employment status of that biological, adoptive, or stepmother identified in the first follow-up parent questionnaire. X2MOMEMP is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1EMP, and X2PAR2EMP) which can contain imputed values; if any of these four input variables are imputed and the mother’s employment could not be determined from unimputed data, then the imputation flag for X2MOMEMP (X2MOMEMP\_IM) is set to 2.

**X2MOMOCC2**

For sample members who have a biological, adoptive, or stepmother living in their household, X2MOMOCC2 stores the 2-digit O\*NET code for that biological, adoptive, or stepmother’s current (or most recent) job identified in the first follow-up parent questionnaire. Use X2MOMEMP to distinguish whether the code stored in X2MOMOCC2 refers to a current job or most recent job. X2MOMOCC2 is derived from four composite

variables (X2P1RELATION, X2P2RELATION, X2PAR1OCC2, and X2PAR2OCC2) which can contain imputed values; if any of these four input variables are imputed and the mother's occupation could not be determined from unimputed data, then the imputation flag for mother's occupation (X2MOMOCC\_IM) is set to 2. See also <http://www.onetcenter.org/> for further information on the O\*NET taxonomy.

**X2MOMOCC6**

For sample members who have a biological, adoptive, or stepmother living in their household, X2MOMOCC6 stores the 6-digit O\*NET code for that biological, adoptive, or stepmother's current (or most recent) job identified in the first follow-up parent questionnaire. Use X2MOMEMP to distinguish whether the code stored in X2MOMOCC6 refers to a current job or most recent job. X2MOMOCC6 is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1OCC6, and X2PAR2OCC6), all of which can contain imputed values; if any of these input variables are imputed and the mother's occupation could not be determined from unimputed data, then the imputation flag for Mother's occupation (X2MOMOCC\_IM) is set to 2. See also <http://www.onetcenter.org/> for further information on the O\*NET taxonomy.

**X2MOMRACE**

For sample members who have a biological, adoptive, or stepmother living in their household, X2MOMRACE characterizes the race/ethnicity of that biological, adoptive, or stepmother identified in the first follow-up parent questionnaire. X2MOMRACE is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1RACE, and X2PAR2RACE).

**X2DADRESP**

Indicates whether the parent questionnaire respondent is a biological, adoptive, or stepfather identified in the first follow-up parent questionnaire. X2DADRESP is derived from three composite variables (X2P1RELATION, X2P2RELATION, and X2PARRESP).

**X2DADREL**

Indicates whether there is a biological, adoptive, or stepfather in the sample member's household identified in the first follow-up parent questionnaire. X2DADREL is derived from two composite variables (X2P1RELATION and X2P2RELATION) which can contain imputed values; if either of these two input variables is imputed and the presence of a father in the household could not be determined from unimputed data, then the imputation flag for X2DADREL (X2DADREL\_IM) is set to 2.

**X2DADEDU**

For sample members who have a biological, adoptive, or stepfather living in their household, X2DADEDU indicates the highest level of education achieved by that biological, adoptive, or stepfather identified in the first follow-up parent questionnaire. X2DADEDU is derived

from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1EDU, and X2PAR2EDU) which contain imputed values; if any of these four input variables are imputed, then the imputation flag for X2DADEDU (X2DADEDU\_IM) is set to 2.

**X2DADEMP**

For sample members who have a biological, adoptive, or stepfather living in their household, X2DADEMP indicates the employment status of that biological, adoptive, or stepfather identified in the first follow-up parent questionnaire. X2DADEMP is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1EMP, and X2PAR2EMP) which contain imputed values; if any of these four input variables are imputed and the father's employment could not be determined from unimputed data, then the imputation flag for X2DADEMP (X2DADEMP\_IM) is set to 2.

**X2DADOCC2**

For sample members who have a biological, adoptive, or stepfather living in their household, X2DADOCC2 stores the 2-digit O\*NET code for that biological, adoptive, or stepfather's current (or most recent) job identified in the first follow-up parent questionnaire. Use X2DADEMP to distinguish whether the code stored in X2DADOCC2 refers to a current job or most recent job. X2DADOCC2 is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1OCC2, and X2PAR2OCC2) which contain imputed values; if any of these four input variables are imputed, then the imputation flag for father's occupation (X2DADOCC\_IM) is set to 2. See also <http://www.onetcenter.org/> for further information on the O\*NET taxonomy.

**X2DADOCC6**

For sample members who have a biological, adoptive, or stepfather living in their household, X2DADOCC6 stores the 6-digit O\*NET code for that biological, adoptive, or stepfather's current (or most recent) job identified in the first follow-up parent questionnaire. Use X2DADEMP to distinguish whether the code stored in X2DADOCC6 refers to a current job or most recent job. X2DADOCC6 is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1OCC6, and X2PAR2OCC6), all of which contain imputed values; if any of these input variables are imputed, then the imputation flag for father's occupation (X2DADOCC6\_IM) is set to 2. See also <http://www.onetcenter.org/> for further information on the O\*NET taxonomy.

**X2DADRACE**

For sample members who have a biological, adoptive, or stepfather living in their household, X2DADRACE characterizes the race/ethnicity of that biological, adoptive, or stepfather identified in the first follow-up parent questionnaire. X2DADRACE is derived from four composite variables (X2P1RELATION, X2P2RELATION, X2PAR1RACE, and X2PAR2RACE).

**X2HHNUMBER**

Indicates the total number of people living in the sample member's household, as reported by the parent questionnaire respondent. X2HHNUMBER is the sum of P2HHLT18 (number of household members less than 18 years of age) and P2HHGE18 (number of household members 18 years or older), both of which are based on questions from the base-year parent questionnaire which accepted only single-digit responses (i.e., the two input variables for this composite are essentially top-coded at 9). If either of these two input variables stores a value of 9, X2HHNUMBER will store a value (98 or 99) indicating that one or both of the input variables was top-coded; X2HHNUMBER values of 98 and 99 therefore refer to households where the exact number of household members cannot be determined, but can be safely assumed to be 9 or greater. The two input variables for this composite were imputed for the purposes of constructing X2HHNUMBER (though the imputed values of P2HHLT18 and P2HHGE18 are not delivered). If either of these two inputs is imputed, then the imputation flag for X2HHNUMBER (X2HHNUMB\_IM) is set to 2.

**X2FAMINCOME**

X2FAMINCOME is a categorical variable which indicates the sample member's family income from all sources in 2011, as reported by the parent questionnaire respondent. If missing from the parent questionnaire, X2FAMINCOME is statistically imputed (imputed values in X2FAMINCOME can be identified by using X2FAMINC\_IM = 2).

**X2POVERTY**

X2POVERTY indicates whether the sample member's family was at/above or below the 2011 poverty threshold, as set forth by the U.S. Census Bureau. Both family income and household size are considered when calculating whether a family is at/above or below the poverty threshold. If X2FAMINCOME or X2HHNUMBER are imputed, then the imputation flag for the poverty variables (X2POVERTY\_IM) is set to 2. See <http://www.census.gov/hhes/www/poverty/data/threshld/> for further detail on 2011 poverty thresholds.

**X2POVERTY130**

X2POVERTY130 indicates whether the sample member's family was at/above or below 130% of the 2011 poverty threshold, as set forth by the U.S. Census Bureau. Both family income and household size are considered when calculating whether a family is at/above or below 130% of the poverty threshold. If X2FAMINCOME or X2HHNUMBER are imputed, then the imputation flag for the poverty variables (X2POVERTY\_IM) is set to 2. See <http://www.census.gov/hhes/www/poverty/data/threshld/> for further detail on 2011 poverty thresholds.

**X2POVERTY185**

X2POVERTY185 indicates whether the sample member's family was at/above or below 185% of the 2011 poverty threshold, as set forth by the U.S. Census Bureau. Both family

income and household size are considered when calculating whether a family is at/above or below 185% of the poverty threshold. If X2FAMINCOME or X2HHNUMBER are imputed, then the imputation flag for the poverty variables (X2POVERTY\_IM) is set to 1. See <http://www.census.gov/hhes/www/poverty/data/threshld/> for further detail on 2011 poverty thresholds.

## **X2SES**

This composite variable is used to measure a construct for socioeconomic status. X2SES is calculated using parent/guardians' education (X2PAR1EDU and X2PAR2EDU), occupation (X2PAR1OCC2 and X2PAR2OCC2), and family income (X2FAMINCOME). For cases with nonresponding parent/guardians, five imputed values are generated (X2SES1–X2SES5), X2SES is computed as the average of the five imputed values, and the imputation flag is set as X2SES\_IM = 3 (values for parent/guardian education, occupation, and income are set to -8). When education, occupation, or family income are imputed using other information provided by the responding parent/guardian, X2SES is constructed from the combination of actual and imputed parent/guardian values. For these cases, the values of X2SES1–X2SES5 are equivalent to X2SES and X2SES\_IM = 2. Otherwise, the responding parent/guardian provided responses for all input variables so that the values of X2SES1–X2SES5 are again equivalent to X2SES and X2SES\_IM = 0. For more information on this variable, please refer to section 7.3.2.2 and appendix k of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361).

## **X2SESQ5**

This variable is the quintile of X2SES, weighted using the student weight (W2STUDENT). For more information on this variable, please refer to section 7.3.2.2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361).

## **X2SES\_U**

This composite variable is used to measure a construct for socioeconomic status. X2SES\_U is calculated using parent/guardians' education (X2PAR1EDU and X2PAR2EDU), occupation (X2PAR1OCC2 and X2PAR2OCC2), family income (X2FAMINCOME), and school urbanicity (X2LOCALE). For cases with nonresponding parent/guardians, five imputed values of are generated (X2SES1\_U–X2SES5\_U), X2SES\_U is computed as the average of the five imputed values, and the imputation flag is set as X2SES\_IM = 3 (values for parent/guardian education, occupation, and income are set to -8). When education, occupation, or family income are imputed using other information provided by the responding parent/guardian, X2SES\_U is constructed from the combination of actual and imputed parent/guardian values. For these cases, the values of X2SES1\_U–X2SES5\_U are equivalent to X2SES\_U and X2SES\_IM = 2. Otherwise, the responding parent/guardian provided responses for all input variables so that the values of X2SES1\_U–X2SES5\_U are again equivalent to X2SES\_U and X2SES\_IM = 0. For more information on this variable,

please refer to section 7.3.2.2 and appendix k of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361).

#### **X2SESQ5\_U**

This variable is the quintile of X2SES\_U, weighted using the student weight (W2STUDENT). For more information on this variable, please refer to section 7.3.2.2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361).

#### **X2REPEATG11**

Categorized version of the continuous administrator variable A2REPEAT11. This variable indicates the percentage of the 2010–11 11th-grade class that did not accumulate enough credits to be promoted to 12th grade for the 2011–012 school year.

#### **X2RETURN11**

Categorized version of the continuous administrator variable A2RETURN11. This variable indicates the percentage of September 2010 11th-graders who returned in September 2011, regardless of grade level.

#### **X2BEHAVEIN**

This variable is a scale of the students answers about in-school behavior within the last 6 months. Higher values represent more positive assessments of the school's problems. The variable was created through principal components factor analysis and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2LATESCH, S2SKIPCLASS, S2INSCHSUSP, S2ABSENT, S2WOHWDN, S2WOPAPER, and S2WOBOOK.

#### **X2MEFFORT**

This variable is a scale of the student's answers about math effort. Higher values represent more positive assessments of the school's problems. The variable was created through principal components factor analysis and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2MATTENTION, S2MONTIME, S2MSTOPTRYING, and S2MGETBY.

#### **X2SEFFORT**

This variable is a scale of the student's answers about science effort. Higher values represent more positive assessments of the school's problems. The variable was created through principal components factor analysis and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2SATTENTION, S2SONTIME, S2SSTOPTRYING, and S2SGETBY.

#### **X2PROBLEM**

This variable is a scale of the administrator's assessment of his or her school's problems. Higher values represent more positive assessments of the school's problems. The variable



was created through principal components factor analysis and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were A2TARDY, A2STUABSENT, A2CUT, A2DROPOUT, A2APATHY, A2PRNTINV, A2RESOURCES, A2UNPREP, and A2HEALTH.

**X2MTHID**

This variable is a scale of the sample member's math identity. Sample members who tend to agree with the statements "You see yourself as a math person" or "Others see me as a math person" will have higher values for X2MTHID. This variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2MPERSON1 and S2MPERSON2. Only respondents who provided a full set of responses were assigned a scale value. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2MTHUTI**

This variable is a scale of the sample member's perception of the utility of mathematics; higher values represent perceptions of greater mathematics utility. The variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2MUSELIFE, S2MUSECLG, and S2MUSEJOB. Only respondents who provided a full set of responses were assigned a scale value. If the student indicated that he or she was not taking a fall math class, this variable is set to -7. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2MTHEFF**

This variable is a scale of the sample member's math self-efficacy; higher X2MTHEFF values represent higher math self-efficacy. The variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2MTESTS, S2MTEXTBOOK, S2MSKILLS, and S2MASSEXCL. Only respondents who provided a full set of responses were assigned a scale value. If the student indicated that he or she was not taking a fall math class, this variable is set to -7. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2MTHINT**

This variable is a scale of the sample member's interest in his or her base-year math course; higher values represent greater interest in the base-year math course. The variable was

created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2MENJOYING, S2MWASTE, S2MBORING, S2FAVSUBJ, S2LEASTSUBJ, and S2MENJOYS. Only respondents who provided a full set of responses were assigned a scale value. If the student indicated that he or she was not taking a fall math class, this variable is set to -7. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

### **X2SCIID**

This variable is a scale of the sample member's science identity. Sample members who tend to agree with the statements "You see yourself as a science person" or "Others see me as a science person" will have higher values for X2SCIID. The variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2SPERSON1 and S2SPERSON2. Only respondents who provided a full set of responses were assigned a scale value. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

### **X2SCIUTI**

This variable is a scale of the sample member's perception of the utility of science; higher values represent perceptions of greater science utility. The variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2SUSELIFE, S2SUSECLG, and S2SUSEJOB. Only respondents who provided a full set of responses were assigned a scale value. If the student indicated that he or she was not taking a fall science class, this variable is set to -7. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

### **X2SCIEFF**

This variable is a scale of the sample member's science self-efficacy; higher X2SCIEFF values represent higher science self-efficacy. The variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2TESTS, S2TEXTBOOK, S2SSKILLS, and S2SASSEXCL. Only respondents who provided a full set of responses were assigned a scale value. If the student indicated that he or she was not taking a fall science class, this variable is set to -7. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2SCIINT**

This variable is a scale of the sample member's interest in his or her base-year science course; higher values represent greater interest in the base-year science course. The variable was created through principal components factor analysis (weighted by W2STUDENT) and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were S2SENJOYING, S2SWASTE, S2SBORING, S2FAVSUBJ, S2LEASTSUBJ, and S2SENJOYS. Only respondents who provided a full set of responses were assigned a scale value. If the student indicated that he or she was not taking a fall science class, this variable is set to -7. The coefficient of reliability (alpha) for the scale is .65. For more information on this scale score, please see chapter 5 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2STU30OCC6**

X2STU30OCC6 stores the 6-digit O\*NET code of the job the sample member expects or plans to have at age 30. The occupation text is stored in S2OCC30 and X2STU30OCC6 (6-digit code) and X2STU30OCC2 (2-digit code) are the coded versions of that occupation text. If an occupation cannot be coded to the 6-digit level but can be coded to the 2-digit level, the 2 digit code is also stored in X2STU30OCC6 with a value of "XX0000." See <http://www.onetcenter.org/> for further information on the O\*NET taxonomy.

**X2STU30OCC2**

X2STU30OCC2 stores the 2-digit O\*NET code of the job the sample member expects or plans to have at age 30. The occupation text is stored in S2OCC30 and X2STU30OCC6 (6-digit code) and X2STU30OCC2 (2-digit code) are the coded versions of that occupation text. If an occupation cannot be coded to the 6-digit level but can be coded to the 2-digit level, the 2 digit code is also stored in X2STU30OCC6 with a value of "XX0000." See <http://www.onetcenter.org/> for further information on the O\*NET taxonomy.

**X2PAREDEXPCT**

X2PAREDEXPCT indicates the highest level of education the parent questionnaire respondent expects the sample member to achieve. X2PAREDEXPCT is taken from the base-year parent questionnaire; if missing from the base-year parent questionnaire, X2PAREDEXPCT is statistically imputed (imputed values in X2PAREDEXPCT can be identified using X2PAREDEX\_IM = 2).

**X2S2EARNNOHS**

Earnings, standardized as an annual wage, that the student thinks his or her starting pre-tax income would be in first job having not earned a high school diploma.

**X2S2EARNHS**

Earnings, standardized as an annual wage, that the student thinks his or her starting pre-tax income would be in first job having earned a high school diploma.

**X2S2EARNOCC**

Earnings, standardized as an annual wage, that the student thinks his or her starting pre-tax income would be in first job having earned a certificate or diploma from a school that provides occupational training.

**X2S2EARN2YPUB**

Earnings, standardized as an annual wage, that the student thinks his or her starting pre-tax income would be in first job having earned a 2-year community college diploma.

**X2S2EARN4Y**

Earnings, standardized as an annual wage, that the student thinks his or her starting pre-tax income would be in first job having earned a 4-year college diploma.

**X2PEARNNOHS**

Earnings, standardized as an annual wage, that the parent respondent thinks the sample member's starting pre-tax income would be in first job having not earned a high school diploma.

**X2PEARNHS**

Earnings, standardized as an annual wage, that the parent respondent thinks the sample member's starting pre-tax income would be in first job having earned a high school diploma.

**X2PEARNOCC**

Earnings, standardized as an annual wage, that the parent respondent thinks the sample member's starting pre-tax income would be in first job having earned a certificate or diploma from a school that provides occupational training.

**X2PEARN2YPUB**

Earnings, standardized as an annual wage, that the parent respondent thinks the sample member's starting pre-tax income would be in first job having earned a 2-year community college diploma.

**X2PEARN4Y**

Earnings, standardized as an annual wage, that the parent respondent thinks the sample member's starting pre-tax income would be in first job having earned a 4-year college diploma.

**X2TESTSTAT**

X2TESTSTAT indicates whether first follow-up HSLS:09 mathematics assessment data are available on the data file for any given sample member.

**X2TESTDATE**

Month and year the sample member completed the first follow-up HSLS:09 mathematics assessment.

**X2SQSTAT**

X2SQSTAT indicates whether a complete first follow-up student interview is available on the data file; X2SQSTAT also indicates the mode of the first follow-up student interview, and whether the student responded in-school or out-of-school. For an explanation of a responding case, please see chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2SQDATE**

Month and year the sample member responded to the first follow-up student interview.

**X2SQINCAPABL**

Indicates whether the sample member was questionnaire incapable for the first follow-up interview, and if so, the reason for being assigned a status of questionnaire incapable.

**X2PQSTAT**

X2PQSTAT indicates whether a complete first follow-up parent interview is available on the data file; it also indicates the mode of the first follow-up parent interview, and whether the parent responded to a full-length or abbreviated interview. For an explanation of a responding case, please see chapter 2 of the HSLS:09 First Follow-up Data File Documentation (NCES 2014-361).

**X2PQDATE**

Month and year the sample member's parent responded to the first follow-up parent questionnaire.

**X2PQLANG**

Indicates whether the parent respondent completed an English or Spanish first follow-up parent questionnaire.

**X2CONTROL**

X2CONTROL identifies the sample member's first follow-up school as being a Public, Catholic, or Other Private School, as indicated in the source data for sampling: the CCD 2011–2012 and the PSS 2011–2012.

**X2LOCALE**

X2LOCALE characterizes the locale (urbanicity) of the sample member's first follow-up school as either City, Suburb, Town, or Rural, as indicated in the source data for sampling: the CCD 2011–2012 and the PSS 2011–2012.

**X2REGION**

X2REGION identifies the geographic region of the sample member's first follow-up school, as indicated in the source data for sampling: the CCD 2011–2012 and the PSS 2011–2012.

### **X2CENDIV**

X2CENDIV identifies the census geographic division of the sample member's first follow-up school, as indicated in the source data for sampling: the CCD 2011–2012 and the PSS 2011–2012.

### **X2STATE**

X2STATE is the FIPS code for the first follow-up school state.

### **X2FREELUNCH**

Categorized version of the continuous administrator questionnaire variable A2FREELUNCH. This variable indicates the percentage of students enrolled in the school in 2011 who receive free or reduced-price lunch.

### **S2CURCONTROL**

S2CURCONTROL identifies the sample member's current school as being a Public, Catholic, or Other Private School, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2CURLOCALE**

S2CURLOCALE characterizes the locale (urbanicity) of the sample member's current school as either City, Suburb, Town, or Rural, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2CURREGION**

S2CURREGION identifies the geographic region of the sample member's current school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2CURCENDIV**

S2CURCENDIV identifies the census geographic division of the sample member's current school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2CURSTATE**

S2CURSTATE is the FIPS code for the current school state.

### **S2LASTCONTROL**

S2LASTCONTROL identifies the sample member's last school as being a Public, Catholic, or Other Private School, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2LASTLOCALE**

S2LASTLOCALE characterizes the locale (urbanicity) of the sample member's last school as either City, Suburb, Town, or Rural, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2LASTREGION**

S2LASTREGION identifies the geographic region of the sample member's last school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2LASTCENDIV**

S2LASTCENDIV identifies the census geographic division of the sample member's last school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2LASTSTATE**

S2LASTSTATE is the FIPS code for the last school state.

**S2OTH1CONTROL**

S2OTH1CONTROL identifies the sample member's first other school as being a Public, Catholic, or Other Private School, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2OTH1LOCALE**

S2OTH1LOCALE characterizes the locale (urbanicity) of the sample member's first other school as either City, Suburb, Town, or Rural, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2OTH1REGION**

S2OTH1REGION identifies the geographic region of the sample member's first other school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2OTH1CENDIV**

S2OTH1CENDIV identifies the census geographic division of the sample member's first other school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2OTH1STATE**

S2OTH1STATE is the FIPS code for the first other school state.

**S2OTH2CONTROL**

S2OTH2CONTROL identifies the sample member's second other school as being a Public, Catholic, or Other Private School, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

**S2OTH2LOCALE**

S2OTH2LOCALE characterizes the locale (urbanicity) of the sample member's second other school as either City, Suburb, Town, or Rural, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2OTH2REGION**

S2OTH2REGION identifies the geographic region of the sample member's second other school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2OTH2CENDIV**

S2OTH2CENDIV identifies the census geographic division of the sample member's second other school, as indicated in the student questionnaire: the CCD 2011–2012 and the PSS 2011–2012.

### **S2OTH2STATE**

S2OTH2STATE is the FIPS code for the second other school state.

### **X2AQSTAT**

X2AQSTAT indicates whether a complete base-year administrator interview is available on the data file; X2AQSTAT also indicates the mode of the first follow-up administrator interview, and whether the administrator responded to a full-length or abbreviated interview. For an explanation of a responding case, please see chapter 2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361).

### **X2AQDATE**

Month and year the school administrator responded to the first follow-up administrator questionnaire.

### **X2AQDESIGNEE**

Indicates whether an administrator designee completed the applicable portion of the administrator questionnaire. An administrator designee was allowed to complete all sections of the administrator questionnaire except for the “Goals and Background” section (i.e., administrator questionnaire variables with a variable label prefix of “A2 Dxxx”), which was the administrator was required to complete him- or herself.

### **X2CQSTAT**

X2CQSTAT indicates whether a complete base-year counselor interview is available on the data file; X2CQSTAT also indicates the mode of the first follow-up counselor interview. For an explanation of a responding case, please see chapter 2 of the HSLs:09 First Follow-up Data File Documentation (NCES 2014-361).

### **X2CQDATE**

Month and year the school counselor responded to the first follow-up counselor questionnaire.



**X2SCHOOLCLI**

This variable is a scale of the administrator's assessment of his or her school's climate. Higher values represent more positive assessments of the school's climate (i.e., fewer problems are indicated). The variable was created through principal components factor analysis and standardized to a mean of 0 and standard deviation of 1. The inputs to this scale were A2CONFLICT, A2ROBBERY, A2VANDALISM, A2DRUGUSE, A2ALCOHOL, A2DRUGSALE, A2WEAPONS, A2PHYSABUSE, A2TENSION, A2CYBERBULLY, A2OTHERBULLY, A2VERBAL, A2MISBEHAVE, A2DISRESPECT, and A2GANG.

**X2TXMTH1**

Mathematics theta score multiple imputation value (1 of 5). When the math test data were missing for student survey respondents, the math theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The theta score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated scale score which represents status with respect to achievement on a particular criterion set of test items). The associated theta score is X2TXMTH. The standardized form of the theta score is X2TXMTSCOR.

**X2TXMTH2**

Mathematics theta score multiple imputation value (2 of 5). When the math test data were missing for student survey respondents, the math theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The theta score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated scale score which represents status with respect to achievement on a particular criterion set of test items). The associated theta score is X2TXMTH. The standardized form of the theta score is X2TXMTSCOR.

**X2TXMTH3**

Mathematics theta score multiple imputation value (3 of 5). When the math test data were missing for student survey respondents, the math theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The theta score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated scale score which represents status with respect to achievement on a particular criterion set of test items). The associated theta score is X2TXMTH. The standardized form of the theta score is X2TXMTSCOR.

#### **X2TXMTH4**

Mathematics theta score multiple imputation value (4 of 5). When the math test data were missing for student survey respondents, the math theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The theta score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated scale score which represents status with respect to achievement on a particular criterion set of test items). The associated theta score is X2TXMTH. The standardized form of the theta score is X2TXMTSCOR.

#### **X2TXMTH5**

Mathematics theta score multiple imputation value (5 of 5). When the math test data were missing for student survey respondents, the math theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The theta score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (fall 2009 9th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated scale score which represents status with respect to achievement on a particular criterion set of test items). The associated theta score is X2TXMTH. The standardized form of the theta score is X2TXMTSCOR.

#### **X2TXMSEM1**

Mathematics standard error of measurement multiple imputation value (1 of 5). When the math test data were missing for student survey respondents, the math standard error of measurement (SEM) for the raw theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The standard error of measurement for the raw theta score indicates the precision in the ability estimate. It is calculated from the sum of item information functions for each item answered by each student. Unlike the classical standard error of measurement, which is a constant, the IRT standard error varies across the scale-score continuum. It is typically smaller for students whose theta score falls toward the center of the distribution because more students answered the items with average difficulty. However, students whose theta scores fall at the extremes of the distribution tend to have a higher SEM because their scores are based on items answered by fewer students overall. The associated standard error of measurement is X2TXMSEM.

#### **X2TXMSEM2**

Mathematics standard error of measurement multiple imputation value (2 of 5). When the math test data were missing for student survey respondents, the math standard error of measurement (SEM) for the raw theta score was imputed with multiple imputation technique,

with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The standard error of measurement for the raw theta score indicates the precision in the ability estimate. It is calculated from the sum of item information functions for each item answered by each student. Unlike the classical standard error of measurement, which is a constant, the IRT standard error varies across the scale-score continuum. It is typically smaller for students whose theta score falls toward the center of the distribution because more students answered the items with average difficulty. However, students whose theta scores fall at the extremes of the distribution tend to have a higher SEM because their scores are based on items answered by fewer students overall. The associated standard error of measurement is X2TXMSEM.

**X2TXMSEM3**

Mathematics standard error of measurement multiple imputation value (3 of 5). When the math test data were missing for student survey respondents, the math standard error of measurement (SEM) for the raw theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The standard error of measurement for the raw theta score indicates the precision in the ability estimate. It is calculated from the sum of item information functions for each item answered by each student. Unlike the classical standard error of measurement, which is a constant, the IRT standard error varies across the scale-score continuum. It is typically smaller for students whose theta score falls toward the center of the distribution because more students answered the items with average difficulty. However, students whose theta scores fall at the extremes of the distribution tend to have a higher SEM because their scores are based on items answered by fewer students overall. The associated standard error of measurement is X2TXMSEM.

**X2TXMSEM4**

Mathematics standard error of measurement multiple imputation value (4 of 5). When the math test data were missing for student survey respondents, the math standard error of measurement (SEM) for the raw theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The standard error of measurement for the raw theta score indicates the precision in the ability estimate. It is calculated from the sum of item information functions for each item answered by each student. Unlike the classical standard error of measurement, which is a constant, the IRT standard error varies across the scale-score continuum. It is typically smaller for students whose theta score falls toward the center of the distribution because more students answered the items with average difficulty. However, students whose theta scores fall at the extremes of the distribution tend to have a higher SEM because their scores are based on items answered by fewer students overall. The associated standard error of measurement is X2TXMSEM.

### **X2TXMSEM5**

Mathematics standard error of measurement multiple imputation value (5 of 5). When the math test data were missing for student survey respondents, the math standard error of measurement (SEM) for the raw theta score was imputed with multiple imputation technique, with five imputed values. X2TXMTH is the mean of X2TXMTH1-5. The standard error of measurement for the raw theta score indicates the precision in the ability estimate. It is calculated from the sum of item information functions for each item answered by each student. Unlike the classical standard error of measurement, which is a constant, the IRT standard error varies across the scale-score continuum. It is typically smaller for students whose theta score falls toward the center of the distribution because more students answered the items with average difficulty. However, students whose theta scores fall at the extremes of the distribution tend to have a higher SEM because their scores are based on items answered by fewer students overall. The associated standard error of measurement is X2TXMSEM.

### **X2SES1**

This variable contains the imputed value (1 of 5) for X2SES, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES is the mean of X2SES1–X2SES5.

### **X2SES2**

This variable contains the imputed value (2 of 5) for X2SES, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES is the mean of X2SES1–X2SES5.

### **X2SES3**

This variable contains the imputed value (3 of 5) for X2SES, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES is the mean of X2SES1–X2SES5.

### **X2SES4**

This variable contains the imputed value (4 of 5) for X2SES, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES is the mean of X2SES1–X2SES5.

### **X2SES5**

This variable contains the imputed value (5 of 5) for X2SES, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES is the mean of X2SES1–X2SES5.

**X2SES1\_U**

This variable contains the imputed values (1 of 5) for X2SES\_U, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES\_U is the mean of X2SES1\_U–X2SES5\_U.

**X2SES2\_U**

This variable contains the imputed values (2 of 5) for X2SES\_U, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES\_U is the mean of X2SES1\_U–X2SES5\_U.

**X2SES3\_U**

This variable contains the imputed values (3 of 5) for X2SES\_U, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES\_U is the mean of X2SES1\_U–X2SES5\_U.

**X2SES4\_U**

This variable contains the imputed values (4 of 5) for X2SES\_U, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES\_U is the mean of X2SES1\_U–X2SES5\_U.

**X2SES5\_U**

This variable contains the imputed values (5 of 5) for X2SES\_U, generated through a multiple imputation model, for responding students without a responding parent/guardian. X2SES\_U is the mean of X2SES1\_U–X2SES5\_U.

**X2TXMATH\_IM**

Flag indicating whether the X2TXM variables were statistically imputed or not imputed.

**X2SEX\_IM**

Flag indicating whether the variable X2SEX was statistically imputed or not imputed.

**X2RACE\_IM**

Flag indicating whether the variable X2RACE was statistically imputed or not imputed.

**X2HISPAN\_IM**

Flag indicating whether the variable X2HISPANIC was statistically imputed or not imputed.

**X2NATIVE\_IM**

Flag indicating whether the variable X2NATIVELANG was statistically imputed or not imputed.

**X2P1RELAT\_IM**

Flag indicating whether the variable X2P1RELATION was statistically imputed or not imputed.

**X2P2RELAT\_IM**

Flag indicating whether the variable X2P2RELATION was statistically imputed or not imputed.

**X2PAR1EDU\_IM**

Flag indicating whether the variable X2PAR1EDU was statistically imputed or not imputed.

**X2PAR2EDU\_IM**

Flag indicating whether the variable X2PAR2EDU was statistically imputed or not imputed.

**X2PAREDU\_IM**

Flag indicating whether any of the inputs to X2PAREDU were statistically imputed or not imputed.

**X2PARPATT\_IM**

Flag indicating whether any of the inputs to X2PARPATTERN were statistically imputed or not imputed.

**X2PAR1EMP\_IM**

Flag indicating whether the variable X2PAR1EMP was statistically imputed or not imputed.

**X2PAR2EMP\_IM**

Flag indicating whether the variable X2PAR2EMP was statistically imputed or not imputed.

**X2PAR1OCC\_IM**

Flag indicating whether the variables X2PAR1OCC2/X2PAR1OCC6 were statistically imputed or not imputed.

**X2PAR2OCC\_IM**

Flag indicating whether the variables X2PAR2OCC2/X2PAR2OCC6 were statistically imputed or not imputed.

**X2MOMREL\_IM**

Flag indicating whether any of the inputs to X2MOMREL were statistically imputed or not imputed.

**X2MOMEDU\_IM**

Flag indicating whether any of the inputs to X2MOMEDU were statistically imputed or not imputed.

**X2MOMEMP\_IM**

Flag indicating whether any of the inputs to X2MOMEMP were statistically imputed or not imputed.

**X2MOMOCC\_IM**

Flag indicating whether any of the inputs to X2MOMOCC2 were statistically imputed or not imputed.

**X2DADREL\_IM**

Flag indicating whether any of the inputs to X2DADREL were statistically imputed or not imputed.

**X2DADEDU\_IM**

Flag indicating whether any of the inputs to X2DADEDU were statistically imputed or not imputed.

**X2DADEMP\_IM**

Flag indicating whether any of the inputs to X2DADEMP were statistically imputed or not imputed.

**X2DADOCC\_IM**

Flag indicating whether any of the inputs to X2DADOCC2 were statistically imputed or not imputed.

**X2HHNUMB\_IM**

Flag indicating whether one or both of the input variables P2HHLT18 and P2HHGE18 for the composite X2HHNUMBER were statistically imputed or not imputed.

**X2FAMINC\_IM**

Flag indicating whether the variable X2FAMINCOME was statistically imputed or not imputed.

**X2POVERTY\_IM**

Flag indicating whether the inputs to X2POVERTY/X2POVERTY130/X2POVERTY185 were statistically imputed or not imputed.

**X2SES\_IM**

Flag indicating whether the variables X2SES/X2SES\_U or any inputs to X2SES/X2SES\_U were statistically imputed.

**X2STUEDEX\_IM**

Flag indicating whether the variable X2STUEDEXPT was statistically imputed or not imputed.

**X2PAREDEX\_IM**

Flag indicating whether the variable X2PAREDEXPT was statistically imputed or not imputed.

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## **Appendix F.**

# **Standard Errors and Design Effects**

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The estimated standard errors (SEs), design effects (*deff*), and root design effects (*deft*) are presented in the following tables by study instrument and survey item. The student variables are displayed in tables F-1 through F-21 and the parent variables are included in tables F-22 through F-42.

Design effects (*deff*) measure the relative efficiency of a sample design using particular items collected in the survey. These values are calculated as the ratio of two estimated variances,

$$deff = \frac{\hat{V}_d(\hat{\theta})}{\hat{V}_s(\hat{\theta})},$$

for an estimated HSLs:09 characteristic  $\hat{\theta}$ . The numerator value,  $\hat{V}_d(\hat{\theta})$ , is the estimated variance that properly accounts for the complex sample design and the variability associated with the analytic weights. The denominator value,  $\hat{V}_s(\hat{\theta})$ , is the estimated variance from a simple random sample (*srs*) design of the same size. Like *deff*, root design effect or *deft* also provides a measure of relative efficiency of a sample design but in terms of the standard errors:

$$deft = \sqrt{\frac{\hat{V}_d(\hat{\theta})}{\hat{V}_s(\hat{\theta})}},$$

where the components are the same as defined for *deff*.

**Table F-1. Student standard errors and design effects—Overall**

| Survey item <sup>1</sup>                                                | Variable     | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 19,746 | 2.2      | 0.02                         | 0.01                                 | 5.56 | 2.36 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 17,430 | 40.2     | 0.96                         | 0.37                                 | 6.75 | 2.60 |
| Took an AP math course                                                  | S2APMATH     | 7,264  | 25.4     | 1.03                         | 0.51                                 | 4.08 | 2.02 |
| Took an AP science course                                               | S2APSCIENCE  | 7,267  | 33.0     | 1.14                         | 0.55                                 | 4.26 | 2.06 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 16,048 | 3.7      | 0.36                         | 0.15                                 | 5.75 | 2.40 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 20,551 | 5.5      | 0.01                         | 0.00                                 | 6.52 | 2.55 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 19,961 | 2.8      | 0.01                         | 0.01                                 | 5.42 | 2.33 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 11,287 | 1.8      | 0.01                         | 0.01                                 | 3.61 | 1.90 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 20,402 | 79.6     | 0.64                         | 0.28                                 | 5.16 | 2.27 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 20,007 | 2.3      | 0.01                         | 0.00                                 | 5.04 | 2.25 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 20,307 | 30.4     | 0.58                         | 0.32                                 | 3.23 | 1.80 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 20,357 | 2.0      | 0.00                         | 0.00                                 | 4.05 | 2.01 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 20,591 | 1.3      | 0.02                         | 0.01                                 | 6.50 | 2.55 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 19,983 | 2.1      | 0.01                         | 0.01                                 | 4.20 | 2.05 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 17,276 | 46.2     | 0.65                         | 0.38                                 | 2.91 | 1.71 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 20,072 | 2.5      | 0.01                         | 0.01                                 | 3.98 | 1.99 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 20,103 | 2.7      | 0.01                         | 0.01                                 | 3.46 | 1.86 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 20,032 | 1.7      | 0.01                         | 0.01                                 | 3.71 | 1.93 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 20,037 | 3.0      | 0.01                         | 0.01                                 | 3.43 | 1.85 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 14,639 | 3.7      | 0.01                         | 0.00                                 | 3.55 | 1.89 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 20,393 | 5.9      | 0.29                         | 0.16                                 | 3.07 | 1.75 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 19,820 | 2.1      | 0.01                         | 0.01                                 | 4.02 | 2.01 |

See notes at end of table

**Table F-1. Student standard errors and design effects—Overall—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 20,285 | 61.1     | 1.72                         | 0.64                                 | 7.21 | 2.69 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 15,628 | 51.8     | 0.80                         | 0.40                                 | 4.04 | 2.01 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 19,983 | 3.1      | 0.01                         | 0.01                                 | 4.17 | 2.04 |
| Participated in a science competition                                        | S2SCOMPETE              | 19,789 | 5.5      | 0.34                         | 0.16                                 | 4.42 | 2.10 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 20,046 | 2.5      | 0.01                         | 0.01                                 | 3.79 | 1.95 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 20,261 | 1.8      | 0.01                         | 0.01                                 | 4.59 | 2.14 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 20,241 | 1.2      | 0.01                         | 0.00                                 | 4.19 | 2.05 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 19,890 | 3.0      | 0.01                         | 0.01                                 | 3.18 | 1.78 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 20,342 | 1.5      | 0.01                         | 0.01                                 | 4.17 | 2.04 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 20,240 | 3.8      | 0.24                         | 0.13                                 | 3.31 | 1.82 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 20,240 | 1.9      | 0.15                         | 0.10                                 | 2.52 | 1.59 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 20,240 | 1.2      | 0.15                         | 0.08                                 | 3.64 | 1.91 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 20,240 | 1.6      | 0.19                         | 0.09                                 | 4.67 | 2.16 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 20,240 | 21.7     | 0.65                         | 0.29                                 | 5.04 | 2.25 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 20,240 | 27.9     | 0.59                         | 0.32                                 | 3.45 | 1.86 |
| Math theta (raw)                                                             | X2TXMTH                 | 15,500 | 1.1      | 0.02                         | 0.01                                 | 5.59 | 2.36 |
| Summary statistics                                                           |                         |        |          |                              |                                      |      |      |
| Mean                                                                         |                         |        |          |                              |                                      | 4.38 | 2.08 |
| Minimum                                                                      |                         |        |          |                              |                                      | 2.52 | 1.59 |
| Median                                                                       |                         |        |          |                              |                                      | 4.13 | 2.03 |
| Maximum                                                                      |                         |        |          |                              |                                      | 7.21 | 2.69 |
| Standard deviation                                                           |                         |        |          |                              |                                      | 1.13 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-2. Student standard errors and design effects—Public schools**

| Survey item <sup>1</sup>                                                | Variable     | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 16,077 | 2.2      | 0.02                         | 0.01                                 | 5.22 | 2.28 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 13,872 | 39.9     | 0.99                         | 0.42                                 | 5.61 | 2.37 |
| Took an AP math course                                                  | S2APMATH     | 5,759  | 25.6     | 1.14                         | 0.57                                 | 3.92 | 1.98 |
| Took an AP science course                                               | S2APSCIENCE  | 5,758  | 32.9     | 1.24                         | 0.62                                 | 3.99 | 2.00 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 12,643 | 3.8      | 0.40                         | 0.17                                 | 5.42 | 2.33 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 16,808 | 5.5      | 0.01                         | 0.01                                 | 5.90 | 2.43 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 16,307 | 2.8      | 0.02                         | 0.01                                 | 5.19 | 2.28 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 9,015  | 1.8      | 0.01                         | 0.01                                 | 3.05 | 1.75 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 16,680 | 78.8     | 0.70                         | 0.32                                 | 4.94 | 2.22 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 16,342 | 2.3      | 0.01                         | 0.00                                 | 4.51 | 2.12 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 16,600 | 30.1     | 0.63                         | 0.36                                 | 3.11 | 1.76 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 16,635 | 2.0      | 0.00                         | 0.00                                 | 3.62 | 1.90 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 16,842 | 1.4      | 0.02                         | 0.01                                 | 6.13 | 2.48 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 16,314 | 2.1      | 0.01                         | 0.01                                 | 3.75 | 1.94 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 13,748 | 45.7     | 0.70                         | 0.42                                 | 2.72 | 1.65 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 16,393 | 2.5      | 0.01                         | 0.01                                 | 3.63 | 1.90 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 16,424 | 2.7      | 0.01                         | 0.01                                 | 3.28 | 1.81 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 16,363 | 1.7      | 0.01                         | 0.01                                 | 3.42 | 1.85 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 16,361 | 3.0      | 0.01                         | 0.01                                 | 3.14 | 1.77 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 12,012 | 3.7      | 0.01                         | 0.01                                 | 3.30 | 1.82 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 16,679 | 6.0      | 0.30                         | 0.18                                 | 2.74 | 1.65 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 16,166 | 2.1      | 0.01                         | 0.01                                 | 3.88 | 1.97 |

See notes at end of table

**Table F-2. Student standard errors and design effects—Public schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 16,570 | 59.3     | 1.85                         | 0.71                                 | 6.82 | 2.61 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 12,277 | 51.3     | 0.87                         | 0.45                                 | 3.74 | 1.93 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 16,325 | 3.1      | 0.01                         | 0.01                                 | 4.02 | 2.01 |
| Participated in a science competition                                        | S2SCOMPETE              | 16,172 | 5.4      | 0.36                         | 0.18                                 | 4.17 | 2.04 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 16,371 | 2.5      | 0.01                         | 0.01                                 | 3.48 | 1.87 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 16,572 | 1.8      | 0.01                         | 0.01                                 | 4.33 | 2.08 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 16,520 | 1.2      | 0.01                         | 0.00                                 | 3.79 | 1.95 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 16,222 | 3.0      | 0.01                         | 0.01                                 | 3.05 | 1.75 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 16,629 | 1.5      | 0.01                         | 0.01                                 | 3.74 | 1.93 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 16,537 | 3.7      | 0.27                         | 0.15                                 | 3.23 | 1.80 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 16,537 | 2.0      | 0.16                         | 0.11                                 | 2.23 | 1.49 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 16,537 | 1.3      | 0.16                         | 0.09                                 | 3.21 | 1.79 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 16,537 | 1.6      | 0.20                         | 0.10                                 | 3.93 | 1.98 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 16,537 | 21.6     | 0.68                         | 0.32                                 | 4.52 | 2.13 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 16,537 | 27.7     | 0.62                         | 0.35                                 | 3.14 | 1.77 |
| Math theta (raw)                                                             | X2TXMTH                 | 12,164 | 1.1      | 0.02                         | 0.01                                 | 5.35 | 2.31 |
| Summary statistics                                                           |                         |        |          |                              |                                      |      |      |
| Mean                                                                         |                         |        |          |                              |                                      | 4.03 | 1.99 |
| Minimum                                                                      |                         |        |          |                              |                                      | 2.23 | 1.49 |
| Median                                                                       |                         |        |          |                              |                                      | 3.77 | 1.94 |
| Maximum                                                                      |                         |        |          |                              |                                      | 6.82 | 2.61 |
| Standard deviation                                                           |                         |        |          |                              |                                      | 1.05 | 0.25 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-3. Student standard errors and design effects—Private schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 3,669 | 1.7      | 0.07                         | 0.02                                 | 16.40 | 4.05 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 3,558 | 43.1     | 3.28                         | 0.83                                 | 15.56 | 3.94 |
| Took an AP math course                                                  | S2APMATH     | 1,505 | 23.7     | 2.50                         | 1.10                                 | 5.19  | 2.28 |
| Took an AP science course                                               | S2APSCIENCE  | 1,509 | 33.8     | 3.18                         | 1.22                                 | 6.80  | 2.61 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 3,405 | 2.2      | 0.64                         | 0.25                                 | 6.29  | 2.51 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 3,743 | 5.6      | 0.02                         | 0.01                                 | 4.94  | 2.22 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 3,654 | 3.1      | 0.04                         | 0.01                                 | 9.49  | 3.08 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 2,272 | 2.0      | 0.03                         | 0.01                                 | 5.13  | 2.27 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 3,722 | 90.3     | 1.50                         | 0.49                                 | 9.46  | 3.08 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 3,665 | 2.4      | 0.02                         | 0.01                                 | 4.96  | 2.23 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 3,707 | 34.7     | 1.32                         | 0.78                                 | 2.86  | 1.69 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 3,722 | 2.0      | 0.00                         | 0.00                                 | 1.46  | 1.21 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 3,749 | 1.2      | 0.04                         | 0.01                                 | 10.14 | 3.18 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 3,669 | 2.0      | 0.03                         | 0.01                                 | 5.72  | 2.39 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 3,528 | 51.4     | 1.66                         | 0.84                                 | 3.90  | 1.98 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 3,679 | 2.5      | 0.04                         | 0.02                                 | 6.54  | 2.56 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 3,679 | 2.5      | 0.03                         | 0.02                                 | 3.36  | 1.83 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 3,669 | 1.8      | 0.02                         | 0.01                                 | 2.88  | 1.70 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 3,676 | 3.1      | 0.02                         | 0.01                                 | 2.98  | 1.73 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 2,627 | 3.7      | 0.02                         | 0.01                                 | 2.31  | 1.52 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 3,714 | 4.0      | 0.71                         | 0.32                                 | 4.89  | 2.21 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 3,654 | 2.0      | 0.03                         | 0.01                                 | 4.86  | 2.21 |

See notes at end of table



**Table F-3. Student standard errors and design effects—Private schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 3,715 | 84.5     | 5.78                         | 1.49                                 | 15.15 | 3.89 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 3,351 | 58.2     | 1.72                         | 0.85                                 | 4.06  | 2.02 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 3,658 | 3.2      | 0.03                         | 0.01                                 | 5.38  | 2.32 |
| Participated in a science competition                                        | S2SCOMPETE              | 3,617 | 6.6      | 0.73                         | 0.41                                 | 3.17  | 1.78 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 3,675 | 2.4      | 0.03                         | 0.02                                 | 5.18  | 2.28 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 3,689 | 1.4      | 0.03                         | 0.01                                 | 5.83  | 2.42 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 3,721 | 1.0      | 0.01                         | 0.00                                 | 3.86  | 1.96 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 3,668 | 3.1      | 0.03                         | 0.01                                 | 5.69  | 2.39 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 3,713 | 1.6      | 0.04                         | 0.01                                 | 6.15  | 2.48 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 3,703 | 4.4      | 0.46                         | 0.34                                 | 1.89  | 1.37 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 3,703 | 0.7      | 0.20                         | 0.13                                 | 2.16  | 1.47 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 3,703 | 0.4      | 0.17                         | 0.10                                 | 2.78  | 1.67 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 3,703 | 1.4      | 0.54                         | 0.19                                 | 7.59  | 2.75 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 3,703 | 23.0     | 1.20                         | 0.69                                 | 3.00  | 1.73 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 3,703 | 31.0     | 1.27                         | 0.76                                 | 2.77  | 1.66 |
| Math theta (raw)                                                             | X2TXMTH                 | 3,336 | 1.4      | 0.05                         | 0.01                                 | 11.04 | 3.32 |
| Summary statistics                                                           |                         |       |          |                              |                                      |       |      |
| Mean                                                                         |                         |       |          |                              |                                      | 5.84  | 2.32 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.46  | 1.21 |
| Median                                                                       |                         |       |          |                              |                                      | 5.05  | 2.25 |
| Maximum                                                                      |                         |       |          |                              |                                      | 16.40 | 4.05 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 3.72  | 0.70 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-4. Student standard errors and design effects—Northeast schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 3,084 | 2.1      | 0.05                         | 0.02                                 | 5.34  | 2.31 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 2,870 | 43.1     | 3.02                         | 0.92                                 | 10.70 | 3.27 |
| Took an AP math course                                                  | S2APMATH     | 977   | 23.8     | 3.64                         | 1.36                                 | 7.13  | 2.67 |
| Took an AP science course                                               | S2APSCIENCE  | 979   | 32.5     | 2.88                         | 1.50                                 | 3.70  | 1.92 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 2,714 | 2.2      | 0.65                         | 0.28                                 | 5.42  | 2.33 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 3,204 | 5.6      | 0.04                         | 0.01                                 | 12.38 | 3.52 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 3,093 | 2.9      | 0.03                         | 0.01                                 | 3.26  | 1.81 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,533 | 1.9      | 0.05                         | 0.02                                 | 8.28  | 2.88 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 3,176 | 82.0     | 1.64                         | 0.68                                 | 5.77  | 2.40 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 3,104 | 2.4      | 0.02                         | 0.01                                 | 4.12  | 2.03 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 3,162 | 33.3     | 1.68                         | 0.84                                 | 4.00  | 2.00 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 3,181 | 2.0      | 0.01                         | 0.00                                 | 5.73  | 2.39 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 3,208 | 1.4      | 0.04                         | 0.02                                 | 5.88  | 2.42 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 3,104 | 2.1      | 0.03                         | 0.01                                 | 3.71  | 1.93 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 2,850 | 50.3     | 1.35                         | 0.94                                 | 2.09  | 1.45 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 3,121 | 2.5      | 0.03                         | 0.02                                 | 2.89  | 1.70 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 3,117 | 2.6      | 0.04                         | 0.02                                 | 4.36  | 2.09 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 3,106 | 1.7      | 0.04                         | 0.01                                 | 10.47 | 3.24 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 3,111 | 3.0      | 0.04                         | 0.01                                 | 5.91  | 2.43 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 2,269 | 3.8      | 0.02                         | 0.01                                 | 3.91  | 1.98 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 3,175 | 3.0      | 0.62                         | 0.30                                 | 4.28  | 2.07 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 3,076 | 2.1      | 0.03                         | 0.01                                 | 3.61  | 1.90 |

See notes at end of table

**Table F-4. Student standard errors and design effects—Northeast schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 3,166 | 43.9     | 3.10                         | 1.41                                 | 4.82  | 2.20 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 2,652 | 55.4     | 2.35                         | 0.97                                 | 5.91  | 2.43 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 3,102 | 3.1      | 0.03                         | 0.01                                 | 5.04  | 2.25 |
| Participated in a science competition                                        | S2SCOMPETE              | 3,080 | 5.1      | 0.65                         | 0.40                                 | 2.66  | 1.63 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 3,108 | 2.5      | 0.03                         | 0.02                                 | 3.80  | 1.95 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 3,155 | 1.7      | 0.02                         | 0.02                                 | 2.26  | 1.50 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 3,180 | 1.1      | 0.01                         | 0.01                                 | 3.99  | 2.00 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 3,092 | 3.0      | 0.03                         | 0.02                                 | 3.93  | 1.98 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 3,177 | 1.5      | 0.03                         | 0.02                                 | 4.05  | 2.01 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 3,144 | 3.4      | 0.70                         | 0.32                                 | 4.74  | 2.18 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 3,144 | 1.7      | 0.46                         | 0.23                                 | 4.09  | 2.02 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 3,144 | 1.1      | 0.30                         | 0.19                                 | 2.61  | 1.62 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 3,144 | 1.0      | 0.33                         | 0.18                                 | 3.40  | 1.84 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 3,144 | 19.4     | 2.41                         | 0.71                                 | 11.71 | 3.42 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 3,144 | 28.1     | 2.06                         | 0.80                                 | 6.61  | 2.57 |
| Math theta (raw)                                                             | X2TXMTH                 | 2,570 | 1.2      | 0.04                         | 0.02                                 | 4.89  | 2.21 |
| Summary statistics                                                           |                         |       |          |                              |                                      |       |      |
| Mean                                                                         |                         |       |          |                              |                                      | 5.20  | 2.22 |
| Minimum                                                                      |                         |       |          |                              |                                      | 2.09  | 1.45 |
| Median                                                                       |                         |       |          |                              |                                      | 4.32  | 2.08 |
| Maximum                                                                      |                         |       |          |                              |                                      | 12.38 | 3.52 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 2.51  | 0.50 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-5. Student standard errors and design effects—Midwest schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 5,247 | 2.2      | 0.03                         | 0.02                                 | 3.97 | 1.99 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 4,838 | 44.1     | 1.62                         | 0.71                                 | 5.16 | 2.27 |
| Took an AP math course                                                  | S2APMATH     | 1,827 | 28.2     | 1.97                         | 1.05                                 | 3.49 | 1.87 |
| Took an AP science course                                               | S2APSCIENCE  | 1,829 | 33.5     | 2.25                         | 1.10                                 | 4.15 | 2.04 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 4,424 | 5.0      | 0.95                         | 0.33                                 | 8.26 | 2.87 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 5,486 | 5.5      | 0.02                         | 0.01                                 | 6.11 | 2.47 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 5,342 | 2.8      | 0.03                         | 0.01                                 | 5.57 | 2.36 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 2,986 | 1.9      | 0.02                         | 0.01                                 | 2.85 | 1.69 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 5,461 | 80.7     | 0.91                         | 0.53                                 | 2.92 | 1.71 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 5,353 | 2.3      | 0.02                         | 0.01                                 | 7.96 | 2.82 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 5,417 | 30.4     | 1.02                         | 0.63                                 | 2.66 | 1.63 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 5,437 | 2.0      | 0.01                         | 0.00                                 | 4.67 | 2.16 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 5,500 | 1.2      | 0.02                         | 0.01                                 | 4.64 | 2.15 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 5,341 | 2.1      | 0.02                         | 0.01                                 | 3.20 | 1.79 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 4,794 | 47.1     | 1.23                         | 0.72                                 | 2.90 | 1.70 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 5,366 | 2.5      | 0.03                         | 0.01                                 | 4.62 | 2.15 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 5,370 | 2.6      | 0.03                         | 0.01                                 | 3.90 | 1.97 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 5,353 | 1.8      | 0.01                         | 0.01                                 | 2.05 | 1.43 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 5,358 | 2.9      | 0.02                         | 0.01                                 | 2.86 | 1.69 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 3,849 | 3.7      | 0.01                         | 0.01                                 | 2.18 | 1.48 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 5,446 | 5.5      | 0.51                         | 0.31                                 | 2.71 | 1.64 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 5,303 | 2.1      | 0.02                         | 0.01                                 | 2.62 | 1.62 |

See notes at end of table

**Table F-5. Student standard errors and design effects—Midwest schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 5,421 | 67.3     | 3.27                         | 1.21                                 | 7.28 | 2.70 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 4,329 | 52.5     | 1.35                         | 0.76                                 | 3.17 | 1.78 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 5,355 | 3.2      | 0.02                         | 0.01                                 | 2.77 | 1.67 |
| Participated in a science competition                                        | S2SCOMPETE              | 5,308 | 5.0      | 0.55                         | 0.30                                 | 3.45 | 1.86 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 5,354 | 2.5      | 0.02                         | 0.01                                 | 2.56 | 1.60 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 5,400 | 1.8      | 0.03                         | 0.01                                 | 4.72 | 2.17 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 5,416 | 1.2      | 0.01                         | 0.01                                 | 2.29 | 1.51 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 5,316 | 3.0      | 0.02                         | 0.01                                 | 2.25 | 1.50 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 5,437 | 1.6      | 0.02                         | 0.01                                 | 2.44 | 1.56 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 5,393 | 4.4      | 0.39                         | 0.28                                 | 1.90 | 1.38 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 5,393 | 1.5      | 0.26                         | 0.17                                 | 2.40 | 1.55 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 5,393 | 1.3      | 0.23                         | 0.15                                 | 2.36 | 1.54 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 5,393 | 1.6      | 0.30                         | 0.17                                 | 3.04 | 1.74 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 5,393 | 20.5     | 0.77                         | 0.55                                 | 1.97 | 1.40 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 5,393 | 27.6     | 0.88                         | 0.61                                 | 2.08 | 1.44 |
| Math theta (raw)                                                             | X2TXMTH                 | 4,196 | 1.1      | 0.03                         | 0.01                                 | 5.22 | 2.28 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.67 | 1.87 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.90 | 1.38 |
| Median                                                                       |                         |       |          |                              |                                      | 2.98 | 1.73 |
| Maximum                                                                      |                         |       |          |                              |                                      | 8.26 | 2.87 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.66 | 0.40 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-6. Student standard errors and design effects—South schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 8,093 | 2.1      | 0.03                         | 0.01                                 | 5.51 | 2.35 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 6,768 | 42.5     | 1.42                         | 0.60                                 | 5.61 | 2.37 |
| Took an AP math course                                                  | S2APMATH     | 3,206 | 25.4     | 1.39                         | 0.77                                 | 3.27 | 1.81 |
| Took an AP science course                                               | S2APSCIENCE  | 3,209 | 34.8     | 1.89                         | 0.84                                 | 5.04 | 2.25 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 6,398 | 3.1      | 0.61                         | 0.22                                 | 7.94 | 2.82 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 8,414 | 5.4      | 0.02                         | 0.01                                 | 5.26 | 2.29 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 8,165 | 2.8      | 0.02                         | 0.01                                 | 6.11 | 2.47 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 4,957 | 1.8      | 0.01                         | 0.01                                 | 2.76 | 1.66 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 8,341 | 80.7     | 0.90                         | 0.43                                 | 4.39 | 2.09 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 8,197 | 2.3      | 0.01                         | 0.01                                 | 4.06 | 2.01 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 8,320 | 29.6     | 0.69                         | 0.50                                 | 1.90 | 1.38 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 8,309 | 2.0      | 0.01                         | 0.00                                 | 3.44 | 1.85 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 8,430 | 1.3      | 0.02                         | 0.01                                 | 4.24 | 2.06 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 8,185 | 2.1      | 0.02                         | 0.01                                 | 4.29 | 2.07 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 6,704 | 46.4     | 0.96                         | 0.61                                 | 2.50 | 1.58 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 8,212 | 2.5      | 0.02                         | 0.01                                 | 3.79 | 1.95 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 8,233 | 2.7      | 0.02                         | 0.01                                 | 2.32 | 1.52 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 8,218 | 1.7      | 0.01                         | 0.01                                 | 2.70 | 1.64 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 8,202 | 3.0      | 0.02                         | 0.01                                 | 2.77 | 1.66 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 6,111 | 3.8      | 0.01                         | 0.01                                 | 2.76 | 1.66 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 8,346 | 6.4      | 0.46                         | 0.27                                 | 2.99 | 1.73 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 8,108 | 2.1      | 0.01                         | 0.01                                 | 2.67 | 1.64 |

See notes at end of table

**Table F-6. Student standard errors and design effects—South schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 8,304 | 69.7     | 2.78                         | 1.01                                 | 7.58 | 2.75 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 6,208 | 51.8     | 1.04                         | 0.63                                 | 2.70 | 1.64 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 8,168 | 3.1      | 0.02                         | 0.01                                 | 3.35 | 1.83 |
| Participated in a science competition                                        | S2SCOMPETE              | 8,081 | 6.1      | 0.65                         | 0.27                                 | 5.90 | 2.43 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 8,209 | 2.5      | 0.02                         | 0.01                                 | 3.21 | 1.79 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 8,309 | 1.8      | 0.02                         | 0.01                                 | 3.91 | 1.98 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 8,248 | 1.2      | 0.01                         | 0.01                                 | 3.94 | 1.98 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 8,138 | 3.0      | 0.02                         | 0.01                                 | 3.46 | 1.86 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 8,317 | 1.5      | 0.02                         | 0.01                                 | 2.73 | 1.65 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 8,302 | 3.9      | 0.43                         | 0.21                                 | 4.05 | 2.01 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 8,302 | 2.7      | 0.27                         | 0.18                                 | 2.33 | 1.53 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 8,302 | 1.5      | 0.26                         | 0.13                                 | 3.75 | 1.94 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 8,302 | 1.6      | 0.24                         | 0.14                                 | 2.85 | 1.69 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 8,302 | 24.4     | 0.99                         | 0.47                                 | 4.41 | 2.10 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 8,302 | 25.1     | 0.73                         | 0.48                                 | 2.38 | 1.54 |
| Math theta (raw)                                                             | X2TXMTH                 | 6,128 | 1.0      | 0.03                         | 0.01                                 | 7.77 | 2.79 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.96 | 1.96 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.90 | 1.38 |
| Median                                                                       |                         |       |          |                              |                                      | 3.60 | 1.90 |
| Maximum                                                                      |                         |       |          |                              |                                      | 7.94 | 2.82 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.55 | 0.37 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-7. Student standard errors and design effects—West schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 3,322 | 2.3      | 0.05                         | 0.02                                 | 4.88 | 2.21 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 2,954 | 30.4     | 1.93                         | 0.85                                 | 5.22 | 2.28 |
| Took an AP math course                                                  | S2APMATH     | 1,254 | 24.1     | 2.53                         | 1.21                                 | 4.39 | 2.10 |
| Took an AP science course                                               | S2APSCIENCE  | 1,250 | 29.7     | 2.48                         | 1.29                                 | 3.67 | 1.92 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 2,512 | 4.6      | 0.81                         | 0.42                                 | 3.77 | 1.94 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 3,447 | 5.6      | 0.02                         | 0.01                                 | 4.72 | 2.17 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 3,361 | 2.7      | 0.03                         | 0.01                                 | 4.47 | 2.11 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,811 | 1.9      | 0.03                         | 0.02                                 | 3.79 | 1.95 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 3,424 | 74.9     | 1.91                         | 0.74                                 | 6.63 | 2.57 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 3,353 | 2.4      | 0.02                         | 0.01                                 | 3.77 | 1.94 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 3,408 | 29.6     | 1.69                         | 0.78                                 | 4.66 | 2.16 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 3,430 | 2.0      | 0.01                         | 0.00                                 | 3.71 | 1.93 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 3,453 | 1.6      | 0.05                         | 0.02                                 | 7.69 | 2.77 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 3,353 | 2.2      | 0.02                         | 0.01                                 | 3.50 | 1.87 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 2,928 | 41.6     | 1.64                         | 0.91                                 | 3.25 | 1.80 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 3,373 | 2.6      | 0.03                         | 0.02                                 | 4.01 | 2.00 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 3,383 | 2.7      | 0.03                         | 0.02                                 | 2.88 | 1.70 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 3,355 | 1.8      | 0.02                         | 0.01                                 | 2.66 | 1.63 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 3,366 | 3.0      | 0.02                         | 0.01                                 | 2.78 | 1.67 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 2,410 | 3.7      | 0.02                         | 0.01                                 | 3.29 | 1.81 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 3,426 | 7.6      | 0.77                         | 0.45                                 | 2.90 | 1.70 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 3,333 | 2.1      | 0.03                         | 0.01                                 | 4.96 | 2.23 |

See notes at end of table



**Table F-7. Student standard errors and design effects—West schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 3,394 | 54.1     | 4.19                         | 1.68                                 | 6.26 | 2.50 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 2,439 | 48.1     | 1.88                         | 1.01                                 | 3.44 | 1.86 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 3,358 | 3.1      | 0.04                         | 0.01                                 | 7.08 | 2.66 |
| Participated in a science competition                                        | S2SCOMPETE              | 3,320 | 5.1      | 0.67                         | 0.38                                 | 3.06 | 1.75 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 3,375 | 2.6      | 0.03                         | 0.02                                 | 3.53 | 1.88 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 3,397 | 1.8      | 0.03                         | 0.01                                 | 4.79 | 2.19 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 3,397 | 1.2      | 0.02                         | 0.01                                 | 5.41 | 2.33 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 3,344 | 3.0      | 0.03                         | 0.01                                 | 3.65 | 1.91 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 3,411 | 1.6      | 0.04                         | 0.02                                 | 6.58 | 2.56 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 3,401 | 3.3      | 0.48                         | 0.31                                 | 2.46 | 1.57 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 3,401 | 1.3      | 0.31                         | 0.20                                 | 2.51 | 1.58 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 3,401 | 0.8      | 0.31                         | 0.15                                 | 4.03 | 2.01 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 3,401 | 2.0      | 0.55                         | 0.24                                 | 5.35 | 2.31 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 3,401 | 20.2     | 1.36                         | 0.69                                 | 3.93 | 1.98 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 3,401 | 32.6     | 1.43                         | 0.80                                 | 3.17 | 1.78 |
| Math theta (raw)                                                             | X2TXMTH                 | 2,606 | 1.1      | 0.04                         | 0.02                                 | 5.26 | 2.29 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 4.27 | 2.04 |
| Minimum                                                                      |                         |       |          |                              |                                      | 2.46 | 1.57 |
| Median                                                                       |                         |       |          |                              |                                      | 3.86 | 1.96 |
| Maximum                                                                      |                         |       |          |                              |                                      | 7.69 | 2.77 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.31 | 0.31 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-8. Student standard errors and design effects—City schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 5,647 | 2.2      | 0.04                         | 0.02                                 | 8.36  | 2.89 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 5,074 | 40.0     | 1.82                         | 0.69                                 | 7.00  | 2.65 |
| Took an AP math course                                                  | S2APMATH     | 2,397 | 24.5     | 2.27                         | 0.88                                 | 6.65  | 2.58 |
| Took an AP science course                                               | S2APSCIENCE  | 2,392 | 36.9     | 2.22                         | 0.99                                 | 5.07  | 2.25 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 4,682 | 3.5      | 0.68                         | 0.27                                 | 6.48  | 2.54 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 5,838 | 5.5      | 0.03                         | 0.01                                 | 10.69 | 3.27 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 5,658 | 2.7      | 0.03                         | 0.01                                 | 7.13  | 2.67 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 3,272 | 1.8      | 0.03                         | 0.01                                 | 5.73  | 2.39 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 5,800 | 78.3     | 1.50                         | 0.54                                 | 7.62  | 2.76 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 5,693 | 2.3      | 0.02                         | 0.01                                 | 8.09  | 2.84 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 5,764 | 32.6     | 1.23                         | 0.62                                 | 3.98  | 2.00 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 5,776 | 2.0      | 0.01                         | 0.00                                 | 5.55  | 2.36 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 5,851 | 1.5      | 0.04                         | 0.01                                 | 9.53  | 3.09 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 5,670 | 2.1      | 0.02                         | 0.01                                 | 4.60  | 2.14 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 5,033 | 49.3     | 1.47                         | 0.70                                 | 4.33  | 2.08 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 5,686 | 2.5      | 0.03                         | 0.01                                 | 4.45  | 2.11 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 5,706 | 2.6      | 0.03                         | 0.01                                 | 3.95  | 1.99 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 5,676 | 1.7      | 0.02                         | 0.01                                 | 6.10  | 2.47 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 5,679 | 3.0      | 0.02                         | 0.01                                 | 4.77  | 2.19 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 4,068 | 3.7      | 0.02                         | 0.01                                 | 4.70  | 2.17 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 5,787 | 7.1      | 0.64                         | 0.34                                 | 3.58  | 1.89 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 5,636 | 2.1      | 0.02                         | 0.01                                 | 5.32  | 2.31 |

See notes at end of table

**Table F-8. Student standard errors and design effects—City schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 5,767 | 63.4     | 3.51                         | 1.26                                 | 7.72  | 2.78 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 4,558 | 51.5     | 1.92                         | 0.74                                 | 6.71  | 2.59 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 5,678 | 3.1      | 0.02                         | 0.01                                 | 5.34  | 2.31 |
| Participated in a science competition                                        | S2SCOMPETE              | 5,603 | 6.8      | 0.81                         | 0.34                                 | 5.79  | 2.41 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 5,688 | 2.5      | 0.03                         | 0.01                                 | 4.49  | 2.12 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 5,752 | 1.8      | 0.03                         | 0.01                                 | 5.46  | 2.34 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 5,761 | 1.2      | 0.02                         | 0.01                                 | 5.42  | 2.33 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 5,648 | 3.0      | 0.02                         | 0.01                                 | 5.35  | 2.31 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 5,782 | 1.5      | 0.02                         | 0.01                                 | 3.49  | 1.87 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 5,765 | 3.7      | 0.55                         | 0.25                                 | 4.95  | 2.22 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 5,765 | 1.8      | 0.34                         | 0.17                                 | 3.83  | 1.96 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 5,765 | 1.1      | 0.32                         | 0.14                                 | 5.30  | 2.30 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 5,765 | 1.7      | 0.45                         | 0.17                                 | 7.14  | 2.67 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 5,765 | 21.4     | 1.54                         | 0.54                                 | 8.17  | 2.86 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 5,765 | 29.3     | 1.30                         | 0.60                                 | 4.72  | 2.17 |
| Math theta (raw)                                                             | X2TXMTH                 | 4,574 | 1.1      | 0.04                         | 0.01                                 | 8.22  | 2.87 |
| Summary statistics                                                           |                         |       |          |                              |                                      |       |      |
| Mean                                                                         |                         |       |          |                              |                                      | 5.94  | 2.41 |
| Minimum                                                                      |                         |       |          |                              |                                      | 3.49  | 1.87 |
| Median                                                                       |                         |       |          |                              |                                      | 5.44  | 2.33 |
| Maximum                                                                      |                         |       |          |                              |                                      | 10.69 | 3.27 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.71  | 0.34 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-9. Student standard errors and design effects—Suburban schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 7,078 | 2.2      | 0.03                         | 0.01                                 | 5.27 | 2.30 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 6,451 | 40.1     | 1.45                         | 0.61                                 | 5.63 | 2.37 |
| Took an AP math course                                                  | S2APMATH     | 2,711 | 23.0     | 1.39                         | 0.81                                 | 2.97 | 1.72 |
| Took an AP science course                                               | S2APSCIENCE  | 2,714 | 31.2     | 1.58                         | 0.89                                 | 3.15 | 1.78 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 5,902 | 2.4      | 0.33                         | 0.20                                 | 2.75 | 1.66 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 7,365 | 5.5      | 0.02                         | 0.01                                 | 4.46 | 2.11 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 7,143 | 2.8      | 0.02                         | 0.01                                 | 3.84 | 1.96 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 4,070 | 1.8      | 0.02                         | 0.01                                 | 2.54 | 1.59 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 7,309 | 81.0     | 0.79                         | 0.46                                 | 3.00 | 1.73 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 7,141 | 2.3      | 0.01                         | 0.01                                 | 2.33 | 1.52 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 7,254 | 30.3     | 0.92                         | 0.54                                 | 2.93 | 1.71 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 7,295 | 2.0      | 0.01                         | 0.00                                 | 3.31 | 1.82 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 7,376 | 1.4      | 0.03                         | 0.01                                 | 7.37 | 2.72 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 7,128 | 2.1      | 0.02                         | 0.01                                 | 2.65 | 1.63 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 6,399 | 45.8     | 1.11                         | 0.62                                 | 3.19 | 1.79 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 7,172 | 2.5      | 0.02                         | 0.01                                 | 2.98 | 1.73 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 7,180 | 2.6      | 0.02                         | 0.01                                 | 2.99 | 1.73 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 7,177 | 1.8      | 0.01                         | 0.01                                 | 2.33 | 1.53 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 7,155 | 3.0      | 0.01                         | 0.01                                 | 2.10 | 1.45 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 5,229 | 3.7      | 0.01                         | 0.01                                 | 2.80 | 1.67 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 7,303 | 5.2      | 0.45                         | 0.26                                 | 2.94 | 1.72 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 7,085 | 2.1      | 0.01                         | 0.01                                 | 2.37 | 1.54 |

See notes at end of table

**Table F-9. Student standard errors and design effects—Suburban schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 7,262 | 60.5     | 2.54                         | 1.04                                 | 6.00 | 2.45 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 5,754 | 53.6     | 1.20                         | 0.66                                 | 3.34 | 1.83 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 7,156 | 3.1      | 0.02                         | 0.01                                 | 3.19 | 1.79 |
| Participated in a science competition                                        | S2SCOMPETE              | 7,081 | 4.8      | 0.40                         | 0.25                                 | 2.54 | 1.59 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 7,178 | 2.5      | 0.02                         | 0.01                                 | 2.29 | 1.51 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 7,270 | 1.7      | 0.02                         | 0.01                                 | 2.91 | 1.70 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 7,252 | 1.2      | 0.01                         | 0.01                                 | 3.18 | 1.78 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 7,119 | 3.0      | 0.02                         | 0.01                                 | 2.36 | 1.54 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 7,288 | 1.6      | 0.03                         | 0.01                                 | 6.49 | 2.55 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 7,232 | 3.9      | 0.34                         | 0.23                                 | 2.25 | 1.50 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 7,232 | 1.6      | 0.18                         | 0.15                                 | 1.52 | 1.23 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 7,232 | 0.5      | 0.11                         | 0.09                                 | 1.78 | 1.33 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 7,232 | 1.3      | 0.18                         | 0.13                                 | 1.86 | 1.36 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 7,232 | 20.4     | 0.74                         | 0.47                                 | 2.47 | 1.57 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 7,232 | 28.8     | 0.87                         | 0.53                                 | 2.68 | 1.64 |
| Math theta (raw)                                                             | X2TXMTH                 | 5,716 | 1.2      | 0.03                         | 0.01                                 | 5.27 | 2.30 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.26 | 1.77 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.52 | 1.23 |
| Median                                                                       |                         |       |          |                              |                                      | 2.93 | 1.71 |
| Maximum                                                                      |                         |       |          |                              |                                      | 7.37 | 2.72 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.35 | 0.34 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-10. Student standard errors and design effects—Town schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 2,332 | 2.2      | 0.05                         | 0.02                                 | 3.73 | 1.93 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 1,986 | 39.6     | 3.13                         | 1.10                                 | 8.11 | 2.85 |
| Took an AP math course                                                  | S2APMATH     | 658   | 33.6     | 3.40                         | 1.84                                 | 3.40 | 1.84 |
| Took an AP science course                                               | S2APSCIENCE  | 662   | 36.4     | 3.76                         | 1.87                                 | 4.03 | 2.01 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 1,788 | 6.0      | 1.40                         | 0.56                                 | 6.20 | 2.49 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 2,440 | 5.5      | 0.03                         | 0.01                                 | 5.82 | 2.41 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 2,376 | 2.8      | 0.03                         | 0.02                                 | 3.82 | 1.95 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,288 | 1.8      | 0.03                         | 0.02                                 | 3.51 | 1.87 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 2,427 | 77.9     | 1.57                         | 0.84                                 | 3.48 | 1.87 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 2,383 | 2.3      | 0.03                         | 0.01                                 | 8.74 | 2.96 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 2,413 | 26.1     | 1.37                         | 0.89                                 | 2.34 | 1.53 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 2,421 | 2.0      | 0.01                         | 0.01                                 | 2.99 | 1.73 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 2,447 | 1.1      | 0.03                         | 0.01                                 | 5.24 | 2.29 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 2,382 | 2.2      | 0.03                         | 0.02                                 | 4.56 | 2.13 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 1,971 | 41.6     | 1.79                         | 1.11                                 | 2.60 | 1.61 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 2,394 | 2.6      | 0.05                         | 0.02                                 | 6.31 | 2.51 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 2,391 | 2.8      | 0.04                         | 0.02                                 | 3.92 | 1.98 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 2,370 | 1.8      | 0.03                         | 0.01                                 | 3.65 | 1.91 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 2,388 | 2.9      | 0.03                         | 0.02                                 | 3.31 | 1.82 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 1,759 | 3.7      | 0.02                         | 0.01                                 | 2.15 | 1.47 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 2,429 | 5.5      | 0.71                         | 0.46                                 | 2.33 | 1.53 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 2,346 | 2.1      | 0.04                         | 0.02                                 | 4.52 | 2.13 |

See notes at end of table

**Table F-10. Student standard errors and design effects—Town schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 2,418 | 58.1     | 5.36                         | 1.84                                 | 8.52 | 2.92 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 1,740 | 49.1     | 2.07                         | 1.20                                 | 2.99 | 1.73 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 2,366 | 3.1      | 0.03                         | 0.02                                 | 2.80 | 1.67 |
| Participated in a science competition                                        | S2SCOMPETE              | 2,362 | 4.5      | 0.71                         | 0.43                                 | 2.75 | 1.66 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 2,380 | 2.6      | 0.03                         | 0.02                                 | 2.72 | 1.65 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 2,410 | 2.0      | 0.03                         | 0.02                                 | 2.91 | 1.70 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 2,410 | 1.2      | 0.02                         | 0.01                                 | 3.31 | 1.82 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 2,356 | 3.0      | 0.03                         | 0.02                                 | 4.01 | 2.00 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 2,420 | 1.6      | 0.04                         | 0.02                                 | 3.68 | 1.92 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 2,408 | 3.9      | 0.59                         | 0.40                                 | 2.23 | 1.49 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 2,408 | 3.3      | 0.58                         | 0.36                                 | 2.57 | 1.60 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 2,408 | 2.0      | 0.52                         | 0.29                                 | 3.24 | 1.80 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 2,408 | 2.0      | 0.55                         | 0.28                                 | 3.80 | 1.95 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 2,408 | 22.9     | 1.51                         | 0.86                                 | 3.10 | 1.76 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 2,408 | 26.3     | 1.57                         | 0.90                                 | 3.07 | 1.75 |
| Math theta (raw)                                                             | X2TXMTH                 | 1,716 | 96.2     | 3.55                         | 1.74                                 | 4.18 | 2.04 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.96 | 1.96 |
| Minimum                                                                      |                         |       |          |                              |                                      | 2.15 | 1.47 |
| Median                                                                       |                         |       |          |                              |                                      | 3.50 | 1.87 |
| Maximum                                                                      |                         |       |          |                              |                                      | 8.74 | 2.96 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.68 | 0.38 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-11. Student standard errors and design effects—Rural schools**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 4,689 | 2.1      | 0.04                         | 0.02                                 | 4.99 | 2.23 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 3,919 | 40.8     | 2.04                         | 0.79                                 | 6.77 | 2.60 |
| Took an AP math course                                                  | S2APMATH     | 1,498 | 27.4     | 2.05                         | 1.15                                 | 3.17 | 1.78 |
| Took an AP science course                                               | S2APSCIENCE  | 1,499 | 28.2     | 2.38                         | 1.16                                 | 4.21 | 2.05 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 3,676 | 4.8      | 1.00                         | 0.35                                 | 8.06 | 2.84 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 4,908 | 5.5      | 0.02                         | 0.01                                 | 5.02 | 2.24 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 4,784 | 2.8      | 0.03                         | 0.01                                 | 4.96 | 2.23 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 2,657 | 1.8      | 0.02                         | 0.01                                 | 2.47 | 1.57 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 4,866 | 80.3     | 1.31                         | 0.57                                 | 5.24 | 2.29 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 4,790 | 2.3      | 0.02                         | 0.01                                 | 4.87 | 2.21 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 4,876 | 29.8     | 1.13                         | 0.65                                 | 2.98 | 1.73 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 4,865 | 2.0      | 0.01                         | 0.00                                 | 2.58 | 1.61 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 4,917 | 1.2      | 0.03                         | 0.01                                 | 8.97 | 3.00 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 4,803 | 2.1      | 0.02                         | 0.01                                 | 3.19 | 1.79 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 3,873 | 44.4     | 1.15                         | 0.80                                 | 2.07 | 1.44 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 4,820 | 2.5      | 0.02                         | 0.01                                 | 2.75 | 1.66 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 4,826 | 2.6      | 0.02                         | 0.01                                 | 3.06 | 1.75 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 4,809 | 1.7      | 0.02                         | 0.01                                 | 2.61 | 1.61 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 4,815 | 3.0      | 0.02                         | 0.01                                 | 2.40 | 1.55 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 3,583 | 3.8      | 0.01                         | 0.01                                 | 1.90 | 1.38 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 4,874 | 5.3      | 0.59                         | 0.32                                 | 3.32 | 1.82 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 4,753 | 2.1      | 0.02                         | 0.01                                 | 3.98 | 2.00 |

See notes at end of table



**Table F-11. Student standard errors and design effects—Rural schools—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 4,838 | 60.3     | 3.51                         | 1.27                                 | 7.57 | 2.75 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 3,576 | 51.0     | 1.31                         | 0.84                                 | 2.44 | 1.56 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 4,783 | 3.1      | 0.03                         | 0.01                                 | 5.46 | 2.34 |
| Participated in a science competition                                        | S2SCOMPETE              | 4,743 | 5.1      | 0.59                         | 0.32                                 | 3.43 | 1.85 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 4,800 | 2.5      | 0.02                         | 0.01                                 | 3.48 | 1.86 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 4,829 | 1.8      | 0.03                         | 0.01                                 | 4.81 | 2.19 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 4,818 | 1.1      | 0.01                         | 0.01                                 | 3.04 | 1.74 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 4,767 | 3.0      | 0.02                         | 0.01                                 | 1.72 | 1.31 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 4,852 | 1.5      | 0.02                         | 0.01                                 | 2.55 | 1.60 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 4,835 | 3.6      | 0.36                         | 0.27                                 | 1.83 | 1.35 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 4,835 | 2.0      | 0.31                         | 0.20                                 | 2.33 | 1.53 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 4,835 | 1.9      | 0.32                         | 0.20                                 | 2.71 | 1.65 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 4,835 | 1.8      | 0.34                         | 0.19                                 | 3.23 | 1.80 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 4,835 | 23.5     | 1.20                         | 0.61                                 | 3.85 | 1.96 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 4,835 | 25.4     | 0.97                         | 0.63                                 | 2.42 | 1.56 |
| Math theta (raw)                                                             | X2TXMTH                 | 3,494 | 1.1      | 0.03                         | 0.01                                 | 5.26 | 2.29 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.83 | 1.91 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.72 | 1.31 |
| Median                                                                       |                         |       |          |                              |                                      | 3.21 | 1.79 |
| Maximum                                                                      |                         |       |          |                              |                                      | 8.97 | 3.00 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.77 | 0.42 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-12. Student standard errors and design effects—Male students**

| Survey item <sup>1</sup>                                                | Variable     | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 9,922  | 2.2      | 0.02                         | 0.01                                 | 4.02 | 2.01 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 8,750  | 39.1     | 1.11                         | 0.52                                 | 4.50 | 2.12 |
| Took an AP math course                                                  | S2APMATH     | 3,322  | 30.9     | 1.35                         | 0.80                                 | 2.83 | 1.68 |
| Took an AP science course                                               | S2APSCIENCE  | 3,321  | 34.3     | 1.59                         | 0.82                                 | 3.71 | 1.93 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 8,033  | 3.5      | 0.41                         | 0.21                                 | 3.89 | 1.97 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 10,354 | 5.4      | 0.01                         | 0.01                                 | 4.29 | 2.07 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 10,042 | 2.8      | 0.02                         | 0.01                                 | 4.63 | 2.15 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 5,100  | 1.8      | 0.02                         | 0.01                                 | 3.24 | 1.80 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 10,281 | 72.8     | 0.97                         | 0.44                                 | 4.89 | 2.21 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 10,066 | 2.3      | 0.01                         | 0.01                                 | 4.08 | 2.02 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 10,218 | 31.8     | 0.81                         | 0.46                                 | 3.10 | 1.76 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 10,249 | 2.0      | 0.01                         | 0.00                                 | 3.21 | 1.79 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 10,383 | 1.3      | 0.02                         | 0.01                                 | 5.26 | 2.29 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 10,039 | 2.1      | 0.02                         | 0.01                                 | 4.15 | 2.04 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 8,669  | 46.6     | 1.02                         | 0.54                                 | 3.65 | 1.91 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 10,093 | 2.5      | 0.02                         | 0.01                                 | 3.76 | 1.94 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 10,136 | 2.6      | 0.02                         | 0.01                                 | 3.59 | 1.89 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 10,080 | 1.7      | 0.01                         | 0.01                                 | 3.04 | 1.74 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 10,059 | 2.9      | 0.02                         | 0.01                                 | 3.30 | 1.82 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 6,899  | 3.7      | 0.01                         | 0.01                                 | 3.12 | 1.77 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 10,268 | 5.6      | 0.36                         | 0.23                                 | 2.52 | 1.59 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 9,952  | 2.0      | 0.02                         | 0.01                                 | 3.85 | 1.96 |

See notes at end of table

**Table F-12. Student standard errors and design effects—Male students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 10,199 | 60.3     | 2.28                         | 0.92                                 | 6.17 | 2.48 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 7,762  | 52.9     | 1.20                         | 0.57                                 | 4.49 | 2.12 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 10,064 | 3.2      | 0.02                         | 0.01                                 | 3.45 | 1.86 |
| Participated in a science competition                                        | S2SCOMPETE              | 9,933  | 6.2      | 0.42                         | 0.24                                 | 2.97 | 1.72 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 10,093 | 2.5      | 0.02                         | 0.01                                 | 3.23 | 1.80 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 10,197 | 1.9      | 0.02                         | 0.01                                 | 4.38 | 2.09 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 10,181 | 1.2      | 0.01                         | 0.01                                 | 3.70 | 1.92 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 10,004 | 3.0      | 0.02                         | 0.01                                 | 3.87 | 1.97 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 10,228 | 1.6      | 0.02                         | 0.01                                 | 4.11 | 2.03 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 10,178 | 5.1      | 0.39                         | 0.22                                 | 3.11 | 1.76 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 10,178 | 3.2      | 0.28                         | 0.17                                 | 2.56 | 1.60 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 10,178 | 1.9      | 0.24                         | 0.14                                 | 3.04 | 1.74 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 10,178 | 0.6      | 0.12                         | 0.08                                 | 2.35 | 1.53 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 10,178 | 9.9      | 0.57                         | 0.30                                 | 3.72 | 1.93 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 10,178 | 33.1     | 0.79                         | 0.47                                 | 2.90 | 1.70 |
| Math theta (raw)                                                             | X2TXMTH                 | 7,739  | 1.1      | 0.02                         | 0.01                                 | 3.58 | 1.89 |
| Summary statistics                                                           |                         |        |          |                              |                                      |      |      |
| Mean                                                                         |                         |        |          |                              |                                      | 3.69 | 1.91 |
| Minimum                                                                      |                         |        |          |                              |                                      | 2.35 | 1.53 |
| Median                                                                       |                         |        |          |                              |                                      | 3.67 | 1.92 |
| Maximum                                                                      |                         |        |          |                              |                                      | 6.17 | 2.48 |
| Standard deviation                                                           |                         |        |          |                              |                                      | 0.79 | 0.20 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-13. Student standard errors and design effects—Female students**

| Survey item <sup>1</sup>                                                | Variable     | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 9,824  | 2.1      | 0.02                         | 0.01                                 | 4.58 | 2.14 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 8,680  | 41.3     | 1.18                         | 0.53                                 | 5.03 | 2.24 |
| Took an AP math course                                                  | S2APMATH     | 3,942  | 20.8     | 1.13                         | 0.65                                 | 3.06 | 1.75 |
| Took an AP science course                                               | S2APSCIENCE  | 3,946  | 31.9     | 1.37                         | 0.74                                 | 3.41 | 1.85 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 8,015  | 3.9      | 0.53                         | 0.22                                 | 6.05 | 2.46 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 10,197 | 5.6      | 0.01                         | 0.01                                 | 5.20 | 2.28 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 9,919  | 2.8      | 0.02                         | 0.01                                 | 3.57 | 1.89 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 6,187  | 1.8      | 0.01                         | 0.01                                 | 3.29 | 1.81 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 10,121 | 86.5     | 0.67                         | 0.34                                 | 3.88 | 1.97 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 9,941  | 2.3      | 0.01                         | 0.01                                 | 3.97 | 1.99 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 10,089 | 29.1     | 0.85                         | 0.45                                 | 3.51 | 1.87 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 10,108 | 2.0      | 0.01                         | 0.00                                 | 3.94 | 1.98 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 10,208 | 1.4      | 0.02                         | 0.01                                 | 4.64 | 2.15 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 9,944  | 2.2      | 0.01                         | 0.01                                 | 3.57 | 1.89 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 8,607  | 45.7     | 0.93                         | 0.54                                 | 2.97 | 1.72 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 9,979  | 2.6      | 0.02                         | 0.01                                 | 3.41 | 1.85 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 9,967  | 2.7      | 0.02                         | 0.01                                 | 3.40 | 1.84 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 9,952  | 1.8      | 0.02                         | 0.01                                 | 4.58 | 2.14 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 9,978  | 3.0      | 0.01                         | 0.01                                 | 3.00 | 1.73 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 7,740  | 3.8      | 0.01                         | 0.01                                 | 3.93 | 1.98 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 10,125 | 6.2      | 0.39                         | 0.24                                 | 2.70 | 1.64 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 9,868  | 2.1      | 0.01                         | 0.01                                 | 3.07 | 1.75 |

See notes at end of table

**Table F-13. Student standard errors and design effects—Female students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 10,086 | 61.9     | 2.01                         | 0.89                                 | 5.09 | 2.26 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 7,866  | 50.8     | 1.03                         | 0.56                                 | 3.36 | 1.83 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 9,919  | 3.0      | 0.01                         | 0.01                                 | 2.97 | 1.72 |
| Participated in a science competition                                        | S2SCOMPETE              | 9,856  | 4.7      | 0.40                         | 0.21                                 | 3.55 | 1.88 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 9,953  | 2.6      | 0.02                         | 0.01                                 | 2.81 | 1.68 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 10,064 | 1.7      | 0.01                         | 0.01                                 | 3.35 | 1.83 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 10,060 | 1.1      | 0.01                         | 0.00                                 | 3.20 | 1.79 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 9,886  | 3.1      | 0.01                         | 0.01                                 | 2.20 | 1.48 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 10,114 | 1.4      | 0.01                         | 0.01                                 | 2.97 | 1.72 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 10,062 | 2.4      | 0.23                         | 0.15                                 | 2.34 | 1.53 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 10,062 | 0.7      | 0.14                         | 0.08                                 | 3.05 | 1.75 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 10,062 | 0.5      | 0.15                         | 0.07                                 | 4.18 | 2.04 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 10,062 | 2.6      | 0.34                         | 0.16                                 | 4.41 | 2.10 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 10,062 | 33.6     | 0.87                         | 0.47                                 | 3.40 | 1.84 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 10,062 | 22.7     | 0.75                         | 0.42                                 | 3.21 | 1.79 |
| Math theta (raw)                                                             | X2TXMTH                 | 7,761  | 1.1      | 0.02                         | 0.01                                 | 5.11 | 2.26 |
| Summary statistics                                                           |                         |        |          |                              |                                      |      |      |
| Mean                                                                         |                         |        |          |                              |                                      | 3.68 | 1.91 |
| Minimum                                                                      |                         |        |          |                              |                                      | 2.20 | 1.48 |
| Median                                                                       |                         |        |          |                              |                                      | 3.41 | 1.85 |
| Maximum                                                                      |                         |        |          |                              |                                      | 6.05 | 2.46 |
| Standard deviation                                                           |                         |        |          |                              |                                      | 0.86 | 0.22 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-14. Student standard errors and design effects—Hispanic students**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 3,112 | 2.4      | 0.04                         | 0.02                                 | 3.63 | 1.91 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 2,705 | 39.4     | 2.07                         | 0.94                                 | 4.86 | 2.21 |
| Took an AP math course                                                  | S2APMATH     | 959   | 20.4     | 2.12                         | 1.30                                 | 2.65 | 1.63 |
| Took an AP science course                                               | S2APSCIENCE  | 958   | 30.9     | 2.47                         | 1.49                                 | 2.73 | 1.65 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 2,445 | 3.8      | 0.78                         | 0.39                                 | 4.08 | 2.02 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 3,260 | 5.5      | 0.03                         | 0.01                                 | 5.19 | 2.28 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 3,141 | 2.6      | 0.03                         | 0.01                                 | 3.61 | 1.90 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,513 | 1.8      | 0.04                         | 0.02                                 | 4.70 | 2.17 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 3,232 | 72.4     | 1.61                         | 0.79                                 | 4.21 | 2.05 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 3,138 | 2.3      | 0.02                         | 0.01                                 | 3.31 | 1.82 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 3,205 | 30.0     | 1.57                         | 0.81                                 | 3.75 | 1.94 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 3,213 | 2.0      | 0.01                         | 0.01                                 | 3.42 | 1.85 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 3,270 | 1.9      | 0.04                         | 0.02                                 | 3.86 | 1.97 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 3,124 | 2.2      | 0.03                         | 0.01                                 | 3.96 | 1.99 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 2,681 | 42.4     | 1.76                         | 0.95                                 | 3.41 | 1.85 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 3,154 | 2.5      | 0.03                         | 0.02                                 | 4.55 | 2.13 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 3,160 | 2.7      | 0.04                         | 0.02                                 | 4.49 | 2.12 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 3,158 | 1.7      | 0.02                         | 0.01                                 | 2.01 | 1.42 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 3,148 | 3.0      | 0.03                         | 0.01                                 | 3.76 | 1.94 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 2,242 | 3.7      | 0.02                         | 0.01                                 | 3.65 | 1.91 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 3,228 | 7.4      | 0.85                         | 0.46                                 | 3.39 | 1.84 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 3,115 | 2.2      | 0.03                         | 0.01                                 | 3.80 | 1.95 |

See notes at end of table

**Table F-14. Student standard errors and design effects—Hispanic students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 3,204 | 61.1     | 3.88                         | 1.82                                 | 4.52 | 2.13 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 2,374 | 45.2     | 2.19                         | 1.02                                 | 4.60 | 2.14 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 3,148 | 3.0      | 0.03                         | 0.01                                 | 4.29 | 2.07 |
| Participated in a science competition                                        | S2SCOMPETE              | 3,115 | 4.4      | 0.67                         | 0.37                                 | 3.34 | 1.83 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 3,147 | 2.6      | 0.03                         | 0.02                                 | 3.83 | 1.96 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 3,206 | 1.9      | 0.03                         | 0.01                                 | 4.68 | 2.16 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 3,186 | 1.3      | 0.02                         | 0.01                                 | 5.03 | 2.24 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 3,131 | 3.0      | 0.03                         | 0.01                                 | 4.54 | 2.13 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 3,216 | 1.5      | 0.04                         | 0.02                                 | 4.91 | 2.22 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 3,197 | 3.6      | 0.59                         | 0.33                                 | 3.24 | 1.80 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 3,197 | 1.7      | 0.41                         | 0.23                                 | 3.31 | 1.82 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 3,197 | 1.1      | 0.36                         | 0.18                                 | 3.81 | 1.95 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 3,197 | 1.7      | 0.55                         | 0.23                                 | 5.96 | 2.44 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 3,197 | 20.8     | 1.47                         | 0.72                                 | 4.18 | 2.04 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 3,197 | 31.7     | 1.54                         | 0.82                                 | 3.49 | 1.87 |
| Math theta (raw)                                                             | X2TXMTH                 | 2,200 | 91.4     | 2.79                         | 1.49                                 | 3.50 | 1.87 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.95 | 1.98 |
| Minimum                                                                      |                         |       |          |                              |                                      | 2.01 | 1.42 |
| Median                                                                       |                         |       |          |                              |                                      | 3.82 | 1.95 |
| Maximum                                                                      |                         |       |          |                              |                                      | 5.96 | 2.44 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 0.77 | 0.20 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-15. Student standard errors and design effects—Asian students**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 1,629 | 1.6      | 0.06                         | 0.02                                 | 6.65 | 2.58 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 1,524 | 27.0     | 2.59                         | 1.14                                 | 5.21 | 2.28 |
| Took an AP math course                                                  | S2APMATH     | 997   | 40.4     | 4.86                         | 1.55                                 | 9.77 | 3.13 |
| Took an AP science course                                               | S2APSCIENCE  | 996   | 39.5     | 4.14                         | 1.55                                 | 7.14 | 2.67 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 1,467 | 1.6      | 0.55                         | 0.33                                 | 2.76 | 1.66 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 1,673 | 5.7      | 0.03                         | 0.01                                 | 4.76 | 2.18 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 1,613 | 2.9      | 0.04                         | 0.02                                 | 4.75 | 2.18 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 968   | 1.9      | 0.05                         | 0.02                                 | 4.70 | 2.17 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 1,655 | 86.4     | 2.24                         | 0.84                                 | 7.10 | 2.66 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 1,624 | 2.4      | 0.04                         | 0.01                                 | 7.74 | 2.78 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 1,654 | 43.3     | 1.97                         | 1.22                                 | 2.62 | 1.62 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 1,657 | 2.0      | 0.01                         | 0.00                                 | 1.98 | 1.41 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 1,675 | 2.7      | 0.10                         | 0.04                                 | 6.92 | 2.63 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 1,620 | 2.0      | 0.03                         | 0.02                                 | 3.58 | 1.89 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 1,517 | 60.1     | 2.40                         | 1.26                                 | 3.65 | 1.91 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 1,631 | 2.3      | 0.05                         | 0.02                                 | 6.39 | 2.53 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 1,617 | 2.3      | 0.04                         | 0.02                                 | 2.97 | 1.72 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 1,623 | 1.7      | 0.04                         | 0.02                                 | 5.98 | 2.45 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 1,629 | 3.2      | 0.04                         | 0.02                                 | 3.80 | 1.95 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 1,089 | 3.7      | 0.03                         | 0.02                                 | 3.08 | 1.75 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 1,651 | 1.7      | 0.66                         | 0.32                                 | 4.21 | 2.05 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 1,603 | 2.0      | 0.05                         | 0.02                                 | 6.55 | 2.56 |

See notes at end of table



**Table F-15. Student standard errors and design effects—Asian students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 1,653 | 74.7     | 4.72                         | 2.24                                 | 4.43  | 2.10 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 1,445 | 61.0     | 2.62                         | 1.28                                 | 4.16  | 2.04 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 1,617 | 3.1      | 0.04                         | 0.02                                 | 4.90  | 2.21 |
| Participated in a science competition                                        | S2SCOMPETE              | 1,592 | 12.6     | 1.76                         | 0.83                                 | 4.46  | 2.11 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 1,627 | 2.4      | 0.07                         | 0.02                                 | 8.13  | 2.85 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 1,656 | 1.6      | 0.06                         | 0.02                                 | 10.24 | 3.20 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 1,656 | 1.1      | 0.02                         | 0.01                                 | 3.52  | 1.88 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 1,613 | 3.1      | 0.04                         | 0.02                                 | 4.79  | 2.19 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 1,649 | 1.5      | 0.04                         | 0.02                                 | 3.23  | 1.80 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 1,649 | 2.2      | 0.87                         | 0.36                                 | 5.81  | 2.41 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 1,649 | 0.9      | 0.39                         | 0.23                                 | 2.85  | 1.69 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 1,649 | 0.0      | 0.01                         | 0.02                                 | 0.15  | 0.39 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 1,649 | 0.6      | 0.29                         | 0.20                                 | 2.16  | 1.47 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 1,649 | 27.9     | 2.49                         | 1.11                                 | 5.09  | 2.26 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 1,649 | 38.3     | 2.13                         | 1.20                                 | 3.16  | 1.78 |
| Math theta (raw)                                                             | X2TXMTH                 | 1,519 | 1.7      | 0.07                         | 0.03                                 | 7.23  | 2.69 |
| Summary statistics                                                           |                         |       |          |                              |                                      |       |      |
| Mean                                                                         |                         |       |          |                              |                                      | 4.91  | 2.15 |
| Minimum                                                                      |                         |       |          |                              |                                      | 0.15  | 0.39 |
| Median                                                                       |                         |       |          |                              |                                      | 4.73  | 2.17 |
| Maximum                                                                      |                         |       |          |                              |                                      | 10.24 | 3.20 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 2.17  | 0.53 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-16. Student standard errors and design effects—Black students**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 2,005 | 2.4      | 0.05                         | 0.02                                 | 3.73 | 1.93 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 1,700 | 46.7     | 2.05                         | 1.21                                 | 2.86 | 1.69 |
| Took an AP math course                                                  | S2APMATH     | 517   | 25.1     | 3.43                         | 1.91                                 | 3.23 | 1.80 |
| Took an AP science course                                               | S2APSCIENCE  | 520   | 34.5     | 4.02                         | 2.09                                 | 3.71 | 1.93 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 1,532 | 5.1      | 1.16                         | 0.56                                 | 4.29 | 2.07 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 2,114 | 5.4      | 0.04                         | 0.02                                 | 5.16 | 2.27 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 2,029 | 2.8      | 0.05                         | 0.02                                 | 7.54 | 2.75 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,209 | 1.8      | 0.03                         | 0.02                                 | 3.14 | 1.77 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 2,097 | 82.3     | 1.81                         | 0.83                                 | 4.71 | 2.17 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 2,028 | 2.2      | 0.02                         | 0.01                                 | 3.77 | 1.94 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 2,081 | 32.6     | 1.55                         | 1.03                                 | 2.28 | 1.51 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 2,092 | 2.1      | 0.01                         | 0.01                                 | 2.98 | 1.73 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 2,120 | 1.2      | 0.03                         | 0.01                                 | 4.88 | 2.21 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 2,028 | 2.0      | 0.04                         | 0.02                                 | 5.84 | 2.42 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 1,684 | 54.6     | 2.17                         | 1.21                                 | 3.20 | 1.79 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 2,041 | 2.4      | 0.05                         | 0.02                                 | 4.86 | 2.20 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 2,045 | 2.6      | 0.04                         | 0.02                                 | 2.87 | 1.70 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 2,031 | 1.6      | 0.03                         | 0.02                                 | 4.38 | 2.09 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 2,028 | 3.0      | 0.03                         | 0.02                                 | 3.05 | 1.75 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 1,590 | 3.8      | 0.03                         | 0.01                                 | 3.30 | 1.82 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 2,093 | 8.7      | 0.96                         | 0.62                                 | 2.44 | 1.56 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 2,003 | 2.0      | 0.03                         | 0.02                                 | 2.71 | 1.65 |

See notes at end of table

**Table F-16. Student standard errors and design effects—Black students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 2,079 | 60.3     | 4.38                         | 1.92                                 | 5.21 | 2.28 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 1,493 | 55.0     | 2.39                         | 1.29                                 | 3.44 | 1.85 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 2,030 | 3.1      | 0.04                         | 0.02                                 | 3.22 | 1.80 |
| Participated in a science competition                                        | S2SCOMPETE              | 2,006 | 5.6      | 0.86                         | 0.51                                 | 2.83 | 1.68 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 2,033 | 2.6      | 0.03                         | 0.02                                 | 2.52 | 1.59 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 2,073 | 1.8      | 0.04                         | 0.02                                 | 4.38 | 2.09 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 2,074 | 1.1      | 0.02                         | 0.01                                 | 3.49 | 1.87 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 2,013 | 3.1      | 0.03                         | 0.02                                 | 3.70 | 1.92 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 2,079 | 1.5      | 0.04                         | 0.02                                 | 3.72 | 1.93 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 2,078 | 5.4      | 0.94                         | 0.50                                 | 3.60 | 1.90 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 2,078 | 2.1      | 0.51                         | 0.31                                 | 2.64 | 1.62 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 2,078 | 1.1      | 0.42                         | 0.23                                 | 3.18 | 1.78 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 2,078 | 2.3      | 0.55                         | 0.33                                 | 2.77 | 1.66 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 2,078 | 25.6     | 2.07                         | 0.96                                 | 4.67 | 2.16 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 2,078 | 22.6     | 1.74                         | 0.92                                 | 3.57 | 1.89 |
| Math theta (raw)                                                             | X2TXMTH                 | 1,269 | 76.5     | 2.97                         | 1.61                                 | 3.40 | 1.84 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.72 | 1.91 |
| Minimum                                                                      |                         |       |          |                              |                                      | 2.28 | 1.51 |
| Median                                                                       |                         |       |          |                              |                                      | 3.46 | 1.86 |
| Maximum                                                                      |                         |       |          |                              |                                      | 7.54 | 2.75 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 1.07 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-17. Student standard errors and design effects—White students**

| Survey item <sup>1</sup>                                                | Variable     | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 11,083 | 2.0      | 0.02                         | 0.01                                 | 3.93 | 1.98 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 9,804  | 39.1     | 1.15                         | 0.49                                 | 5.43 | 2.33 |
| Took an AP math course                                                  | S2APMATH     | 4,086  | 26.0     | 1.06                         | 0.69                                 | 2.41 | 1.55 |
| Took an AP science course                                               | S2APSCIENCE  | 4,088  | 33.1     | 1.25                         | 0.74                                 | 2.87 | 1.69 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 9,072  | 3.5      | 0.47                         | 0.19                                 | 5.99 | 2.45 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 11,515 | 5.5      | 0.01                         | 0.01                                 | 2.79 | 1.67 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 11,239 | 2.9      | 0.01                         | 0.01                                 | 2.80 | 1.67 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 6,509  | 1.9      | 0.01                         | 0.01                                 | 2.12 | 1.46 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 11,438 | 81.3     | 0.57                         | 0.36                                 | 2.43 | 1.56 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 11,270 | 2.3      | 0.01                         | 0.00                                 | 3.54 | 1.88 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 11,396 | 29.4     | 0.65                         | 0.43                                 | 2.31 | 1.52 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 11,415 | 2.0      | 0.00                         | 0.00                                 | 2.10 | 1.45 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 11,531 | 1.1      | 0.01                         | 0.00                                 | 3.51 | 1.87 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 11,263 | 2.1      | 0.01                         | 0.01                                 | 2.45 | 1.57 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 9,709  | 44.8     | 0.77                         | 0.50                                 | 2.30 | 1.52 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 11,289 | 2.6      | 0.01                         | 0.01                                 | 2.39 | 1.54 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 11,325 | 2.6      | 0.02                         | 0.01                                 | 3.11 | 1.76 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 11,278 | 1.8      | 0.01                         | 0.01                                 | 1.83 | 1.35 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 11,280 | 2.9      | 0.01                         | 0.01                                 | 1.92 | 1.39 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 8,243  | 3.8      | 0.01                         | 0.01                                 | 1.72 | 1.31 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 11,442 | 4.4      | 0.28                         | 0.19                                 | 2.21 | 1.49 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 11,176 | 2.1      | 0.01                         | 0.01                                 | 2.48 | 1.57 |

See notes at end of table

**Table F-17. Student standard errors and design effects—White students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 11,376 | 61.4     | 2.03                         | 0.82                                 | 6.17 | 2.48 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 8,822  | 53.1     | 0.83                         | 0.53                                 | 2.41 | 1.55 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 11,240 | 3.2      | 0.01                         | 0.01                                 | 2.83 | 1.68 |
| Participated in a science competition                                        | S2SCOMPETE              | 11,145 | 5.3      | 0.37                         | 0.21                                 | 3.08 | 1.75 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 11,289 | 2.5      | 0.01                         | 0.01                                 | 2.72 | 1.65 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 11,370 | 1.8      | 0.01                         | 0.01                                 | 3.13 | 1.77 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 11,360 | 1.1      | 0.00                         | 0.00                                 | 1.54 | 1.24 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 11,204 | 3.0      | 0.01                         | 0.01                                 | 1.60 | 1.26 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 11,422 | 1.6      | 0.01                         | 0.01                                 | 2.33 | 1.53 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 11,351 | 3.6      | 0.23                         | 0.17                                 | 1.72 | 1.31 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 11,351 | 2.1      | 0.18                         | 0.13                                 | 1.75 | 1.32 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 11,351 | 1.4      | 0.17                         | 0.11                                 | 2.40 | 1.55 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 11,351 | 1.5      | 0.17                         | 0.12                                 | 2.05 | 1.43 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 11,351 | 20.8     | 0.50                         | 0.38                                 | 1.75 | 1.32 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 11,351 | 27.6     | 0.57                         | 0.42                                 | 1.82 | 1.35 |
| Math theta (raw)                                                             | X2TXMTH                 | 9,031  | 1.2      | 0.02                         | 0.01                                 | 3.12 | 1.77 |
| Summary statistics                                                           |                         |        |          |                              |                                      |      |      |
| Mean                                                                         |                         |        |          |                              |                                      | 2.71 | 1.62 |
| Minimum                                                                      |                         |        |          |                              |                                      | 1.54 | 1.24 |
| Median                                                                       |                         |        |          |                              |                                      | 2.41 | 1.55 |
| Maximum                                                                      |                         |        |          |                              |                                      | 6.17 | 2.48 |
| Standard deviation                                                           |                         |        |          |                              |                                      | 1.10 | 0.30 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-18. Student standard errors and design effects—Multiracial students**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 1,917 | 2.3      | 0.06                         | 0.03                                 | 4.13 | 2.03 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 1,697 | 45.3     | 2.46                         | 1.21                                 | 4.14 | 2.03 |
| Took an AP math course                                                  | S2APMATH     | 705   | 22.9     | 2.76                         | 1.58                                 | 3.04 | 1.74 |
| Took an AP science course                                               | S2APSCIENCE  | 705   | 30.3     | 3.12                         | 1.73                                 | 3.23 | 1.80 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 1,532 | 3.7      | 0.88                         | 0.48                                 | 3.39 | 1.84 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 1,989 | 5.5      | 0.03                         | 0.01                                 | 3.03 | 1.74 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 1,939 | 2.7      | 0.03                         | 0.02                                 | 2.28 | 1.51 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,088 | 1.8      | 0.03                         | 0.02                                 | 3.23 | 1.80 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 1,980 | 81.2     | 1.67                         | 0.88                                 | 3.61 | 1.90 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 1,947 | 2.3      | 0.02                         | 0.01                                 | 3.06 | 1.75 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 1,971 | 28.9     | 1.80                         | 1.02                                 | 3.10 | 1.76 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 1,980 | 2.0      | 0.01                         | 0.01                                 | 3.93 | 1.98 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 1,995 | 1.2      | 0.03                         | 0.02                                 | 2.27 | 1.51 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 1,948 | 2.1      | 0.03                         | 0.02                                 | 1.98 | 1.41 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 1,685 | 45.1     | 1.99                         | 1.21                                 | 2.68 | 1.64 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 1,957 | 2.6      | 0.03                         | 0.02                                 | 2.50 | 1.58 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 1,956 | 2.7      | 0.04                         | 0.02                                 | 2.55 | 1.60 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 1,942 | 1.8      | 0.03                         | 0.02                                 | 3.49 | 1.87 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 1,952 | 2.9      | 0.03                         | 0.02                                 | 2.70 | 1.64 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 1,475 | 3.8      | 0.02                         | 0.01                                 | 2.77 | 1.66 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 1,979 | 8.2      | 1.06                         | 0.62                                 | 2.96 | 1.72 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 1,923 | 2.1      | 0.03                         | 0.02                                 | 2.88 | 1.70 |

See notes at end of table

**Table F-18. Student standard errors and design effects—Multiracial students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Number of times teenager has taken the SAT or ACT                            | S2SATNUM                | 1,973 | 54.5     | 3.30                         | 1.94                                 | 2.89 | 1.70 |
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 1,494 | 51.7     | 2.27                         | 1.29                                 | 3.09 | 1.76 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 1,948 | 3.1      | 0.03                         | 0.02                                 | 3.06 | 1.75 |
| Participated in a science competition                                        | S2SCOMPETE              | 1,931 | 5.8      | 0.89                         | 0.53                                 | 2.81 | 1.68 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 1,950 | 2.5      | 0.04                         | 0.02                                 | 3.04 | 1.74 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 1,956 | 1.8      | 0.04                         | 0.02                                 | 3.44 | 1.86 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 1,965 | 1.2      | 0.02                         | 0.01                                 | 4.18 | 2.04 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 1,929 | 3.0      | 0.04                         | 0.02                                 | 3.77 | 1.94 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 1,976 | 1.6      | 0.03                         | 0.02                                 | 2.37 | 1.54 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 1,965 | 3.7      | 0.82                         | 0.43                                 | 3.65 | 1.91 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 1,965 | 1.9      | 0.39                         | 0.31                                 | 1.61 | 1.27 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 1,965 | 1.0      | 0.55                         | 0.23                                 | 5.73 | 2.39 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 1,965 | 1.2      | 0.35                         | 0.25                                 | 2.02 | 1.42 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 1,965 | 20.7     | 1.50                         | 0.91                                 | 2.69 | 1.64 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 1,965 | 24.0     | 1.65                         | 0.96                                 | 2.95 | 1.72 |
| Math theta (raw)                                                             | X2TXMTH                 | 1,481 | 1.1      | 0.04                         | 0.02                                 | 3.02 | 1.74 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.09 | 1.74 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.61 | 1.27 |
| Median                                                                       |                         |       |          |                              |                                      | 3.04 | 1.74 |
| Maximum                                                                      |                         |       |          |                              |                                      | 5.73 | 2.39 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 0.74 | 0.21 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-19. Student standard errors and design effects—Low percentile SES students**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 3,816 | 2.5      | 0.04                         | 0.02                                 | 3.31 | 1.82 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 3,156 | 40.8     | 1.58                         | 0.87                                 | 3.26 | 1.80 |
| Took an AP math course                                                  | S2APMATH     | 899   | 26.5     | 2.43                         | 1.47                                 | 2.73 | 1.65 |
| Took an AP science course                                               | S2APSCIENCE  | 899   | 29.3     | 2.96                         | 1.52                                 | 3.80 | 1.95 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 2,749 | 4.6      | 0.84                         | 0.40                                 | 4.42 | 2.10 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 4,037 | 5.4      | 0.02                         | 0.01                                 | 4.10 | 2.03 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 3,877 | 2.5      | 0.03                         | 0.01                                 | 4.28 | 2.07 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 1,810 | 1.7      | 0.03                         | 0.01                                 | 3.16 | 1.78 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 4,003 | 71.9     | 1.40                         | 0.71                                 | 3.90 | 1.97 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 3,905 | 2.3      | 0.02                         | 0.01                                 | 3.41 | 1.85 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 3,977 | 29.0     | 1.28                         | 0.72                                 | 3.17 | 1.78 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 3,966 | 2.0      | 0.01                         | 0.01                                 | 2.87 | 1.69 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 4,051 | 1.6      | 0.03                         | 0.02                                 | 4.17 | 2.04 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 3,875 | 2.2      | 0.02                         | 0.01                                 | 2.48 | 1.57 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 3,122 | 43.9     | 1.45                         | 0.89                                 | 2.66 | 1.63 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 3,904 | 2.5      | 0.03                         | 0.02                                 | 3.07 | 1.75 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 3,909 | 2.7      | 0.03                         | 0.02                                 | 3.31 | 1.82 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 3,890 | 1.7      | 0.02                         | 0.01                                 | 3.42 | 1.85 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 3,890 | 3.0      | 0.03                         | 0.01                                 | 3.66 | 1.91 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 2,804 | 3.7      | 0.02                         | 0.01                                 | 2.67 | 1.63 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 3,999 | 8.4      | 0.71                         | 0.44                                 | 2.58 | 1.61 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 3,833 | 2.1      | 0.02                         | 0.01                                 | 2.91 | 1.71 |
| Number of times teenager has taken the SAT or ACT                       | S2SATNUM     | 3,971 | 61.1     | 3.18                         | 1.59                                 | 4.02 | 2.01 |

See notes at end of table



**Table F-19. Student standard errors and design effects—Low percentile SES students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 2,660 | 47.1     | 2.04                         | 0.97                                 | 4.42 | 2.10 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 3,879 | 3.0      | 0.02                         | 0.01                                 | 2.80 | 1.67 |
| Participated in a science competition                                        | S2SCOMPETE              | 3,863 | 4.5      | 0.57                         | 0.34                                 | 2.90 | 1.70 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 3,895 | 2.6      | 0.02                         | 0.01                                 | 2.93 | 1.71 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 3,985 | 2.0      | 0.02                         | 0.01                                 | 2.79 | 1.67 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 3,939 | 1.3      | 0.01                         | 0.01                                 | 2.61 | 1.62 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 3,834 | 3.0      | 0.02                         | 0.01                                 | 3.76 | 1.94 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 3,982 | 1.5      | 0.02                         | 0.01                                 | 2.68 | 1.64 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 3,967 | 3.6      | 0.58                         | 0.30                                 | 3.78 | 1.94 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 3,967 | 1.9      | 0.37                         | 0.22                                 | 2.84 | 1.68 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 3,967 | 1.5      | 0.34                         | 0.19                                 | 3.08 | 1.75 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 3,967 | 1.3      | 0.28                         | 0.18                                 | 2.47 | 1.57 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 3,967 | 20.5     | 1.12                         | 0.64                                 | 3.04 | 1.74 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 3,967 | 30.6     | 1.41                         | 0.73                                 | 3.71 | 1.93 |
| Math theta (raw)                                                             | X2TXMTH                 | 2,413 | 80.6     | 2.48                         | 1.33                                 | 3.47 | 1.86 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 3.28 | 1.80 |
| Minimum                                                                      |                         |       |          |                              |                                      | 2.47 | 1.57 |
| Median                                                                       |                         |       |          |                              |                                      | 3.16 | 1.78 |
| Maximum                                                                      |                         |       |          |                              |                                      | 4.42 | 2.10 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 0.57 | 0.16 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-20. Student standard errors and design effects—Middle percentile SES students**

| Survey item <sup>1</sup>                                                | Variable     | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 11,863 | 2.2      | 0.02                         | 0.01                                 | 3.68 | 1.92 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 10,468 | 42.3     | 1.10                         | 0.48                                 | 5.21 | 2.28 |
| Took an AP math course                                                  | S2APMATH     | 4,091  | 23.8     | 1.17                         | 0.67                                 | 3.11 | 1.76 |
| Took an AP science course                                               | S2APSCIENCE  | 4,091  | 31.6     | 1.17                         | 0.73                                 | 2.59 | 1.61 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 9,652  | 3.8      | 0.41                         | 0.19                                 | 4.40 | 2.10 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 12,367 | 5.5      | 0.01                         | 0.01                                 | 5.01 | 2.24 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 12,036 | 2.8      | 0.01                         | 0.01                                 | 3.41 | 1.85 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 6,830  | 1.8      | 0.01                         | 0.01                                 | 3.22 | 1.79 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 12,271 | 80.0     | 0.77                         | 0.36                                 | 4.55 | 2.13 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 12,050 | 2.3      | 0.01                         | 0.00                                 | 4.72 | 2.17 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 12,226 | 29.7     | 0.77                         | 0.41                                 | 3.45 | 1.86 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 12,264 | 2.0      | 0.00                         | 0.00                                 | 3.39 | 1.84 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 12,387 | 1.3      | 0.02                         | 0.01                                 | 5.72 | 2.39 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 12,041 | 2.1      | 0.01                         | 0.01                                 | 3.75 | 1.94 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 10,377 | 44.7     | 0.87                         | 0.49                                 | 3.20 | 1.79 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 12,098 | 2.6      | 0.02                         | 0.01                                 | 3.72 | 1.93 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 12,122 | 2.7      | 0.02                         | 0.01                                 | 3.25 | 1.80 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 12,083 | 1.8      | 0.01                         | 0.01                                 | 3.37 | 1.84 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 12,082 | 3.0      | 0.01                         | 0.01                                 | 2.54 | 1.59 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 8,945  | 3.8      | 0.01                         | 0.01                                 | 3.42 | 1.85 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 12,289 | 5.6      | 0.33                         | 0.21                                 | 2.58 | 1.60 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 11,947 | 2.1      | 0.01                         | 0.01                                 | 3.77 | 1.94 |
| Number of times teenager has taken the SAT or ACT                       | S2SATNUM     | 12,204 | 56.3     | 1.75                         | 0.79                                 | 4.98 | 2.23 |

See notes at end of table

**Table F-20. Student standard errors and design effects—Middle percentile SES students—  
Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n      | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|--------|----------|------------------------------|--------------------------------------|------|------|
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 9,389  | 50.7     | 0.80                         | 0.52                                 | 2.39 | 1.55 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 12,045 | 3.1      | 0.02                         | 0.01                                 | 4.30 | 2.07 |
| Participated in a science competition                                        | S2SCOMPETE              | 11,924 | 5.1      | 0.38                         | 0.20                                 | 3.60 | 1.90 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 12,091 | 2.5      | 0.01                         | 0.01                                 | 3.04 | 1.74 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 12,177 | 1.8      | 0.01                         | 0.01                                 | 3.64 | 1.91 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 12,188 | 1.2      | 0.01                         | 0.00                                 | 3.31 | 1.82 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 11,999 | 3.0      | 0.01                         | 0.01                                 | 2.35 | 1.53 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 12,238 | 1.5      | 0.02                         | 0.01                                 | 3.64 | 1.91 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 12,180 | 3.7      | 0.30                         | 0.17                                 | 3.15 | 1.77 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 12,180 | 2.1      | 0.20                         | 0.13                                 | 2.34 | 1.53 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 12,180 | 1.3      | 0.19                         | 0.10                                 | 3.23 | 1.80 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 12,180 | 1.8      | 0.27                         | 0.12                                 | 4.99 | 2.23 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 12,180 | 22.1     | 0.75                         | 0.38                                 | 3.96 | 1.99 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 12,180 | 26.4     | 0.81                         | 0.40                                 | 4.15 | 2.04 |
| Math theta (raw)                                                             | X2TXMTH                 | 9,309  | 1.1      | 0.01                         | 0.01                                 | 3.68 | 1.92 |
| Summary statistics                                                           |                         |        |          |                              |                                      |      |      |
| Mean                                                                         |                         |        |          |                              |                                      | 3.65 | 1.90 |
| Minimum                                                                      |                         |        |          |                              |                                      | 2.34 | 1.53 |
| Median                                                                       |                         |        |          |                              |                                      | 3.53 | 1.88 |
| Maximum                                                                      |                         |        |          |                              |                                      | 5.72 | 2.39 |
| Standard deviation                                                           |                         |        |          |                              |                                      | 0.84 | 0.22 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-21. Student standard errors and design effects—High percentile SES students**

| Survey item <sup>1</sup>                                                | Variable     | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------|--------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teenager's final grade in algebra I (7 Levels)                          | S2ALG1GRADE  | 4,067 | 1.7      | 0.04                         | 0.02                                 | 5.23 | 2.29 |
| Taking algebra II spring 2012                                           | S2ALG2M12    | 3,806 | 31.8     | 1.43                         | 0.75                                 | 3.61 | 1.90 |
| Took an AP math course                                                  | S2APMATH     | 2,274 | 28.3     | 1.51                         | 0.94                                 | 2.55 | 1.60 |
| Took an AP science course                                               | S2APSCIENCE  | 2,277 | 38.5     | 1.98                         | 1.02                                 | 3.76 | 1.94 |
| Taking biology II spring 2012                                           | S2BIO2S12    | 3,647 | 2.1      | 0.39                         | 0.24                                 | 2.72 | 1.65 |
| Teenager's Birth Year                                                   | S2BIRTHYR    | 4,147 | 5.6      | 0.01                         | 0.01                                 | 2.52 | 1.59 |
| If accepted to college, family can't afford (4 Levels)                  | S2CANTAFFORD | 4,048 | 3.2      | 0.02                         | 0.01                                 | 3.17 | 1.78 |
| How certain teenager is to attend most likely college/school (3 Levels) | S2CERTAINCLG | 2,647 | 2.0      | 0.02                         | 0.01                                 | 2.72 | 1.65 |
| Searched Internet or read college guides for college options            | S2CLGSEARCH  | 4,128 | 90.4     | 0.70                         | 0.46                                 | 2.35 | 1.53 |
| Teen has ever participated in Upward Bound                              | S2EVERUPWARD | 4,052 | 2.4      | 0.01                         | 0.01                                 | 2.30 | 1.52 |
| Math or science is fav subj                                             | S2FAVSUBJ    | 4,104 | 35.4     | 1.14                         | 0.75                                 | 2.32 | 1.52 |
| Grade teenager was in last school year (2010-2011)                      | S2GRD1011    | 4,127 | 2.0      | 0.00                         | 0.00                                 | 1.80 | 1.34 |
| Student's First Spoken Language (5 Levels)                              | S2LANG1ST    | 4,153 | 1.2      | 0.02                         | 0.01                                 | 3.59 | 1.89 |
| Confident can do excellent job on math tests (4 Levels)                 | S2MASSEXCL   | 4,067 | 2.0      | 0.02                         | 0.01                                 | 2.83 | 1.68 |
| Taking spring 2012 math because likes the challenged                    | S2MCHALLENGE | 3,777 | 54.5     | 1.35                         | 0.81                                 | 2.79 | 1.67 |
| Student is enjoying math class (4 Levels)                               | S2MENJOYING  | 4,070 | 2.5      | 0.02                         | 0.01                                 | 2.54 | 1.59 |
| Student sees self as math person (4 Levels)                             | S2MPERSON1   | 4,072 | 2.5      | 0.02                         | 0.02                                 | 2.45 | 1.56 |
| Student thinks math class will be useful in career (4 Levels)           | S2MUSEJOB    | 4,059 | 1.8      | 0.02                         | 0.01                                 | 2.14 | 1.46 |
| Teen thinks (spring 2012) math course is a waste of time (4 Levels)     | S2MWASTE     | 4,065 | 3.0      | 0.02                         | 0.01                                 | 3.19 | 1.79 |
| How much student has thought about occupation at age 30 (4 Levels)      | S2OCC30THINK | 2,890 | 3.8      | 0.01                         | 0.01                                 | 2.27 | 1.51 |
| Teenager attended a school besides Base Year/transfer/last school       | S2OTHHS      | 4,105 | 2.7      | 0.36                         | 0.25                                 | 2.07 | 1.44 |
| Confident can do excellent job on science assignments (4 Levels)        | S2SASSEXCL   | 4,040 | 2.0      | 0.02                         | 0.01                                 | 2.74 | 1.65 |
| Number of times teenager has taken the SAT or ACT                       | S2SATNUM     | 4,110 | 79.8     | 2.68                         | 1.41                                 | 3.60 | 1.90 |

See notes at end of table

**Table F-21. Student standard errors and design effects—High percentile SES students—Continued**

| Survey item <sup>1</sup>                                                     | Variable                | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|------------------------------------------------------------------------------|-------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Teen is taking spring 2012 science because he/she likes to be challenged     | S2SCHALLENGE            | 3,579 | 61.7     | 1.39                         | 0.81                                 | 2.91 | 1.71 |
| How teen compares males, females in science (5 Levels)                       | S2SCICOMP               | 4,059 | 3.2      | 0.02                         | 0.01                                 | 2.63 | 1.62 |
| Participated in a science competition                                        | S2SCOMPETE              | 4,002 | 8.5      | 0.79                         | 0.44                                 | 3.20 | 1.79 |
| Teenager sees self as science person (4 Levels)                              | S2SPERSON1              | 4,060 | 2.3      | 0.02                         | 0.01                                 | 2.95 | 1.72 |
| How sure teenager is that he/she will pursue Bachelor's degree (4 Levels)    | S2SUREBA                | 4,099 | 1.4      | 0.01                         | 0.01                                 | 1.84 | 1.36 |
| How sure teenager is that he/she will receive high school diploma (4 Levels) | S2SUREDIPL              | 4,114 | 1.1      | 0.01                         | 0.00                                 | 2.45 | 1.56 |
| Thinks science course is waste of time (4 Levels)                            | S2SWASTE                | 4,057 | 3.1      | 0.02                         | 0.01                                 | 1.88 | 1.37 |
| Times in class without books/reading material in last 6 months of school     | S2WOBOOKS               | 4,122 | 1.5      | 0.02                         | 0.01                                 | 2.46 | 1.57 |
| At age 30 exp to be a manager                                                | X2STU30OCC2 (composite) | 4,093 | 4.4      | 0.49                         | 0.32                                 | 2.37 | 1.54 |
| At age 30 exp to be in the military                                          | X2STU30OCC2 (composite) | 4,093 | 1.2      | 0.25                         | 0.17                                 | 2.19 | 1.48 |
| At age 30 exp to be an operative                                             | X2STU30OCC2 (composite) | 4,093 | 0.3      | 0.12                         | 0.09                                 | 1.74 | 1.32 |
| At age 30 exp to be a clergyman                                              | X2STU30OCC2 (composite) | 4,093 | 1.5      | 0.30                         | 0.19                                 | 2.51 | 1.58 |
| At age 30 exp to be a technician                                             | X2STU30OCC2 (composite) | 4,093 | 22.3     | 1.20                         | 0.65                                 | 3.40 | 1.84 |
| At age 30 doesn't know what to be                                            | X2STU30OCC2 (composite) | 4,093 | 29.1     | 1.18                         | 0.71                                 | 2.77 | 1.66 |
| Math theta (raw)                                                             | X2TXMTH                 | 3,778 | 1.6      | 0.02                         | 0.01                                 | 2.72 | 1.65 |
| Summary statistics                                                           |                         |       |          |                              |                                      |      |      |
| Mean                                                                         |                         |       |          |                              |                                      | 2.72 | 1.64 |
| Minimum                                                                      |                         |       |          |                              |                                      | 1.74 | 1.32 |
| Median                                                                       |                         |       |          |                              |                                      | 2.59 | 1.61 |
| Maximum                                                                      |                         |       |          |                              |                                      | 5.23 | 2.29 |
| Standard deviation                                                           |                         |       |          |                              |                                      | 0.67 | 0.19 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-22. Parent standard errors and design effects—overall**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                                    | P2RELSHP      | 8,647 | 73.2     | 0.85                         | 0.48                                 | 3.17 | 1.78 |
| Language other than English is regularly spoken in home                                             | P2HOMELANG    | 7,757 | 25.1     | 0.88                         | 0.49                                 | 3.18 | 1.78 |
| Teenager has not repeated any grades                                                                | P2REPEATNONE  | 8,165 | 83.4     | 0.78                         | 0.41                                 | 3.62 | 1.90 |
| Helped teenager with a school science fair project in last year                                     | P2SCIPROJ     | 8,103 | 29.6     | 0.84                         | 0.51                                 | 2.76 | 1.66 |
| Teenager has not skipped any grades                                                                 | P2SKIPNONE    | 8,065 | 97.1     | 0.30                         | 0.19                                 | 2.66 | 1.63 |
| Parent respondent highest level of education obtained (7 levels)                                    | P2HIDEG1      | 8,427 | 3.3      | 0.04                         | 0.02                                 | 5.65 | 2.38 |
| Highest level of education obtained between both parents (7 levels)                                 | X2PAREDU      | 8,651 | 3.6      | 0.05                         | 0.02                                 | 6.89 | 2.62 |
| Family has opened account(s) to save for teenager's college education                               | P2ACCTPAY     | 7,853 | 20.5     | 0.83                         | 0.46                                 | 3.31 | 1.82 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)                  | P2CERTAINCLG  | 3,371 | 1.7      | 0.02                         | 0.01                                 | 2.35 | 1.53 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                           | P2DROPOUTHS   | 7,546 | 5.1      | 0.50                         | 0.25                                 | 3.85 | 1.96 |
| Family plans to help teenager pay for postsecondary education (3 levels)                            | P2HELPPAY     | 7,994 | 1.4      | 0.02                         | 0.01                                 | 4.73 | 2.17 |
| Student lives with parent questionnaire respondent all of the time                                  | P2HHTIME      | 8,160 | 90.5     | 0.55                         | 0.33                                 | 2.88 | 1.70 |
| Language other than English is regularly spoken in home                                             | P2HOMELANG    | 7,757 | 25.1     | 0.88                         | 0.49                                 | 3.18 | 1.78 |
| How often parent helps with homework (5 Levels)                                                     | P2HWOFTEN     | 8,137 | 3.7      | 0.02                         | 0.01                                 | 2.95 | 1.72 |
| Whether parent respondent is currently employed                                                     | P2JOBNOW1     | 7,935 | 75.6     | 0.84                         | 0.48                                 | 3.06 | 1.75 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels)           | P2LIKELYCLGLV | 2,967 | 1.4      | 0.02                         | 0.01                                 | 2.32 | 1.52 |
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 8,104 | 2.2      | 0.01                         | 0.01                                 | 3.08 | 1.75 |

See notes at end of table

**Table F-22. Parent standard errors and design effects—overall—Continued**

| Survey item <sup>1</sup>                                                             | Variable                 | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|--------------------------------------------------------------------------------------|--------------------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Whether home is owned, rented or other arrangement                                   | P2OWNHOME                | 7,855 | 1.4      | 0.01                         | 0.01                                 | 3.95 | 1.99 |
| Teenager has sibling enrolled in college or a school providing occupational training | P2SIBSTARTCLG            | 7,382 | 38.6     | 1.06                         | 0.57                                 | 3.50 | 1.87 |
| Whether teenager has ever been suspended or expelled                                 | P2SUSPEND                | 8,127 | 14.8     | 0.74                         | 0.39                                 | 3.57 | 1.89 |
| Whether respondent was born in the U.S. (3 Levels)                                   | P2USBORN1                | 8,258 | 1.4      | 0.02                         | 0.01                                 | 4.87 | 2.21 |
| Parent Respondent's age as of Dec 31, 2012                                           | P2YRBORN1                | 8,187 | 46.1     | 0.13                         | 0.08                                 | 2.90 | 1.70 |
| Teenager lives with mother and father                                                | X2PARPATTERN             | 8,651 | 52.6     | 1.00                         | 0.54                                 | 3.45 | 1.86 |
| Mother's occupation                                                                  | X2MOMOCC2<br>(composite) | 7,762 | 27.4     | 0.91                         | 0.51                                 | 3.26 | 1.80 |
| Father's occupation                                                                  | X2DADOCC2<br>(composite) | 6,400 | 17.6     | 0.80                         | 0.48                                 | 2.83 | 1.68 |
| Summary statistics                                                                   |                          |       |          |                              |                                      |      |      |
| Mean                                                                                 |                          |       |          |                              |                                      | 3.52 | 1.86 |
| Minimum                                                                              |                          |       |          |                              |                                      | 2.32 | 1.52 |
| Median                                                                               |                          |       |          |                              |                                      | 3.18 | 1.78 |
| Maximum                                                                              |                          |       |          |                              |                                      | 6.89 | 2.62 |
| Standard deviation                                                                   |                          |       |          |                              |                                      | 1.04 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-23. Parent standard errors and design effects—Public schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 7,116 | 73.3     | 0.88                         | 0.52                                 | 2.79 | 1.67 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 6,345 | 25.6     | 0.94                         | 0.55                                 | 2.97 | 1.72 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 6,701 | 82.8     | 0.84                         | 0.46                                 | 3.30 | 1.82 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 6,643 | 29.9     | 0.91                         | 0.56                                 | 2.61 | 1.62 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 6,616 | 97.1     | 0.32                         | 0.21                                 | 2.48 | 1.57 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 6,922 | 3.2      | 0.05                         | 0.02                                 | 5.62 | 2.37 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 7,120 | 3.5      | 0.05                         | 0.02                                 | 6.82 | 2.61 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 6,437 | 19.4     | 0.87                         | 0.49                                 | 3.14 | 1.77 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 2,803 | 1.7      | 0.02                         | 0.01                                 | 2.18 | 1.48 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 6,123 | 5.3      | 0.52                         | 0.29                                 | 3.32 | 1.82 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 6,545 | 1.4      | 0.02                         | 0.01                                 | 4.32 | 2.08 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 6,696 | 90.4     | 0.57                         | 0.36                                 | 2.52 | 1.59 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 6,345 | 25.6     | 0.94                         | 0.55                                 | 2.97 | 1.72 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 6,674 | 3.7      | 0.02                         | 0.01                                 | 2.57 | 1.60 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 6,499 | 75.5     | 0.90                         | 0.53                                 | 2.87 | 1.69 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 2,456 | 1.4      | 0.02                         | 0.01                                 | 2.14 | 1.46 |

See notes at end of table



**Table F-23. Parent standard errors and design effects—Public schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 6,653 | 2.2      | 0.02                         | 0.01                                 | 2.90 | 1.70 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 6,431 | 1.4      | 0.01                         | 0.01                                 | 3.67 | 1.92 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 6,093 | 38.3     | 1.13                         | 0.62                                 | 3.28 | 1.81 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 6,665 | 15.7     | 0.80                         | 0.45                                 | 3.25 | 1.80 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 6,776 | 1.4      | 0.02                         | 0.01                                 | 4.45 | 2.11 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 6,722 | 45.9     | 0.14                         | 0.09                                 | 2.58 | 1.61 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 7,120 | 50.9     | 1.07                         | 0.59                                 | 3.23 | 1.80 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 6,305 | 26.1     | 0.98                         | 0.55                                 | 3.12 | 1.77 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 5,131 | 16.6     | 0.87                         | 0.52                                 | 2.81 | 1.68 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.28 | 1.79 |
| Minimum                                                                                             |               |       |          |                              |                                      | 2.14 | 1.46 |
| Median                                                                                              |               |       |          |                              |                                      | 2.97 | 1.72 |
| Maximum                                                                                             |               |       |          |                              |                                      | 6.82 | 2.61 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.06 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-24. Parent standard errors and design effects—Private schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 1,531 | 72.1     | 2.27                         | 1.15                                 | 3.91 | 1.98 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,412 | 18.2     | 2.37                         | 1.03                                 | 5.33 | 2.31 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,464 | 91.1     | 1.22                         | 0.74                                 | 2.68 | 1.64 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,460 | 25.9     | 1.95                         | 1.15                                 | 2.88 | 1.70 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,449 | 97.6     | 0.65                         | 0.40                                 | 2.63 | 1.62 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 1,505 | 4.6      | 0.09                         | 0.04                                 | 4.87 | 2.21 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 1,531 | 4.9      | 0.09                         | 0.04                                 | 5.54 | 2.35 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,416 | 33.8     | 1.90                         | 1.26                                 | 2.29 | 1.51 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 568   | 1.8      | 0.04                         | 0.03                                 | 1.81 | 1.34 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,423 | 2.2      | 0.74                         | 0.39                                 | 3.67 | 1.92 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,449 | 1.2      | 0.02                         | 0.01                                 | 2.76 | 1.66 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,464 | 91.0     | 1.52                         | 0.75                                 | 4.14 | 2.03 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,412 | 18.2     | 2.37                         | 1.03                                 | 5.33 | 2.31 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,463 | 3.8      | 0.05                         | 0.03                                 | 3.01 | 1.74 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,436 | 77.6     | 2.24                         | 1.10                                 | 4.12 | 2.03 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 511   | 1.1      | 0.03                         | 0.02                                 | 2.90 | 1.70 |

See notes at end of table

**Table F-24. Parent standard errors and design effects—Private schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,451 | 2.2      | 0.02                         | 0.02                                 | 1.28 | 1.13 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,424 | 1.2      | 0.02                         | 0.01                                 | 3.38 | 1.84 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,289 | 41.6     | 2.33                         | 1.37                                 | 2.87 | 1.70 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,462 | 3.6      | 0.77                         | 0.49                                 | 2.46 | 1.57 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 1,482 | 1.3      | 0.04                         | 0.02                                 | 5.36 | 2.31 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,465 | 48.8     | 0.35                         | 0.15                                 | 5.27 | 2.30 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 1,531 | 74.5     | 2.29                         | 1.11                                 | 4.23 | 2.06 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,457 | 42.9     | 1.81                         | 1.30                                 | 1.95 | 1.40 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,269 | 29.0     | 1.60                         | 1.27                                 | 1.57 | 1.25 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.45 | 1.82 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.28 | 1.13 |
| Median                                                                                              |               |       |          |                              |                                      | 3.01 | 1.74 |
| Maximum                                                                                             |               |       |          |                              |                                      | 5.54 | 2.35 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.30 | 0.36 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-25. Parent standard errors and design effects—Northeast schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 1,354 | 72.8     | 2.60                         | 1.21                                 | 4.62  | 2.15 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,220 | 28.8     | 3.04                         | 1.30                                 | 5.49  | 2.34 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,262 | 86.9     | 2.03                         | 0.95                                 | 4.57  | 2.14 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,255 | 23.1     | 1.41                         | 1.19                                 | 1.41  | 1.19 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,250 | 97.6     | 0.76                         | 0.43                                 | 3.15  | 1.77 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 1,332 | 3.5      | 0.16                         | 0.05                                 | 10.87 | 3.30 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 1,355 | 3.7      | 0.17                         | 0.05                                 | 11.85 | 3.44 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,211 | 23.0     | 2.67                         | 1.21                                 | 4.88  | 2.21 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 436   | 1.8      | 0.05                         | 0.03                                 | 2.17  | 1.47 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,200 | 4.7      | 1.55                         | 0.61                                 | 6.43  | 2.54 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,239 | 1.4      | 0.06                         | 0.02                                 | 7.08  | 2.66 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,257 | 91.5     | 1.25                         | 0.79                                 | 2.52  | 1.59 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,220 | 28.8     | 3.04                         | 1.30                                 | 5.49  | 2.34 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,255 | 3.8      | 0.06                         | 0.03                                 | 3.36  | 1.83 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,232 | 77.2     | 2.03                         | 1.20                                 | 2.89  | 1.70 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 366   | 1.4      | 0.04                         | 0.03                                 | 2.24  | 1.50 |

See notes at end of table

**Table F-25. Parent standard errors and design effects—Northeast schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff  | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|-------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,251 | 2.2      | 0.05                         | 0.02                                 | 5.12  | 2.26 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,226 | 1.4      | 0.04                         | 0.02                                 | 4.91  | 2.21 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,128 | 40.8     | 2.08                         | 1.46                                 | 2.02  | 1.42 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,255 | 9.9      | 1.61                         | 0.84                                 | 3.64  | 1.91 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 1,286 | 1.4      | 0.06                         | 0.02                                 | 6.71  | 2.59 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,272 | 47.2     | 0.30                         | 0.19                                 | 2.44  | 1.56 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 1,355 | 53.2     | 3.40                         | 1.36                                 | 6.30  | 2.51 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,228 | 30.2     | 2.65                         | 1.31                                 | 4.10  | 2.02 |
|                                                                                                     | (composite)   |       |          |                              |                                      |       |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,017 | 19.2     | 2.05                         | 1.24                                 | 2.74  | 1.66 |
|                                                                                                     | (composite)   |       |          |                              |                                      |       |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |       |      |
| Mean                                                                                                |               |       |          |                              |                                      | 4.68  | 2.09 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.41  | 1.19 |
| Median                                                                                              |               |       |          |                              |                                      | 4.57  | 2.14 |
| Maximum                                                                                             |               |       |          |                              |                                      | 11.85 | 3.44 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 2.57  | 0.56 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-26. Parent standard errors and design effects—Midwest schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 2,234 | 73.7     | 1.36                         | 0.93                                 | 2.13 | 1.46 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 2,013 | 13.0     | 1.28                         | 0.75                                 | 2.90 | 1.70 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 2,107 | 84.7     | 1.62                         | 0.79                                 | 4.23 | 2.06 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 2,098 | 26.6     | 1.57                         | 0.97                                 | 2.66 | 1.63 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 2,086 | 97.2     | 0.81                         | 0.36                                 | 4.94 | 2.22 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 2,186 | 3.4      | 0.07                         | 0.03                                 | 3.89 | 1.97 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 2,235 | 3.7      | 0.08                         | 0.03                                 | 4.62 | 2.15 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 2,037 | 22.2     | 1.35                         | 0.92                                 | 2.15 | 1.47 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 841   | 1.8      | 0.03                         | 0.02                                 | 2.08 | 1.44 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,938 | 4.8      | 0.84                         | 0.48                                 | 2.98 | 1.73 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 2,076 | 1.4      | 0.03                         | 0.02                                 | 3.00 | 1.73 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 2,118 | 88.1     | 1.35                         | 0.70                                 | 3.66 | 1.91 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 2,013 | 13.0     | 1.28                         | 0.75                                 | 2.90 | 1.70 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 2,111 | 3.8      | 0.04                         | 0.02                                 | 3.00 | 1.73 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 2,069 | 75.4     | 1.87                         | 0.95                                 | 3.91 | 1.98 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 750   | 1.4      | 0.03                         | 0.02                                 | 2.50 | 1.58 |

See notes at end of table

**Table F-26. Parent standard errors and design effects—Midwest schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 2,098 | 2.2      | 0.03                         | 0.02                                 | 2.87 | 1.69 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 2,046 | 1.3      | 0.02                         | 0.01                                 | 3.70 | 1.92 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,931 | 40.7     | 1.98                         | 1.12                                 | 3.15 | 1.78 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 2,102 | 14.4     | 1.29                         | 0.77                                 | 2.83 | 1.68 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 2,144 | 1.2      | 0.03                         | 0.01                                 | 4.52 | 2.13 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 2,128 | 45.9     | 0.24                         | 0.15                                 | 2.46 | 1.57 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 2,235 | 52.8     | 1.90                         | 1.06                                 | 3.24 | 1.80 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 2,013 | 30.2     | 1.64                         | 1.02                                 | 2.56 | 1.60 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,670 | 16.2     | 1.51                         | 0.90                                 | 2.82 | 1.68 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.19 | 1.77 |
| Minimum                                                                                             |               |       |          |                              |                                      | 2.08 | 1.44 |
| Median                                                                                              |               |       |          |                              |                                      | 2.98 | 1.73 |
| Maximum                                                                                             |               |       |          |                              |                                      | 4.94 | 2.22 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.80 | 0.22 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-27. Parent standard errors and design effects—South schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 3,502 | 73.0     | 1.14                         | 0.75                                 | 2.32 | 1.52 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 3,137 | 21.7     | 1.38                         | 0.74                                 | 3.50 | 1.87 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 3,334 | 77.9     | 1.22                         | 0.72                                 | 2.90 | 1.70 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 3,299 | 33.1     | 1.33                         | 0.82                                 | 2.62 | 1.62 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 3,280 | 97.0     | 0.45                         | 0.30                                 | 2.23 | 1.49 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 3,393 | 3.2      | 0.07                         | 0.03                                 | 5.41 | 2.33 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 3,503 | 3.5      | 0.07                         | 0.03                                 | 5.43 | 2.33 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 3,180 | 19.6     | 1.04                         | 0.70                                 | 2.18 | 1.48 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 1,489 | 1.7      | 0.03                         | 0.02                                 | 2.35 | 1.53 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 3,073 | 6.8      | 0.83                         | 0.45                                 | 3.39 | 1.84 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 3,239 | 1.4      | 0.02                         | 0.01                                 | 3.26 | 1.81 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 3,318 | 91.0     | 0.78                         | 0.50                                 | 2.49 | 1.58 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 3,137 | 21.7     | 1.38                         | 0.74                                 | 3.50 | 1.87 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 3,309 | 3.7      | 0.03                         | 0.02                                 | 1.96 | 1.40 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 3,204 | 75.6     | 1.32                         | 0.76                                 | 3.05 | 1.75 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 1,328 | 1.4      | 0.02                         | 0.01                                 | 1.74 | 1.32 |

See notes at end of table



**Table F-27. Parent standard errors and design effects—South schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 3,295 | 2.1      | 0.02                         | 0.01                                 | 2.68 | 1.64 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 3,170 | 1.4      | 0.02                         | 0.01                                 | 3.74 | 1.94 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 2,986 | 37.9     | 1.80                         | 0.89                                 | 4.11 | 2.03 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 3,309 | 18.8     | 1.35                         | 0.68                                 | 3.94 | 1.99 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 3,352 | 1.4      | 0.02                         | 0.01                                 | 3.37 | 1.84 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 3,320 | 45.7     | 0.24                         | 0.13                                 | 3.44 | 1.85 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 3,503 | 47.7     | 1.58                         | 0.84                                 | 3.49 | 1.87 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 3,133 | 25.4     | 1.28                         | 0.78                                 | 2.71 | 1.65 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 2,582 | 17.5     | 1.17                         | 0.75                                 | 2.45 | 1.57 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.13 | 1.75 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.74 | 1.32 |
| Median                                                                                              |               |       |          |                              |                                      | 3.05 | 1.75 |
| Maximum                                                                                             |               |       |          |                              |                                      | 5.43 | 2.33 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.93 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-28. Parent standard errors and design effects—West schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 1,557 | 73.4     | 1.68                         | 1.12                                 | 2.24 | 1.50 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,387 | 39.6     | 2.54                         | 1.31                                 | 3.75 | 1.94 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,462 | 88.8     | 1.81                         | 0.83                                 | 4.80 | 2.19 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,451 | 31.7     | 2.25                         | 1.22                                 | 3.39 | 1.84 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,449 | 97.0     | 0.72                         | 0.45                                 | 2.54 | 1.59 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 1,516 | 3.1      | 0.11                         | 0.04                                 | 6.34 | 2.52 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 1,558 | 3.4      | 0.12                         | 0.04                                 | 7.40 | 2.72 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,425 | 18.5     | 1.96                         | 1.03                                 | 3.62 | 1.90 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 605   | 1.8      | 0.05                         | 0.03                                 | 3.11 | 1.76 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,335 | 3.0      | 0.59                         | 0.46                                 | 1.59 | 1.26 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,440 | 1.5      | 0.05                         | 0.02                                 | 5.20 | 2.28 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,467 | 91.1     | 1.23                         | 0.74                                 | 2.74 | 1.65 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,387 | 39.6     | 2.54                         | 1.31                                 | 3.75 | 1.94 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,462 | 3.6      | 0.04                         | 0.03                                 | 2.01 | 1.42 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,430 | 74.7     | 1.81                         | 1.15                                 | 2.48 | 1.57 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 523   | 1.5      | 0.05                         | 0.02                                 | 4.61 | 2.15 |

See notes at end of table

**Table F-28. Parent standard errors and design effects—West schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,460 | 2.3      | 0.03                         | 0.02                                 | 3.13 | 1.77 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,413 | 1.4      | 0.04                         | 0.02                                 | 4.77 | 2.18 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,337 | 35.9     | 2.10                         | 1.31                                 | 2.55 | 1.60 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,461 | 12.3     | 1.69                         | 0.86                                 | 3.86 | 1.97 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 1,476 | 1.7      | 0.05                         | 0.02                                 | 4.34 | 2.08 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,467 | 46.3     | 0.30                         | 0.19                                 | 2.46 | 1.57 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 1,558 | 59.9     | 2.27                         | 1.24                                 | 3.35 | 1.83 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,388 | 25.6     | 2.50                         | 1.17                                 | 4.55 | 2.13 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,131 | 18.0     | 2.03                         | 1.14                                 | 3.14 | 1.77 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.67 | 1.89 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.59 | 1.26 |
| Median                                                                                              |               |       |          |                              |                                      | 3.39 | 1.84 |
| Maximum                                                                                             |               |       |          |                              |                                      | 7.40 | 2.72 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.36 | 0.34 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-29. Parent standard errors and design effects—City schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 2,529 | 73.0     | 1.79                         | 0.88                                 | 4.11 | 2.03 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 2,263 | 35.7     | 2.43                         | 1.01                                 | 5.82 | 2.41 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 2,380 | 82.6     | 1.90                         | 0.78                                 | 5.97 | 2.44 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 2,376 | 30.5     | 1.93                         | 0.95                                 | 4.15 | 2.04 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 2,345 | 96.7     | 0.60                         | 0.37                                 | 2.62 | 1.62 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 2,462 | 3.2      | 0.09                         | 0.03                                 | 7.17 | 2.68 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 2,530 | 3.4      | 0.10                         | 0.04                                 | 7.61 | 2.76 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 2,300 | 20.8     | 1.79                         | 0.85                                 | 4.45 | 2.11 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 967   | 1.7      | 0.04                         | 0.02                                 | 3.71 | 1.93 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 2,207 | 5.7      | 1.15                         | 0.49                                 | 5.36 | 2.32 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 2,345 | 1.5      | 0.04                         | 0.02                                 | 5.81 | 2.41 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 2,387 | 90.1     | 1.12                         | 0.61                                 | 3.38 | 1.84 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 2,263 | 35.7     | 2.43                         | 1.01                                 | 5.82 | 2.41 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 2,379 | 3.7      | 0.04                         | 0.02                                 | 2.94 | 1.71 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 2,321 | 70.7     | 1.73                         | 0.95                                 | 3.37 | 1.84 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 837   | 1.3      | 0.03                         | 0.02                                 | 2.49 | 1.58 |

See notes at end of table

**Table F-29. Parent standard errors and design effects—City schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 2,367 | 2.1      | 0.04                         | 0.02                                 | 5.12 | 2.26 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 2,299 | 1.5      | 0.03                         | 0.01                                 | 4.30 | 2.07 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 2,112 | 37.5     | 1.95                         | 1.05                                 | 3.42 | 1.85 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 2,379 | 15.4     | 1.94                         | 0.74                                 | 6.89 | 2.62 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 2,422 | 1.6      | 0.05                         | 0.02                                 | 8.00 | 2.83 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 2,395 | 46.5     | 0.32                         | 0.16                                 | 4.22 | 2.05 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 2,530 | 50.7     | 2.19                         | 0.99                                 | 4.84 | 2.20 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 2,287 | 24.9     | 1.56                         | 0.90                                 | 2.96 | 1.72 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,869 | 19.3     | 1.55                         | 0.91                                 | 2.88 | 1.70 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 4.70 | 2.14 |
| Minimum                                                                                             |               |       |          |                              |                                      | 2.49 | 1.58 |
| Median                                                                                              |               |       |          |                              |                                      | 4.30 | 2.07 |
| Maximum                                                                                             |               |       |          |                              |                                      | 8.00 | 2.83 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.61 | 0.37 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-30. Parent standard errors and design effects—Suburban schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 3,147 | 73.6     | 1.20                         | 0.79                                 | 2.35 | 1.53 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 2,830 | 26.8     | 1.96                         | 0.83                                 | 5.56 | 2.36 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 2,975 | 85.1     | 1.14                         | 0.65                                 | 3.04 | 1.74 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 2,949 | 29.7     | 1.22                         | 0.84                                 | 2.10 | 1.45 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 2,948 | 97.9     | 0.41                         | 0.27                                 | 2.33 | 1.53 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 3,072 | 3.5      | 0.07                         | 0.03                                 | 5.67 | 2.38 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 3,147 | 3.8      | 0.08                         | 0.03                                 | 6.09 | 2.47 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 2,851 | 22.2     | 1.15                         | 0.78                                 | 2.18 | 1.48 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 1,202 | 1.8      | 0.03                         | 0.02                                 | 2.12 | 1.45 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 2,759 | 5.0      | 0.63                         | 0.42                                 | 2.28 | 1.51 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 2,907 | 1.4      | 0.03                         | 0.01                                 | 3.72 | 1.93 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 2,973 | 91.8     | 0.79                         | 0.50                                 | 2.47 | 1.57 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 2,830 | 26.8     | 1.96                         | 0.83                                 | 5.56 | 2.36 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 2,965 | 3.7      | 0.03                         | 0.02                                 | 2.80 | 1.67 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 2,891 | 78.8     | 1.21                         | 0.76                                 | 2.54 | 1.59 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 1,062 | 1.4      | 0.03                         | 0.02                                 | 3.91 | 1.98 |

See notes at end of table

**Table F-30. Parent standard errors and design effects—Suburban schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 2,961 | 2.2      | 0.02                         | 0.01                                 | 2.22 | 1.49 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 2,866 | 1.4      | 0.02                         | 0.01                                 | 2.73 | 1.65 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 2,702 | 37.8     | 1.26                         | 0.93                                 | 1.82 | 1.35 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 2,961 | 13.5     | 0.93                         | 0.63                                 | 2.18 | 1.48 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 3,007 | 1.5      | 0.04                         | 0.02                                 | 6.68 | 2.58 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 2,983 | 46.6     | 0.22                         | 0.12                                 | 3.24 | 1.80 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 3,147 | 56.2     | 1.69                         | 0.88                                 | 3.67 | 1.92 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 2,838 | 28.1     | 1.52                         | 0.84                                 | 3.24 | 1.80 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 2,341 | 17.6     | 1.24                         | 0.79                                 | 2.50 | 1.58 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.32 | 1.79 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.82 | 1.35 |
| Median                                                                                              |               |       |          |                              |                                      | 2.73 | 1.65 |
| Maximum                                                                                             |               |       |          |                              |                                      | 6.68 | 2.58 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.44 | 0.37 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-31. Parent standard errors and design effects—Town schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 983 | 73.8     | 1.68                         | 1.40                                 | 1.43 | 1.20 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 874 | 12.2     | 1.96                         | 1.11                                 | 3.12 | 1.77 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 928 | 82.0     | 2.69                         | 1.26                                 | 4.55 | 2.13 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 917 | 27.7     | 1.93                         | 1.48                                 | 1.69 | 1.30 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 913 | 96.5     | 0.92                         | 0.61                                 | 2.30 | 1.52 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 957 | 3.2      | 0.13                         | 0.05                                 | 6.43 | 2.54 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 985 | 3.4      | 0.13                         | 0.05                                 | 6.37 | 2.52 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 891 | 18.3     | 1.94                         | 1.30                                 | 2.23 | 1.49 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 409 | 1.8      | 0.04                         | 0.03                                 | 1.71 | 1.31 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 860 | 5.6      | 1.60                         | 0.78                                 | 4.20 | 2.05 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 901 | 1.4      | 0.05                         | 0.02                                 | 4.28 | 2.07 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 921 | 88.2     | 1.83                         | 1.06                                 | 2.95 | 1.72 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 874 | 12.2     | 1.96                         | 1.11                                 | 3.12 | 1.77 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 919 | 3.7      | 0.07                         | 0.04                                 | 3.51 | 1.87 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 896 | 76.4     | 2.60                         | 1.42                                 | 3.36 | 1.83 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 365 | 1.5      | 0.05                         | 0.03                                 | 3.06 | 1.75 |

See notes at end of table



**Table F-31. Parent standard errors and design effects—Town schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 915 | 2.1      | 0.04                         | 0.03                                 | 3.05 | 1.75 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 879 | 1.4      | 0.05                         | 0.02                                 | 6.51 | 2.55 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 842 | 39.6     | 3.74                         | 1.69                                 | 4.92 | 2.22 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 919 | 17.6     | 2.24                         | 1.26                                 | 3.16 | 1.78 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 928 | 1.1      | 0.03                         | 0.02                                 | 2.92 | 1.71 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 921 | 45.0     | 0.33                         | 0.23                                 | 2.00 | 1.41 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 985 | 46.1     | 2.47                         | 1.59                                 | 2.42 | 1.56 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 870 | 27.5     | 2.45                         | 1.52                                 | 2.61 | 1.62 |
|                                                                                                     | (composite)   |     |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 707 | 17.5     | 2.11                         | 1.43                                 | 2.18 | 1.48 |
|                                                                                                     | (composite)   |     |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |     |          |                              |                                      |      |      |
| Mean                                                                                                |               |     |          |                              |                                      | 3.36 | 1.80 |
| Minimum                                                                                             |               |     |          |                              |                                      | 1.43 | 1.20 |
| Median                                                                                              |               |     |          |                              |                                      | 3.06 | 1.75 |
| Maximum                                                                                             |               |     |          |                              |                                      | 6.51 | 2.55 |
| Standard deviation                                                                                  |               |     |          |                              |                                      | 1.45 | 0.38 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-32. Parent standard errors and design effects—Rural schools**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 1,988 | 72.4     | 1.52                         | 1.00                                 | 2.28 | 1.51 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,790 | 14.5     | 1.73                         | 0.83                                 | 4.34 | 2.08 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,882 | 82.9     | 1.92                         | 0.87                                 | 4.91 | 2.22 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,861 | 29.1     | 1.92                         | 1.05                                 | 3.32 | 1.82 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,859 | 97.0     | 0.69                         | 0.40                                 | 3.06 | 1.75 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 1,936 | 3.2      | 0.08                         | 0.04                                 | 4.37 | 2.09 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 1,989 | 3.5      | 0.09                         | 0.04                                 | 6.24 | 2.50 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,811 | 18.7     | 1.55                         | 0.92                                 | 2.86 | 1.69 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 793   | 1.7      | 0.03                         | 0.02                                 | 2.13 | 1.46 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,720 | 4.1      | 0.67                         | 0.48                                 | 1.97 | 1.40 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,841 | 1.4      | 0.03                         | 0.02                                 | 3.56 | 1.89 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,879 | 90.1     | 1.00                         | 0.69                                 | 2.12 | 1.46 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,790 | 14.5     | 1.73                         | 0.83                                 | 4.34 | 2.08 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,874 | 3.7      | 0.04                         | 0.03                                 | 2.15 | 1.47 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,827 | 77.3     | 1.81                         | 0.98                                 | 3.40 | 1.84 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 703   | 1.5      | 0.03                         | 0.02                                 | 1.71 | 1.31 |

See notes at end of table

**Table F-32. Parent standard errors and design effects—Rural schools—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,861 | 2.3      | 0.03                         | 0.02                                 | 2.92 | 1.71 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,811 | 1.3      | 0.03                         | 0.01                                 | 3.60 | 1.90 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,726 | 40.5     | 2.07                         | 1.18                                 | 3.07 | 1.75 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,868 | 14.5     | 1.76                         | 0.81                                 | 4.68 | 2.16 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 1,901 | 1.2      | 0.03                         | 0.01                                 | 5.79 | 2.41 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,888 | 45.6     | 0.26                         | 0.16                                 | 2.63 | 1.62 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 1,989 | 53.3     | 2.01                         | 1.12                                 | 3.22 | 1.79 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,767 | 29.7     | 2.20                         | 1.09                                 | 4.08 | 2.02 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,483 | 15.7     | 2.07                         | 0.95                                 | 4.80 | 2.19 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.50 | 1.84 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.71 | 1.31 |
| Median                                                                                              |               |       |          |                              |                                      | 3.32 | 1.82 |
| Maximum                                                                                             |               |       |          |                              |                                      | 6.24 | 2.50 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.21 | 0.32 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-33. Parent standard errors and design effects—Male students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 4,382 | 71.9     | 1.21                         | 0.68                                 | 3.16 | 1.78 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 3,944 | 25.2     | 1.56                         | 0.69                                 | 5.12 | 2.26 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 4,137 | 81.1     | 1.00                         | 0.61                                 | 2.72 | 1.65 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 4,106 | 27.7     | 1.13                         | 0.70                                 | 2.63 | 1.62 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 4,095 | 97.6     | 0.36                         | 0.24                                 | 2.22 | 1.49 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 4,291 | 3.3      | 0.06                         | 0.03                                 | 5.13 | 2.26 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 4,384 | 3.6      | 0.06                         | 0.03                                 | 5.73 | 2.39 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 3,992 | 20.7     | 1.11                         | 0.64                                 | 2.98 | 1.73 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 1,630 | 1.7      | 0.02                         | 0.02                                 | 2.45 | 1.56 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 3,812 | 5.6      | 0.75                         | 0.37                                 | 4.01 | 2.00 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 4,063 | 1.4      | 0.02                         | 0.01                                 | 3.90 | 1.97 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 4,134 | 89.5     | 0.72                         | 0.48                                 | 2.28 | 1.51 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 3,944 | 25.2     | 1.56                         | 0.69                                 | 5.12 | 2.26 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 4,119 | 3.7      | 0.03                         | 0.02                                 | 2.87 | 1.70 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 4,034 | 76.0     | 1.16                         | 0.67                                 | 3.00 | 1.73 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 1,419 | 1.5      | 0.02                         | 0.01                                 | 2.25 | 1.50 |

See notes at end of table

**Table F-33. Parent standard errors and design effects—Male students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 4,100 | 2.2      | 0.02                         | 0.01                                 | 3.03 | 1.74 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 3,999 | 1.4      | 0.02                         | 0.01                                 | 3.77 | 1.94 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 3,724 | 39.8     | 1.45                         | 0.80                                 | 3.25 | 1.80 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 4,117 | 19.7     | 1.14                         | 0.62                                 | 3.40 | 1.84 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 4,174 | 1.4      | 0.03                         | 0.01                                 | 4.58 | 2.14 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 4,138 | 46.2     | 0.23                         | 0.11                                 | 4.26 | 2.06 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 4,384 | 54.0     | 1.29                         | 0.75                                 | 2.92 | 1.71 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 3,913 | 26.8     | 1.21                         | 0.71                                 | 2.91 | 1.70 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 3,292 | 19.2     | 1.20                         | 0.69                                 | 3.04 | 1.74 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.47 | 1.84 |
| Minimum                                                                                             |               |       |          |                              |                                      | 2.22 | 1.49 |
| Median                                                                                              |               |       |          |                              |                                      | 3.04 | 1.74 |
| Maximum                                                                                             |               |       |          |                              |                                      | 5.73 | 2.39 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 1.01 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-34. Parent standard errors and design effects—Female students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 4,265 | 74.5     | 1.22                         | 0.67                                 | 3.35 | 1.83 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 3,813 | 25.0     | 1.08                         | 0.70                                 | 2.37 | 1.54 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 4,028 | 85.8     | 1.06                         | 0.55                                 | 3.69 | 1.92 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 3,997 | 31.6     | 1.29                         | 0.74                                 | 3.05 | 1.75 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 3,970 | 96.7     | 0.51                         | 0.28                                 | 3.22 | 1.79 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 4,136 | 3.3      | 0.05                         | 0.03                                 | 3.38 | 1.84 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 4,267 | 3.5      | 0.05                         | 0.03                                 | 4.01 | 2.00 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 3,861 | 20.3     | 1.12                         | 0.65                                 | 2.99 | 1.73 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 1,741 | 1.7      | 0.02                         | 0.02                                 | 2.12 | 1.46 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 3,734 | 4.6      | 0.55                         | 0.34                                 | 2.62 | 1.62 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 3,931 | 1.4      | 0.02                         | 0.01                                 | 3.94 | 1.99 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 4,026 | 91.4     | 0.70                         | 0.44                                 | 2.49 | 1.58 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 3,813 | 25.0     | 1.08                         | 0.70                                 | 2.37 | 1.54 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 4,018 | 3.7      | 0.03                         | 0.02                                 | 3.90 | 1.98 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 3,901 | 75.2     | 1.16                         | 0.69                                 | 2.84 | 1.68 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 1,548 | 1.4      | 0.02                         | 0.01                                 | 3.04 | 1.74 |

See notes at end of table

**Table F-34. Parent standard errors and design effects—Female students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 4,004 | 2.2      | 0.02                         | 0.01                                 | 2.98 | 1.73 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 3,856 | 1.4      | 0.02                         | 0.01                                 | 2.56 | 1.60 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 3,658 | 37.4     | 1.55                         | 0.80                                 | 3.74 | 1.93 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 4,010 | 9.8      | 0.79                         | 0.47                                 | 2.82 | 1.68 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 4,084 | 1.4      | 0.02                         | 0.01                                 | 3.28 | 1.81 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 4,049 | 46.0     | 0.21                         | 0.11                                 | 3.54 | 1.88 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 4,267 | 51.1     | 1.46                         | 0.77                                 | 3.65 | 1.91 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 3,849 | 28.0     | 1.32                         | 0.72                                 | 3.34 | 1.83 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 3,108 | 15.9     | 0.95                         | 0.66                                 | 2.07 | 1.44 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.10 | 1.75 |
| Minimum                                                                                             |               |       |          |                              |                                      | 2.07 | 1.44 |
| Median                                                                                              |               |       |          |                              |                                      | 3.05 | 1.75 |
| Maximum                                                                                             |               |       |          |                              |                                      | 4.01 | 2.00 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.57 | 0.16 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-35. Parent standard errors and design effects—Hispanic students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 1,409 | 73.5     | 1.98                         | 1.18                                 | 2.82 | 1.68 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,213 | 68.3     | 2.08                         | 1.34                                 | 2.43 | 1.56 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,314 | 81.6     | 1.97                         | 1.07                                 | 3.39 | 1.84 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,294 | 35.3     | 2.38                         | 1.33                                 | 3.21 | 1.79 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,283 | 96.3     | 0.80                         | 0.53                                 | 2.30 | 1.52 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 1,353 | 2.5      | 0.08                         | 0.04                                 | 4.01 | 2.00 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 1,409 | 2.8      | 0.09                         | 0.04                                 | 4.34 | 2.08 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,257 | 13.7     | 2.17                         | 0.97                                 | 5.03 | 2.24 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 466   | 1.6      | 0.05                         | 0.03                                 | 3.41 | 1.85 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,198 | 5.1      | 1.29                         | 0.63                                 | 4.13 | 2.03 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,268 | 1.6      | 0.05                         | 0.02                                 | 4.34 | 2.08 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,304 | 91.8     | 1.21                         | 0.76                                 | 2.53 | 1.59 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,213 | 68.3     | 2.08                         | 1.34                                 | 2.43 | 1.56 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,300 | 3.7      | 0.05                         | 0.03                                 | 2.56 | 1.60 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,247 | 72.3     | 2.37                         | 1.27                                 | 3.49 | 1.87 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 402   | 1.4      | 0.06                         | 0.03                                 | 4.12 | 2.03 |

See notes at end of table



**Table F-35. Parent standard errors and design effects—Hispanic students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,289 | 2.2      | 0.04                         | 0.02                                 | 3.39 | 1.84 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,234 | 1.5      | 0.03                         | 0.02                                 | 2.28 | 1.51 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,202 | 33.1     | 2.93                         | 1.36                                 | 4.65 | 2.16 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,298 | 12.1     | 1.36                         | 0.91                                 | 2.25 | 1.50 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 1,326 | 2.1      | 0.05                         | 0.03                                 | 3.95 | 1.99 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,319 | 44.8     | 0.38                         | 0.20                                 | 3.59 | 1.89 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 1,409 | 52.1     | 2.53                         | 1.33                                 | 3.63 | 1.90 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,227 | 17.4     | 2.01                         | 1.08                                 | 3.46 | 1.86 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,006 | 8.7      | 1.22                         | 0.89                                 | 1.90 | 1.38 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.34 | 1.81 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.90 | 1.38 |
| Median                                                                                              |               |       |          |                              |                                      | 3.41 | 1.85 |
| Maximum                                                                                             |               |       |          |                              |                                      | 5.03 | 2.24 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.85 | 0.24 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-36. Parent standard errors and design effects—Asian students**

| Survey item <sup>1</sup>                                                                  | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 667 | 56.6     | 2.93                         | 1.92                                 | 2.33 | 1.53 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 596 | 81.7     | 3.22                         | 1.59                                 | 4.14 | 2.03 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 623 | 91.8     | 2.14                         | 1.10                                 | 3.79 | 1.95 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 619 | 40.3     | 3.73                         | 1.97                                 | 3.58 | 1.89 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 621 | 97.0     | 1.40                         | 0.69                                 | 4.10 | 2.03 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 645 | 4.1      | 0.15                         | 0.07                                 | 4.32 | 2.08 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 667 | 4.4      | 0.14                         | 0.07                                 | 3.93 | 1.98 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 593 | 23.5     | 3.08                         | 1.74                                 | 3.11 | 1.76 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 276 | 1.8      | 0.07                         | 0.04                                 | 3.26 | 1.80 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 592 | 2.7      | 1.28                         | 0.67                                 | 3.71 | 1.93 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 613 | 1.4      | 0.05                         | 0.03                                 | 2.81 | 1.68 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 628 | 93.9     | 2.04                         | 0.96                                 | 4.53 | 2.13 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 596 | 81.7     | 3.22                         | 1.59                                 | 4.14 | 2.03 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 625 | 3.3      | 0.09                         | 0.05                                 | 3.15 | 1.77 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 601 | 76.8     | 2.73                         | 1.72                                 | 2.51 | 1.59 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 247 | 1.1      | 0.05                         | 0.02                                 | 4.00 | 2.00 |

See notes at end of table

**Table F-36. Parent standard errors and design effects—Asian students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 624 | 1.9      | 0.07                         | 0.03                                 | 4.10 | 2.02 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 596 | 1.3      | 0.05                         | 0.02                                 | 3.95 | 1.99 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 530 | 37.5     | 4.05                         | 2.10                                 | 3.71 | 1.92 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 624 | 3.3      | 1.10                         | 0.71                                 | 2.36 | 1.54 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 631 | 2.8      | 0.05                         | 0.03                                 | 3.36 | 1.83 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 615 | 48.9     | 0.57                         | 0.26                                 | 4.71 | 2.17 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 667 | 77.7     | 3.52                         | 1.61                                 | 4.75 | 2.18 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 580 | 33.1     | 3.67                         | 1.96                                 | 3.52 | 1.88 |
|                                                                                                     | (composite)   |     |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 568 | 28.7     | 3.29                         | 1.90                                 | 2.99 | 1.73 |
|                                                                                                     | (composite)   |     |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |     |          |                              |                                      |      |      |
| Mean                                                                                                |               |     |          |                              |                                      | 3.63 | 1.90 |
| Minimum                                                                                             |               |     |          |                              |                                      | 2.33 | 1.53 |
| Median                                                                                              |               |     |          |                              |                                      | 3.71 | 1.93 |
| Maximum                                                                                             |               |     |          |                              |                                      | 4.75 | 2.18 |
| Standard deviation                                                                                  |               |     |          |                              |                                      | 0.69 | 0.19 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-37. Parent standard errors and design effects—Black students**

| Survey item <sup>1</sup>                                                                  | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 955 | 73.1     | 3.09                         | 1.43                                 | 4.65 | 2.16 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 847 | 12.8     | 1.96                         | 1.15                                 | 2.92 | 1.71 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 902 | 73.0     | 3.32                         | 1.48                                 | 5.05 | 2.25 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 890 | 36.9     | 3.08                         | 1.62                                 | 3.63 | 1.90 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 886 | 97.7     | 0.77                         | 0.51                                 | 2.29 | 1.51 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 935 | 3.0      | 0.11                         | 0.05                                 | 4.51 | 2.12 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 955 | 3.2      | 0.11                         | 0.05                                 | 5.02 | 2.24 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 862 | 11.6     | 1.82                         | 1.09                                 | 2.77 | 1.67 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 367 | 1.6      | 0.06                         | 0.03                                 | 2.96 | 1.72 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 798 | 10.6     | 1.81                         | 1.09                                 | 2.74 | 1.66 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 882 | 1.5      | 0.05                         | 0.03                                 | 3.57 | 1.89 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 900 | 88.8     | 1.97                         | 1.05                                 | 3.51 | 1.87 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 847 | 12.8     | 1.96                         | 1.15                                 | 2.92 | 1.71 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 891 | 3.8      | 0.06                         | 0.04                                 | 2.89 | 1.70 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 878 | 68.5     | 3.38                         | 1.57                                 | 4.64 | 2.16 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 309 | 1.3      | 0.04                         | 0.03                                 | 2.10 | 1.45 |

See notes at end of table

**Table F-37. Parent standard errors and design effects—Black students—Continued**

|                                                                                                     |               |     |          | Design-based<br>SE <sup>2</sup> | Simple<br>random<br>sample SE <sup>3</sup> |      |      |
|-----------------------------------------------------------------------------------------------------|---------------|-----|----------|---------------------------------|--------------------------------------------|------|------|
| Survey item <sup>1</sup>                                                                            | Variable      | n   | Estimate |                                 |                                            | deff | deft |
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 891 | 1.9      | 0.05                            | 0.03                                       | 3.49 | 1.87 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 869 | 1.6      | 0.04                            | 0.02                                       | 3.41 | 1.85 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 808 | 44.6     | 3.24                            | 1.75                                       | 3.42 | 1.85 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 898 | 27.1     | 3.04                            | 1.48                                       | 4.19 | 2.05 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 917 | 1.2      | 0.03                            | 0.02                                       | 2.21 | 1.49 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 900 | 45.2     | 0.74                            | 0.30                                       | 6.27 | 2.50 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 955 | 26.9     | 2.63                            | 1.43                                       | 3.37 | 1.83 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 826 | 19.6     | 2.33                            | 1.38                                       | 2.85 | 1.69 |
|                                                                                                     | (composite)   |     |          |                                 |                                            |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 470 | 14.7     | 2.91                            | 1.64                                       | 3.17 | 1.78 |
|                                                                                                     | (composite)   |     |          |                                 |                                            |      |      |
| Summary statistics                                                                                  |               |     |          |                                 |                                            |      |      |
| Mean                                                                                                |               |     |          |                                 |                                            | 3.54 | 1.86 |
| Minimum                                                                                             |               |     |          |                                 |                                            | 2.10 | 1.45 |
| Median                                                                                              |               |     |          |                                 |                                            | 3.41 | 1.85 |
| Maximum                                                                                             |               |     |          |                                 |                                            | 6.27 | 2.50 |
| Standard deviation                                                                                  |               |     |          |                                 |                                            | 1.01 | 0.26 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLS:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up.

**Table F-38. Parent standard errors and design effects—White students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 4,741 | 74.1     | 0.95                         | 0.64                                 | 2.23 | 1.49 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 4,313 | 8.2      | 0.58                         | 0.42                                 | 1.90 | 1.38 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 4,501 | 86.6     | 0.78                         | 0.51                                 | 2.39 | 1.55 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 4,476 | 25.1     | 0.97                         | 0.65                                 | 2.23 | 1.49 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 4,458 | 97.6     | 0.36                         | 0.23                                 | 2.51 | 1.58 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 4,642 | 3.6      | 0.04                         | 0.02                                 | 3.23 | 1.80 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 4,745 | 4.0      | 0.05                         | 0.02                                 | 3.87 | 1.97 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 4,350 | 25.5     | 0.98                         | 0.66                                 | 2.20 | 1.48 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 1,903 | 1.8      | 0.02                         | 0.01                                 | 1.56 | 1.25 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 4,200 | 3.8      | 0.47                         | 0.30                                 | 2.53 | 1.59 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 4,418 | 1.3      | 0.02                         | 0.01                                 | 2.65 | 1.63 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 4,501 | 89.9     | 0.69                         | 0.45                                 | 2.38 | 1.54 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 4,313 | 8.2      | 0.58                         | 0.42                                 | 1.90 | 1.38 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 4,494 | 3.7      | 0.02                         | 0.02                                 | 2.23 | 1.49 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 4,407 | 78.2     | 0.95                         | 0.62                                 | 2.34 | 1.53 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 1,693 | 1.4      | 0.02                         | 0.01                                 | 1.75 | 1.32 |

See notes at end of table

**Table F-38. Parent standard errors and design effects—White students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 4,480 | 2.2      | 0.02                         | 0.01                                 | 2.01 | 1.42 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 4,360 | 1.3      | 0.01                         | 0.01                                 | 2.08 | 1.44 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 4,102 | 40.0     | 1.14                         | 0.77                                 | 2.22 | 1.49 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 4,479 | 12.5     | 0.87                         | 0.49                                 | 3.08 | 1.75 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 4,548 | 1.1      | 0.01                         | 0.01                                 | 1.93 | 1.39 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 4,522 | 47.0     | 0.14                         | 0.10                                 | 2.02 | 1.42 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 4,745 | 59.6     | 1.08                         | 0.71                                 | 2.28 | 1.51 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 4,335 | 33.3     | 1.14                         | 0.72                                 | 2.55 | 1.60 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 3,770 | 20.0     | 0.99                         | 0.65                                 | 2.31 | 1.52 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 2.34 | 1.52 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.56 | 1.25 |
| Median                                                                                              |               |       |          |                              |                                      | 2.23 | 1.49 |
| Maximum                                                                                             |               |       |          |                              |                                      | 3.87 | 1.97 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.49 | 0.15 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-39. Parent standard errors and design effects—Multiracial and other students**

| Survey item <sup>1</sup>                                                                  | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 875 | 73.1     | 2.27                         | 1.50                                 | 2.30 | 1.52 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 788 | 19.7     | 2.43                         | 1.42                                 | 2.93 | 1.71 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 825 | 82.2     | 2.50                         | 1.33                                 | 3.52 | 1.88 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 824 | 26.9     | 2.83                         | 1.55                                 | 3.34 | 1.83 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 817 | 95.7     | 1.47                         | 0.71                                 | 4.27 | 2.07 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 852 | 3.3      | 0.10                         | 0.05                                 | 3.30 | 1.82 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 875 | 3.6      | 0.10                         | 0.06                                 | 3.16 | 1.78 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 791 | 20.5     | 2.16                         | 1.44                                 | 2.25 | 1.50 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 359 | 1.7      | 0.06                         | 0.03                                 | 3.44 | 1.85 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 758 | 5.7      | 1.36                         | 0.84                                 | 2.60 | 1.61 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 813 | 1.4      | 0.04                         | 0.03                                 | 2.80 | 1.67 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 827 | 91.7     | 1.71                         | 0.96                                 | 3.19 | 1.78 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 788 | 19.7     | 2.43                         | 1.42                                 | 2.93 | 1.71 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 827 | 3.8      | 0.06                         | 0.04                                 | 2.71 | 1.65 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 802 | 78.7     | 2.38                         | 1.45                                 | 2.69 | 1.64 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 316 | 1.5      | 0.05                         | 0.03                                 | 2.19 | 1.48 |

See notes at end of table



**Table F-39. Parent standard errors and design effects—Multiracial and other students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n   | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-----|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 820 | 2.2      | 0.04                         | 0.03                                 | 2.47 | 1.57 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 796 | 1.5      | 0.04                         | 0.02                                 | 2.82 | 1.68 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 740 | 34.1     | 2.59                         | 1.74                                 | 2.21 | 1.49 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 828 | 20.4     | 2.95                         | 1.40                                 | 4.42 | 2.10 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 836 | 1.3      | 0.04                         | 0.03                                 | 3.10 | 1.76 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 831 | 44.9     | 0.44                         | 0.25                                 | 3.04 | 1.74 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 875 | 41.9     | 2.54                         | 1.67                                 | 2.31 | 1.52 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 794 | 26.5     | 2.58                         | 1.57                                 | 2.71 | 1.65 |
|                                                                                                     | (composite)   |     |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 586 | 22.5     | 2.28                         | 1.73                                 | 1.74 | 1.32 |
|                                                                                                     | (composite)   |     |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |     |          |                              |                                      |      |      |
| Mean                                                                                                |               |     |          |                              |                                      | 2.90 | 1.69 |
| Minimum                                                                                             |               |     |          |                              |                                      | 1.74 | 1.32 |
| Median                                                                                              |               |     |          |                              |                                      | 2.82 | 1.68 |
| Maximum                                                                                             |               |     |          |                              |                                      | 4.42 | 2.10 |
| Standard deviation                                                                                  |               |     |          |                              |                                      | 0.62 | 0.18 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-40. Parent standard errors and design effects—Low percentile SES students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 1,956 | 74.9     | 1.86                         | 0.98                                 | 3.59 | 1.90 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,683 | 41.3     | 1.91                         | 1.20                                 | 2.52 | 1.59 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,819 | 73.5     | 1.96                         | 1.04                                 | 3.60 | 1.90 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,793 | 30.6     | 1.89                         | 1.09                                 | 3.02 | 1.74 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,770 | 96.2     | 0.83                         | 0.45                                 | 3.34 | 1.83 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 1,883 | 1.8      | 0.03                         | 0.02                                 | 2.96 | 1.72 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 1,957 | 1.9      | 0.03                         | 0.02                                 | 2.83 | 1.68 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,733 | 8.0      | 1.46                         | 0.65                                 | 5.02 | 2.24 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 538   | 1.6      | 0.05                         | 0.03                                 | 2.41 | 1.55 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,587 | 10.0     | 1.48                         | 0.75                                 | 3.85 | 1.96 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,757 | 1.7      | 0.04                         | 0.02                                 | 4.29 | 2.07 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,808 | 87.6     | 1.43                         | 0.77                                 | 3.43 | 1.85 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,683 | 41.3     | 1.91                         | 1.20                                 | 2.52 | 1.59 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,801 | 3.5      | 0.05                         | 0.03                                 | 2.77 | 1.66 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,733 | 59.0     | 2.17                         | 1.18                                 | 3.38 | 1.84 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 472   | 1.5      | 0.04                         | 0.03                                 | 2.63 | 1.62 |

See notes at end of table

**Table F-40. Parent standard errors and design effects—Low percentile SES students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,788 | 2.2      | 0.04                         | 0.02                                 | 4.95 | 2.22 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,705 | 1.7      | 0.03                         | 0.02                                 | 2.79 | 1.67 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,643 | 30.5     | 1.75                         | 1.14                                 | 2.37 | 1.54 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,800 | 22.3     | 2.13                         | 0.98                                 | 4.70 | 2.17 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 1,837 | 1.7      | 0.05                         | 0.02                                 | 4.55 | 2.13 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,812 | 45.0     | 0.38                         | 0.20                                 | 3.69 | 1.92 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 1,957 | 32.9     | 2.12                         | 1.06                                 | 4.00 | 2.00 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,575 | 2.5      | 0.66                         | 0.39                                 | 2.90 | 1.70 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,014 | 1.1      | 0.46                         | 0.32                                 | 2.01 | 1.42 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 3.36 | 1.82 |
| Minimum                                                                                             |               |       |          |                              |                                      | 2.01 | 1.42 |
| Median                                                                                              |               |       |          |                              |                                      | 3.34 | 1.83 |
| Maximum                                                                                             |               |       |          |                              |                                      | 5.02 | 2.24 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.85 | 0.23 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-41. Parent standard errors and design effects—Middle percentile SES students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 4,636 | 73.4     | 0.92                         | 0.65                                 | 2.02 | 1.42 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 4,139 | 19.7     | 1.01                         | 0.62                                 | 2.65 | 1.63 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 4,369 | 85.7     | 0.91                         | 0.53                                 | 2.93 | 1.71 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 4,335 | 29.8     | 1.15                         | 0.69                                 | 2.72 | 1.65 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 4,326 | 97.6     | 0.39                         | 0.23                                 | 2.87 | 1.69 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 4,513 | 3.4      | 0.04                         | 0.02                                 | 3.11 | 1.76 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 4,639 | 3.7      | 0.04                         | 0.02                                 | 3.94 | 1.99 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 4,187 | 18.9     | 0.92                         | 0.60                                 | 2.32 | 1.52 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 1,976 | 1.7      | 0.02                         | 0.01                                 | 2.10 | 1.45 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 4,040 | 4.0      | 0.42                         | 0.31                                 | 1.83 | 1.35 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 4,272 | 1.4      | 0.02                         | 0.01                                 | 3.04 | 1.74 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 4,365 | 90.9     | 0.64                         | 0.43                                 | 2.16 | 1.47 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 4,139 | 19.7     | 1.01                         | 0.62                                 | 2.65 | 1.63 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 4,351 | 3.8      | 0.03                         | 0.02                                 | 2.44 | 1.56 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 4,243 | 81.2     | 0.89                         | 0.60                                 | 2.18 | 1.48 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 1,725 | 1.4      | 0.02                         | 0.01                                 | 2.03 | 1.43 |

See notes at end of table

**Table F-41. Parent standard errors and design effects—Middle percentile SES students—  
Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 4,332 | 2.2      | 0.02                         | 0.01                                 | 2.33 | 1.53 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 4,203 | 1.3      | 0.01                         | 0.01                                 | 2.68 | 1.64 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 3,959 | 42.2     | 1.30                         | 0.79                                 | 2.75 | 1.66 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 4,350 | 14.1     | 0.82                         | 0.53                                 | 2.43 | 1.56 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 4,408 | 1.3      | 0.02                         | 0.01                                 | 2.82 | 1.68 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 4,378 | 45.8     | 0.16                         | 0.10                                 | 2.70 | 1.64 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 4,639 | 54.8     | 1.20                         | 0.73                                 | 2.72 | 1.65 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 4,219 | 25.1     | 1.27                         | 0.67                                 | 3.64 | 1.91 |
|                                                                                                     | (composite)   |       |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 3,547 | 11.5     | 0.90                         | 0.54                                 | 2.83 | 1.68 |
| Summary statistics                                                                                  |               |       |          |                              |                                      |      |      |
| Mean                                                                                                |               |       |          |                              |                                      | 2.64 | 1.62 |
| Minimum                                                                                             |               |       |          |                              |                                      | 1.83 | 1.35 |
| Median                                                                                              |               |       |          |                              |                                      | 2.68 | 1.64 |
| Maximum                                                                                             |               |       |          |                              |                                      | 3.94 | 1.99 |
| Standard deviation                                                                                  |               |       |          |                              |                                      | 0.49 | 0.15 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table F-42. Parent standard errors and design effects—High percentile SES students**

| Survey item <sup>1</sup>                                                                  | Variable      | n     | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-------------------------------------------------------------------------------------------|---------------|-------|----------|------------------------------|--------------------------------------|------|------|
| Biological mother completed parent questionnaire                                          | P2RELSHP      | 2,055 | 69.8     | 1.71                         | 1.01                                 | 2.84 | 1.69 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,935 | 17.1     | 1.31                         | 0.86                                 | 2.34 | 1.53 |
| Teenager has not repeated any grades                                                      | P2REPEATNONE  | 1,977 | 92.0     | 0.86                         | 0.61                                 | 1.99 | 1.41 |
| Helped teenager with a school science fair project in last year                           | P2SCIPROJ     | 1,975 | 27.7     | 1.60                         | 1.01                                 | 2.52 | 1.59 |
| Teenager has not skipped any grades                                                       | P2SKIPNONE    | 1,969 | 97.0     | 0.57                         | 0.38                                 | 2.20 | 1.48 |
| Parent respondent highest level of education obtained (7 levels)                          | P2HIDEG1      | 2,031 | 5.3      | 0.03                         | 0.02                                 | 2.21 | 1.49 |
| Highest level of education obtained between both parents (7 levels)                       | X2PAREDU      | 2,055 | 5.7      | 0.03                         | 0.02                                 | 2.73 | 1.65 |
| Family has opened account(s) to save for teenager's college education                     | P2ACCTPAY     | 1,933 | 43.4     | 1.73                         | 1.13                                 | 2.35 | 1.53 |
| How certain teenager is to attend most likely postsecondary institution (3 levels)        | P2CERTAINCLG  | 857   | 1.8      | 0.03                         | 0.02                                 | 1.69 | 1.30 |
| Teenager stopped going to high school for 4 weeks or more since fall 2009                 | P2DROPOUTHS   | 1,919 | 1.4      | 0.35                         | 0.26                                 | 1.79 | 1.34 |
| Family plans to help teenager pay for postsecondary education (3 levels)                  | P2HELPPAY     | 1,965 | 1.1      | 0.01                         | 0.01                                 | 1.95 | 1.40 |
| Student lives with parent questionnaire respondent all of the time                        | P2HHTIME      | 1,987 | 93.3     | 0.81                         | 0.56                                 | 2.10 | 1.45 |
| Language other than English is regularly spoken in home                                   | P2HOMELANG    | 1,935 | 17.1     | 1.31                         | 0.86                                 | 2.34 | 1.53 |
| How often parent helps with homework (5 Levels)                                           | P2HWOFTEN     | 1,985 | 3.9      | 0.04                         | 0.02                                 | 2.73 | 1.65 |
| Whether parent respondent is currently employed                                           | P2JOBNOW1     | 1,959 | 83.8     | 1.20                         | 0.83                                 | 2.08 | 1.44 |
| Level of postsecondary institution teenager most likely to attend in fall 2013 (3 levels) | P2LIKELYCLGLV | 770   | 1.2      | 0.02                         | 0.02                                 | 1.95 | 1.40 |

See notes at end of table

**Table F-42. Parent standard errors and design effects—High percentile SES students—Continued**

| Survey item <sup>1</sup>                                                                            | Variable      | n           | Estimate | Design-based SE <sup>2</sup> | Simple random sample SE <sup>3</sup> | deff | deft |
|-----------------------------------------------------------------------------------------------------|---------------|-------------|----------|------------------------------|--------------------------------------|------|------|
| Confidence in helping with math homework in 2011-2012 or when teenager was last enrolled (3 levels) | P2MTHHWEFF    | 1,984       | 2.1      | 0.03                         | 0.02                                 | 2.53 | 1.59 |
| Whether home is owned, rented or other arrangement                                                  | P2OWNHOME     | 1,947       | 1.1      | 0.01                         | 0.01                                 | 1.87 | 1.37 |
| Teenager has sibling enrolled in college or a school providing occupational training                | P2SIBSTARTCLG | 1,780       | 40.5     | 1.96                         | 1.16                                 | 2.83 | 1.68 |
| Whether teenager has ever been suspended or expelled                                                | P2SUSPEND     | 1,977       | 5.7      | 0.70                         | 0.52                                 | 1.80 | 1.34 |
| Whether respondent was born in the U.S. (3 Levels)                                                  | P2USBORN1     | 2,013       | 1.3      | 0.02                         | 0.02                                 | 2.35 | 1.53 |
| Parent Respondent's age as of Dec 31, 2012                                                          | P2YRBORN1     | 1,997       | 48.9     | 0.20                         | 0.13                                 | 2.57 | 1.60 |
| Teenager lives with mother and father                                                               | X2PARPATTERN  | 2,055       | 76.7     | 1.39                         | 0.93                                 | 2.23 | 1.49 |
| Mother's occupation                                                                                 | X2MOMOCC2     | 1,968       | 66.6     | 1.62                         | 1.06                                 | 2.33 | 1.53 |
|                                                                                                     | (composite)   |             |          |                              |                                      |      |      |
| Father's occupation                                                                                 | X2DADOCC2     | 1,839       | 47.3     | 1.90                         | 1.16                                 | 2.65 | 1.63 |
|                                                                                                     |               | (composite) |          |                              |                                      |      |      |
| Summary statistics                                                                                  |               |             |          |                              |                                      |      |      |
| Mean                                                                                                |               |             |          |                              |                                      | 2.28 | 1.51 |
| Minimum                                                                                             |               |             |          |                              |                                      | 1.69 | 1.30 |
| Median                                                                                              |               |             |          |                              |                                      | 2.33 | 1.53 |
| Maximum                                                                                             |               |             |          |                              |                                      | 2.84 | 1.69 |
| Standard deviation                                                                                  |               |             |          |                              |                                      | 0.34 | 0.11 |

<sup>1</sup> Survey items include the questions in the study instruments as well as composite variables. The associated variable names on the HSLs:09 public-use file are included in parentheses.

<sup>2</sup> Design-based standard error (SE) equal to the numerator term in the formulae above.

<sup>3</sup> Simple random sample standard error (SE) equal to the denominator term in the formulae above.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

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## **Appendix G.**

# **Unit and Item Nonresponse Bias Analyses**

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Tabular results for the unit nonresponse bias analyses (section 6.6) and the item nonresponse bias analyses (section 7.2) conducted with the High School Longitudinal Study of 2009 (HSLs:09) first follow-up data are presented below. The unit bias analysis results for the first follow-up and longitudinal weights are provided in section G.1, followed by the unit analyses for the student-level contextual responsive design in section G.2. The appendix concludes with the item-level analysis in section G.3

## **G.1 Unit Nonresponse Bias**

Unit nonresponse bias analyses were conducted for HSLs:09 first follow-up. The primary purpose of this task was first to test for detectable levels of nonresponse bias in the values known for respondents and nonrespondents, and then to determine whether those levels still exist after adjusting the analytic weights through a subsequent test.

The unit nonresponse bias tables are presented in this section for each HSLs:09 first follow-up analytic weight—W2STUDENT (student), W2W1STU (longitudinal student), W2PARENT (student home-life, contextual), and W2W1PAR (longitudinal home-life; contextual). Details of the analysis procedure along with the summary of the analysis tables are included in section 6.6.

**Table G-1. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the first follow-up student analytic weights (W2STUDENT) for selected variables**

| Domain category                       | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                       | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                       |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| School type                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Public                                | 16,845            | 3,558           | 17.1                         | 92.8                            | 92.9        | 92.5            | 0.06                        | 0.07                       | 92.8                           | −0.00                       | 0.00                       |
| Private                               | 3,749             | 781             | 17.9                         | 7.2                             | 7.1         | 7.5             | −0.06                       | −0.84                      | 7.2                            | −0.00                       | 0.00                       |
| Asian 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 2 percent                           | 10,996            | 2,154           | 16.4                         | 50.0                            | 50.4        | 47.9            | 0.43                        | 0.87                       | 50.0                           | 0.06                        | 0.12                       |
| > 2 percent                           | 9,598             | 2,185           | 17.9                         | 50.0                            | 49.6        | 52.1            | −0.43                       | −0.87                      | 50.0                           | −0.06                       | −0.12                      |
| Black 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 7 percent                           | 11,508            | 2,337           | 16.6                         | 54.0                            | 54.4        | 52.1            | 0.39                        | 0.72                       | 54.0                           | −0.08                       | −0.16                      |
| > 7 percent                           | 9,086             | 2,002           | 17.9                         | 46.0                            | 45.6        | 47.9            | −0.39                       | −0.84                      | 46.0                           | 0.08                        | 0.18                       |
| Hispanic 9th-grade enrollment percent |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 5 percent                           | 10,984            | 2,134           | 15.8                         | 44.4                            | 45.1        | 40.9            | 0.73*                       | 1.64                       | 44.5                           | 0.28                        | 0.63                       |
| > 5 percent                           | 9,610             | 2,205           | 18.2                         | 55.6                            | 54.9        | 59.1            | −0.73*                      | −1.31                      | 55.5                           | −0.28                       | −0.50                      |
| Other 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 80 percent                          | 10,595            | 2,416           | 18.1                         | 61.9                            | 61.2        | 65.1            | −0.68*                      | −1.10                      | 61.8                           | −0.13                       | −0.21                      |
| ≥ 80 percent                          | 9,999             | 1,923           | 15.7                         | 38.1                            | 38.8        | 34.9            | 0.68*                       | 1.78                       | 38.2                           | 0.13                        | 0.33                       |
| Charter school                        |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                   | 360               | 81              | 18.1                         | 1.6                             | 1.5         | 1.6             | −0.02                       | −1.17                      | 1.6                            | 0.03                        | 1.84                       |
| No                                    | 16,419            | 3,468           | 17.2                         | 90.5                            | 90.5        | 90.6            | −0.02                       | −0.02                      | 90.4                           | −0.10                       | −0.11                      |
| Private                               | 3,815             | 790             | 16.8                         | 8.0                             | 8.0         | 7.8             | 0.03                        | 0.42                       | 8.0                            | 0.07                        | 0.87                       |

See notes at end of table.

**Table G-1. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the first follow-up student analytic weights (W2STUDENT) for selected variables—Continued**

| Domain category              |                   |                 |                              | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                              | Unweighted counts |                 | Weighted percent nonresponse | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                              | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Total enrollment             |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 499 students               | 3,490             | 690             | 15.1                         | 13.2                            | 13.5        | 11.6            | 0.32                        | 2.44                       | 13.2                           | −0.00                       | 0.00                       |
| 500–999 students             | 4,920             | 937             | 15.6                         | 24.2                            | 24.7        | 22.0            | 0.47                        | 1.93                       | 24.2                           | −0.00                       | 0.00                       |
| 1,000–1,499 students         | 4,634             | 994             | 18.9                         | 21.6                            | 21.2        | 23.9            | −0.46                       | −2.13                      | 21.6                           | −0.00                       | 0.00                       |
| 1,500–2,000 students         | 3,750             | 868             | 18.7                         | 17.9                            | 17.5        | 19.5            | −0.34                       | −1.88                      | 17.8                           | −0.08                       | −0.44                      |
| > 2,000 students             | 3,800             | 850             | 17.1                         | 23.1                            | 23.1        | 23.0            | 0.01                        | 0.03                       | 23.1                           | 0.08                        | 0.34                       |
| 9th-grade enrollment         |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| 0–149 9th-grade students     | 4,795             | 944             | 15.0                         | 17.8                            | 18.2        | 15.5            | 0.46*                       | 2.60                       | 17.8                           | −0.00                       | 0.00                       |
| 150–299 9th-grade students   | 4,684             | 901             | 16.2                         | 23.0                            | 23.2        | 21.7            | 0.25                        | 1.10                       | 23.0                           | −0.00                       | 0.00                       |
| 300–449 9th-grade students   | 4,709             | 1,006           | 18.2                         | 21.6                            | 21.3        | 22.9            | −0.27                       | −1.23                      | 21.6                           | −0.00                       | 0.00                       |
| 450–600 9th-grade students   | 3,236             | 745             | 18.5                         | 17.6                            | 17.3        | 19.0            | −0.28                       | −1.61                      | 17.7                           | 0.16                        | 0.90                       |
| 600+ 9th-grade students      | 3,170             | 743             | 17.8                         | 20.1                            | 19.9        | 20.9            | −0.17                       | −0.83                      | 20.0                           | −0.16                       | −0.79                      |
| Number of full-time teachers |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 50                         | 6,691             | 1,320           | 15.4                         | 28.7                            | 29.4        | 25.7            | 0.63*                       | 2.18                       | 28.7                           | −0.00                       | 0.00                       |
| 51–100                       | 8,374             | 1,740           | 17.5                         | 39.0                            | 38.8        | 39.9            | −0.18                       | −0.46                      | 39.0                           | −0.00                       | 0.00                       |
| 101–150                      | 4,049             | 962             | 19.2                         | 22.6                            | 22.1        | 25.3            | −0.55*                      | −2.43                      | 22.6                           | −0.00                       | 0.00                       |
| > 150                        | 1,480             | 317             | 16.3                         | 9.6                             | 9.7         | 9.1             | 0.11                        | 1.10                       | 9.6                            | −0.00                       | 0.00                       |
| Student to teacher ratio     |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 10                         | 1,484             | 355             | 19.8                         | 6.7                             | 6.5         | 7.8             | −0.21                       | −3.16                      | 6.7                            | −0.00                       | 0.00                       |
| 11–15                        | 6,006             | 1,195           | 16.4                         | 29.1                            | 29.3        | 27.9            | 0.25                        | 0.87                       | 29.1                           | −0.00                       | 0.00                       |
| 15–20                        | 9,453             | 2,020           | 17.0                         | 45.5                            | 45.6        | 45.1            | 0.09                        | 0.21                       | 45.5                           | −0.00                       | 0.00                       |
| 20–25                        | 3,499             | 734             | 17.9                         | 18.0                            | 17.8        | 18.7            | −0.16                       | −0.90                      | 18.0                           | −0.00                       | 0.00                       |
| > 25                         | 152               | 35              | 13.8                         | 0.7                             | 0.7         | 0.6             | 0.03                        | 4.00                       | 0.7                            | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-1. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the first follow-up student analytic weights (W2STUDENT) for selected variables—Continued**

| Domain category             | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|-----------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                             | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                             |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Census region               |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Northeast                   | 3,208             | 717             | 18.2                         | 18.9                            | 18.7        | 20.0            | -0.23                       | -1.20                      | 18.9                           | -0.00                       | 0.00                       |
| Midwest                     | 5,501             | 1,119           | 17.0                         | 21.4                            | 21.4        | 21.2            | 0.04                        | 0.18                       | 21.4                           | -0.00                       | 0.00                       |
| South                       | 8,432             | 1,659           | 16.0                         | 37.9                            | 38.4        | 35.3            | 0.54*                       | 1.42                       | 37.9                           | -0.00                       | 0.00                       |
| West                        | 3,453             | 844             | 18.5                         | 21.8                            | 21.5        | 23.5            | -0.35                       | -1.59                      | 21.8                           | -0.00                       | 0.00                       |
| School urbanicity           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| City                        | 5,852             | 1,313           | 18.3                         | 29.3                            | 28.9        | 31.4            | -0.42                       | -1.42                      | 29.3                           | -0.00                       | 0.00                       |
| Suburban                    | 7,378             | 1,709           | 18.8                         | 33.2                            | 32.6        | 36.4            | -0.65*                      | -1.95                      | 33.2                           | -0.00                       | 0.00                       |
| Town                        | 2,447             | 440             | 14.6                         | 13.1                            | 13.5        | 11.1            | 0.41*                       | 3.13                       | 13.1                           | -0.00                       | 0.00                       |
| Rural                       | 4,917             | 877             | 14.9                         | 24.3                            | 25.0        | 21.2            | 0.65*                       | 2.69                       | 24.3                           | -0.00                       | 0.00                       |
| Range of grades in school   |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| High school only            | 17,333            | 3,638           | 17.3                         | 85.6                            | 85.4        | 86.5            | -0.19                       | -0.22                      | 85.5                           | -0.14                       | -0.16                      |
| Middle and high school      | 2,027             | 385             | 15.0                         | 10.6                            | 10.9        | 9.3             | 0.28                        | 2.61                       | 10.7                           | 0.11                        | 1.04                       |
| Elementary to high school   | 1,234             | 316             | 19.1                         | 3.8                             | 3.7         | 4.2             | -0.09                       | -2.34                      | 3.8                            | 0.03                        | 0.80                       |
| Religious affiliation       |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                         | 3,634             | 760             | 18.0                         | 6.9                             | 6.8         | 7.2             | -0.07                       | -1.04                      | 6.9                            | -0.03                       | -0.42                      |
| No                          | 115               | 21              | 14.2                         | 0.3                             | 0.3         | 0.3             | 0.01                        | 3.63                       | 0.3                            | 0.03                        | 9.42                       |
| Public                      | 16,845            | 3,558           | 17.1                         | 92.8                            | 92.9        | 92.5            | 0.06                        | 0.07                       | 92.8                           | -0.00                       | 0.00                       |
| School is regular secondary |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                         | 3,445             | 703             | 17.8                         | 6.5                             | 6.5         | 6.8             | -0.05                       | -0.72                      | 6.5                            | -0.04                       | -0.69                      |
| No                          | 304               | 78              | 18.8                         | 0.7                             | 0.7         | 0.7             | -0.01                       | -2.02                      | 0.7                            | 0.04                        | 6.59                       |
| Public                      | 16,845            | 3,558           | 17.1                         | 92.8                            | 92.9        | 92.5            | 0.06                        | 0.07                       | 92.8                           | -0.00                       | 0.00                       |

See notes at end of table.

**Table G-1. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the first follow-up student analytic weights (W2STUDENT) for selected variables—Continued**

| Domain category                             |                   |                 |                              | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                             | Unweighted counts |                 | Weighted percent nonresponse | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                             | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Augmented sample-state (public school only) |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| California                                  | 1,045             | 230             | 17.2                         | 13.0                            | 12.9        | 13.0            | -0.01                       | -0.06                      | 13.0                           | -0.00                       | 0.00                       |
| Florida                                     | 723               | 223             | 22.4                         | 3.4                             | 3.2         | 4.5             | -0.22*                      | -6.36                      | 3.4                            | -0.00                       | 0.00                       |
| Georgia                                     | 978               | 235             | 17.7                         | 2.3                             | 2.3         | 2.4             | -0.01                       | -0.65                      | 2.3                            | -0.00                       | 0.00                       |
| Michigan                                    | 1,066             | 162             | 12.5                         | 3.3                             | 3.5         | 2.4             | 0.19*                       | 5.65                       | 3.3                            | -0.00                       | 0.00                       |
| North Carolina                              | 1,124             | 171             | 12.8                         | 3.3                             | 3.5         | 2.5             | 0.18*                       | 5.27                       | 3.3                            | -0.00                       | 0.00                       |
| Ohio                                        | 975               | 250             | 23.4                         | 2.8                             | 2.6         | 3.8             | -0.21*                      | -7.55                      | 2.8                            | -0.00                       | 0.00                       |
| Pennsylvania                                | 937               | 177             | 14.0                         | 3.7                             | 3.8         | 3.0             | 0.14*                       | 3.77                       | 3.7                            | -0.00                       | 0.00                       |
| Tennessee                                   | 1,085             | 147             | 13.5                         | 2.2                             | 2.3         | 1.7             | 0.10                        | 4.48                       | 2.2                            | -0.00                       | 0.00                       |
| Texas                                       | 1,106             | 216             | 14.8                         | 9.1                             | 9.4         | 7.9             | 0.27                        | 2.91                       | 9.1                            | -0.00                       | 0.00                       |
| Washington state                            | 871               | 214             | 20.5                         | 2.2                             | 2.1         | 2.6             | -0.09                       | -3.99                      | 2.2                            | -0.00                       | 0.00                       |
| Public schools in other states              | 10,684            | 2,314           | 17.7                         | 54.8                            | 54.5        | 56.4            | -0.33                       | -0.60                      | 54.8                           | -0.00                       | 0.00                       |
| Gender                                      |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Male                                        | 10,385            | 2,322           | 18.2                         | 50.6                            | 50.0        | 53.6            | -0.62*                      | -1.22                      | 50.6                           | -0.00                       | 0.00                       |
| Female                                      | 10,209            | 2,017           | 16.1                         | 49.4                            | 50.0        | 46.4            | 0.62*                       | 1.25                       | 49.4                           | -0.00                       | 0.00                       |
| Race <sup>6</sup>                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Hispanic                                    | 2,141             | 425             | 14.2                         | 4.2                             | 4.3         | 3.4             | 0.15*                       | 3.58                       | 4.2                            | -0.00                       | 0.00                       |
| Asian                                       | 2,320             | 528             | 18.7                         | 14.3                            | 14.0        | 15.6            | -0.27                       | -1.87                      | 14.3                           | -0.00                       | 0.00                       |
| Black                                       | 2,424             | 557             | 17.6                         | 17.2                            | 17.1        | 17.6            | -0.08                       | -0.49                      | 17.2                           | -0.00                       | 0.00                       |
| Other                                       | 13,709            | 2,829           | 16.9                         | 64.4                            | 64.6        | 63.4            | 0.20                        | 0.32                       | 64.4                           | -0.00                       | 0.00                       |

<sup>1</sup> Estimates were calculated with the student base weights excluding questionnaire-incapable student records.

<sup>2</sup> Estimates were calculated with the student analytic weights (W2STUDENT) excluding questionnaire-incapable student records.

<sup>3</sup> Estimated bias is calculated as a function of the weighted nonresponse rate times the difference in the weighted respondent and nonrespondent means as shown in equation 6.20. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>4</sup> The relative bias is calculated as the estimated bias divided by the (before adjustments) overall mean.

<sup>5</sup> Estimated bias is calculated as the difference in the weighted overall mean before and after the adjustments following the equations discussed in section 6.7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>6</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up Restricted-use File.

**Table G-2. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student analytic weight (W2STUDENT) for selected variables**

| Domain category                       | Unweighted counts |                 | After non-response weight adjustment   | After post-stratification adjustment |                                                                |                   |                   |
|---------------------------------------|-------------------|-----------------|----------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                                       |                   |                 |                                        | Means                                |                                                                | Differences       |                   |
|                                       | Respondents       | Non-respondents | Mean                                   | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
|                                       |                   |                 | Respondents, non-response adjusted (1) |                                      |                                                                |                   |                   |
| School type                           |                   |                 |                                        |                                      |                                                                |                   |                   |
| Public                                | 16,845            | 3,558           | 157.2                                  | 189.6                                | 229.0                                                          | -71.8             | -39.4             |
| Private                               | 3,749             | 781             | 54.4                                   | 66.2                                 | 79.4                                                           | -25.0             | -13.2             |
| Asian 9th-grade enrollment percent    |                   |                 |                                        |                                      |                                                                |                   |                   |
| ≤ 2 percent                           | 10,996            | 2,154           | 130.8                                  | 156.7                                | 186.5                                                          | -55.7             | -29.8             |
| > 2 percent                           | 9,598             | 2,185           | 147.3                                  | 179.1                                | 219.3                                                          | -72.0             | -40.1             |
| Black 9th-grade enrollment percent    |                   |                 |                                        |                                      |                                                                |                   |                   |
| ≤ 7 percent                           | 11,508            | 2,337           | 134.8                                  | 161.3                                | 192.6                                                          | -57.8             | -31.3             |
| > 7 percent                           | 9,086             | 2,002           | 143.1                                  | 174.6                                | 213.5                                                          | -70.3             | -38.9             |
| Hispanic 9th-grade enrollment percent |                   |                 |                                        |                                      |                                                                |                   |                   |
| ≤ 5 percent                           | 10,984            | 2,134           | 117.1                                  | 140.0                                | 165.1                                                          | -48.0             | -25.2             |
| > 5 percent                           | 9,610             | 2,205           | 162.9                                  | 198.2                                | 243.7                                                          | -80.8             | -45.4             |
| Other 9th-grade enrollment percent    |                   |                 |                                        |                                      |                                                                |                   |                   |
| < 80 percent                          | 10,595            | 2,416           | 164.7                                  | 200.6                                | 245.8                                                          | -81.2             | -45.3             |
| ≥ 80 percent                          | 9,999             | 1,923           | 110.7                                  | 131.8                                | 155.1                                                          | -44.4             | -23.4             |
| Charter school                        |                   |                 |                                        |                                      |                                                                |                   |                   |
| Yes                                   | 360               | 81              | 121.8                                  | 151.5                                | 210.8                                                          | -89.0             | -59.3             |
| No                                    | 16,419            | 3,468           | 157.1                                  | 189.5                                | 228.3                                                          | -71.2             | -38.8             |
| Private                               | 3,815             | 790             | 59.7                                   | 72.4                                 | 86.9                                                           | -27.2             | -14.5             |

See notes at end of table.



**Table G-2. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student analytic weight (W2STUDENT) for selected variables—Continued**

| Domain category              | Unweighted counts |                 | After non-response weight adjustment<br>Mean | After post-stratification adjustment |                                                                   |                   |                   |
|------------------------------|-------------------|-----------------|----------------------------------------------|--------------------------------------|-------------------------------------------------------------------|-------------------|-------------------|
|                              |                   |                 |                                              | Means                                |                                                                   | Differences       |                   |
|                              | Respondents       | Non-respondents | Respondents, non-response adjusted<br>(1)    | Full sample base weight<br>(2)       | Respondents, adjusted for non-response and post-stratified<br>(3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
|                              |                   |                 |                                              |                                      |                                                                   |                   |                   |
| Total enrollment             |                   |                 |                                              |                                      |                                                                   |                   |                   |
| < 499 students               | 3,490             | 690             | 110.5                                        | 130.2                                | 151.7                                                             | -41.3             | -21.6             |
| 500–999 students             | 4,920             | 937             | 143.2                                        | 169.5                                | 194.9                                                             | -51.7             | -25.3             |
| 1,000–1,499 students         | 4,634             | 994             | 130.4                                        | 160.8                                | 188.3                                                             | -57.9             | -27.5             |
| 1,500–2,000 students         | 3,750             | 868             | 133.3                                        | 163.3                                | 206.4                                                             | -73.1             | -43.1             |
| > 2,000 students             | 3,800             | 850             | 173.1                                        | 209.6                                | 268.6                                                             | -95.5             | -59.0             |
| 9th-grade enrollment         |                   |                 |                                              |                                      |                                                                   |                   |                   |
| 0–149 9th-grade students     | 4,795             | 944             | 108.3                                        | 127.4                                | 149.6                                                             | -41.3             | -22.2             |
| 150–299 9th-grade students   | 4,684             | 901             | 141.3                                        | 168.7                                | 195.2                                                             | -53.9             | -26.5             |
| 300–449 9th-grade students   | 4,709             | 1,006           | 129.2                                        | 157.9                                | 185.9                                                             | -56.6             | -27.9             |
| 450–600 9th-grade students   | 3,236             | 745             | 152.5                                        | 188.8                                | 238.4                                                             | -85.9             | -49.6             |
| 600+ 9th-grade students      | 3,170             | 743             | 179.4                                        | 216.6                                | 276.8                                                             | -97.5             | -60.2             |
| Number of full-time teachers |                   |                 |                                              |                                      |                                                                   |                   |                   |
| ≤ 50                         | 6,691             | 1,320           | 125.2                                        | 147.9                                | 170.9                                                             | -45.7             | -23.0             |
| 51–100                       | 8,374             | 1,740           | 132.2                                        | 160.4                                | 192.2                                                             | -60.0             | -31.9             |
| 101–150                      | 4,049             | 962             | 155.6                                        | 192.5                                | 245.6                                                             | -90.0             | -53.0             |
| > 150                        | 1,480             | 317             | 187.0                                        | 223.2                                | 275.7                                                             | -88.8             | -52.5             |
| Student to teacher ratio     |                   |                 |                                              |                                      |                                                                   |                   |                   |
| ≤ 10                         | 1,484             | 355             | 125.2                                        | 156.0                                | 186.8                                                             | -61.7             | -30.8             |
| 11–15                        | 6,006             | 1,195           | 139.3                                        | 166.7                                | 188.0                                                             | -48.7             | -21.3             |
| 15–20                        | 9,453             | 2,020           | 137.7                                        | 165.8                                | 203.4                                                             | -65.7             | -37.5             |
| 20–25                        | 3,499             | 734             | 145.0                                        | 176.6                                | 228.0                                                             | -83.0             | -51.4             |
| > 25                         | 152               | 35              | 137.3                                        | 159.4                                | 193.4                                                             | -56.1             | -34.0             |

See notes at end of table.

**Table G-2. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student analytic weight (W2STUDENT) for selected variables—Continued**

| Domain category             | Unweighted counts |                 | After non-response weight adjustment   | After post-stratification adjustment |                                                                |                   |                   |
|-----------------------------|-------------------|-----------------|----------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                             |                   |                 | Mean                                   | Means                                |                                                                | Differences       |                   |
|                             | Respondents       | Non-respondents | Respondents, non-response adjusted (1) | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
| Census region               |                   |                 |                                        |                                      |                                                                |                   |                   |
| Northeast                   | 3,208             | 717             | 166.2                                  | 203.1                                | 225.4                                                          | -59.2             | -22.3             |
| Midwest                     | 5,501             | 1,119           | 110.9                                  | 133.7                                | 167.2                                                          | -56.2             | -33.5             |
| South                       | 8,432             | 1,659           | 129.9                                  | 154.6                                | 185.3                                                          | -55.4             | -30.7             |
| West                        | 3,453             | 844             | 177.5                                  | 217.8                                | 275.4                                                          | -97.8             | -57.6             |
| School urbanicity           |                   |                 |                                        |                                      |                                                                |                   |                   |
| City                        | 5,852             | 1,313           | 141.0                                  | 172.6                                | 227.1                                                          | -86.1             | -54.5             |
| Suburban                    | 7,378             | 1,709           | 125.9                                  | 155.0                                | 187.7                                                          | -61.7             | -32.6             |
| Town                        | 2,447             | 440             | 157.3                                  | 184.1                                | 197.9                                                          | -40.6             | -13.8             |
| Rural                       | 4,917             | 877             | 144.9                                  | 170.4                                | 194.8                                                          | -49.8             | -24.4             |
| Range of grades in school   |                   |                 |                                        |                                      |                                                                |                   |                   |
| High school only            | 17,333            | 3,638           | 140.5                                  | 169.7                                | 205.7                                                          | -65.2             | -36.0             |
| Middle and high school      | 2,027             | 385             | 153.7                                  | 182.7                                | 206.9                                                          | -53.2             | -24.2             |
| Elementary to high school   | 1,234             | 316             | 85.0                                   | 105.9                                | 138.6                                                          | -53.6             | -32.7             |
| Religious affiliation       |                   |                 |                                        |                                      |                                                                |                   |                   |
| Yes                         | 3,634             | 760             | 53.6                                   | 65.1                                 | 77.8                                                           | -24.2             | -12.6             |
| No                          | 115               | 21              | 78.7                                   | 100.3                                | 130.5                                                          | -51.8             | -30.2             |
| Public                      | 16,845            | 3,558           | 157.2                                  | 189.6                                | 229.0                                                          | -71.8             | -39.4             |
| School is regular secondary |                   |                 |                                        |                                      |                                                                |                   |                   |
| Yes                         | 3,445             | 703             | 53.6                                   | 64.8                                 | 78.0                                                           | -24.4             | -13.2             |
| No                          | 304               | 78              | 62.7                                   | 82.3                                 | 94.9                                                           | -32.2             | -12.6             |
| Public                      | 16,845            | 3,558           | 157.2                                  | 189.6                                | 229.0                                                          | -71.8             | -39.4             |

See notes at end of table.

**Table G-2. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student analytic weight (W2STUDENT) for selected variables—Continued**

| Domain category                             | Unweighted counts |                 | After non-response weight adjustment   | After post-stratification adjustment |                                                                |                   |                   |
|---------------------------------------------|-------------------|-----------------|----------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                                             |                   |                 |                                        | Means                                |                                                                | Differences       |                   |
|                                             | Respondents       | Non-respondents | Mean                                   | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
|                                             |                   |                 | Respondents, non-response adjusted (1) |                                      |                                                                |                   |                   |
| Augmented sample-state (public school only) |                   |                 |                                        |                                      |                                                                |                   |                   |
| California                                  | 1,045             | 230             | 353.4                                  | 426.8                                | 489.2                                                          | -135.8            | -62.4             |
| Florida                                     | 723               | 223             | 126.9                                  | 163.6                                | 314.9                                                          | -188.0            | -151.3            |
| Georgia                                     | 978               | 235             | 66.4                                   | 80.6                                 | 144.6                                                          | -78.2             | -63.9             |
| Michigan                                    | 1,066             | 162             | 92.5                                   | 105.7                                | 127.3                                                          | -34.8             | -21.6             |
| North Carolina                              | 1,124             | 171             | 89.0                                   | 102.1                                | 107.3                                                          | -18.3             | -5.2              |
| Ohio                                        | 975               | 250             | 74.6                                   | 97.4                                 | 160.8                                                          | -86.2             | -63.3             |
| Pennsylvania                                | 937               | 177             | 116.4                                  | 135.4                                | 146.9                                                          | -30.5             | -11.5             |
| Tennessee                                   | 1,085             | 147             | 59.2                                   | 68.5                                 | 70.2                                                           | -10.9             | -1.7              |
| Texas                                       | 1,106             | 216             | 242.6                                  | 284.6                                | 319.9                                                          | -77.3             | -35.3             |
| Washington state                            | 871               | 214             | 68.4                                   | 86.0                                 | 85.7                                                           | -17.3             | 0.3               |
| Public schools in other states              | 10,684            | 2,314           | 145.4                                  | 176.5                                | 207.8                                                          | -62.4             | -31.3             |
| Gender                                      |                   |                 |                                        |                                      |                                                                |                   |                   |
| Male                                        | 10,385            | 2,322           | 137.2                                  | 167.7                                | 201.1                                                          | -63.9             | -33.4             |
| Female                                      | 10,209            | 2,017           | 139.7                                  | 166.6                                | 202.5                                                          | -62.7             | -35.9             |
| Race <sup>1</sup>                           |                   |                 |                                        |                                      |                                                                |                   |                   |
| Hispanic                                    | 2,141             | 425             | 57.3                                   | 66.8                                 | 80.0                                                           | -22.6             | -13.1             |
| Asian                                       | 2,320             | 528             | 172.6                                  | 212.4                                | 262.2                                                          | -89.5             | -49.8             |
| Black                                       | 2,424             | 557             | 200.9                                  | 243.7                                | 297.5                                                          | -96.6             | -53.8             |
| Other                                       | 13,709            | 2,829           | 134.3                                  | 161.6                                | 193.7                                                          | -59.3             | -32.0             |

<sup>1</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up Restricted-use File.

**Table G-3. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the longitudinal student analytic weights (W2W1STU) for selected variables**

| Domain category                       | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                       |                   |                 |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative Bias <sup>4</sup> |
|                                       | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| School type                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Public                                | 15400             | 5020            | 24.6                         | 92.8                            | 92.8        | 93.1            | -0.07                       | -0.08                      | 92.8                           | -0.00                       | 0.00                       |
| Private                               | 3466              | 1066            | 23.8                         | 7.2                             | 7.2         | 6.9             | 0.07                        | 1.01                       | 7.2                            | -0.00                       | 0.00                       |
| Asian 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 2 percent                           | 10149             | 3010            | 23.3                         | 49.3                            | 50.1        | 46.8            | 0.81                        | 1.65                       | 50.1                           | 0.18                        | 0.37                       |
| > 2 percent                           | 8717              | 3076            | 25.8                         | 50.7                            | 49.9        | 53.2            | -0.81                       | -1.61                      | 49.9                           | -0.18                       | -0.36                      |
| Black 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 7 percent                           | 10572             | 3281            | 23.3                         | 53.5                            | 54.4        | 50.7            | 0.91                        | 1.71                       | 53.9                           | -0.19                       | -0.36                      |
| > 7 percent                           | 8294              | 2805            | 26.0                         | 46.5                            | 45.6        | 49.3            | -0.91                       | -1.96                      | 46.1                           | 0.19                        | 0.41                       |
| Hispanic 9th-grade enrollment percent |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 5 percent                           | 10059             | 3068            | 22.9                         | 43.6                            | 44.5        | 40.6            | 0.97*                       | 2.22                       | 44.5                           | 0.33                        | 0.76                       |
| > 5 percent                           | 8807              | 3018            | 25.9                         | 56.4                            | 55.5        | 59.4            | -0.97*                      | -1.71                      | 55.5                           | -0.33                       | -0.59                      |
| Other 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 80 percent                          | 9653              | 3369            | 26.1                         | 62.7                            | 61.4        | 66.5            | -1.25*                      | -1.99                      | 61.7                           | -0.26                       | -0.41                      |
| ≥ 80 percent                          | 9213              | 2717            | 22.0                         | 37.3                            | 38.6        | 33.5            | 1.25*                       | 3.35                       | 38.3                           | 0.26                        | 0.69                       |
| Charter school                        |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                   | 335               | 106             | 23.7                         | 1.8                             | 1.8         | 1.7             | 0.02                        | 1.18                       | 1.6                            | 0.01                        | 0.63                       |
| No                                    | 15000             | 4904            | 24.8                         | 90.3                            | 90.1        | 91.1            | -0.26                       | -0.29                      | 90.4                           | -0.12                       | -0.13                      |
| Private                               | 3531              | 1076            | 22.3                         | 7.9                             | 8.2         | 7.2             | 0.24                        | 3.05                       | 8.0                            | 0.11                        | 1.36                       |

See notes at end of table.

**Table G-3. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the longitudinal student analytic weights (W2W1STU) for selected variables—Continued**

| Domain category              | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                              | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative Bias <sup>4</sup> |
|                              |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Total enrollment             |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 499 students               | 3,276             | 908             | 19.5                         | 12.8                            | 13.7        | 10.2            | 0.86*                       | 6.71                       | 13.2                           | −0.00                       | 0.00                       |
| 500–999 students             | 4,564             | 1,295           | 21.4                         | 23.1                            | 24.0        | 20.1            | 0.95*                       | 4.14                       | 24.2                           | −0.00                       | 0.00                       |
| 1,000–1,499 students         | 4,173             | 1,460           | 28.0                         | 20.9                            | 19.9        | 23.8            | −0.95*                      | −4.53                      | 21.6                           | −0.00                       | 0.00                       |
| 1,500–2,000 students         | 3,422             | 1,199           | 26.0                         | 18.7                            | 18.4        | 19.8            | −0.36                       | −1.90                      | 17.8                           | −0.07                       | −0.36                      |
| > 2,000 students             | 3,431             | 1,224           | 26.1                         | 24.5                            | 24.0        | 26.1            | −0.51                       | −2.10                      | 23.1                           | 0.07                        | 0.28                       |
| 9th-grade enrollment         |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| 0–149 9th-grade students     | 4,515             | 1,228           | 19.4                         | 17.3                            | 18.5        | 13.7            | 1.20*                       | 6.90                       | 17.8                           | −0.00                       | 0.00                       |
| 150–299 9th-grade students   | 4,301             | 1,285           | 22.6                         | 22.0                            | 22.6        | 20.2            | 0.58                        | 2.64                       | 23.0                           | −0.00                       | 0.00                       |
| 300–449 9th-grade students   | 4,252             | 1,470           | 26.7                         | 21.0                            | 20.4        | 22.9            | −0.60                       | −2.86                      | 21.6                           | −0.00                       | 0.00                       |
| 450–600 9th-grade students   | 2,982             | 1,001           | 24.9                         | 18.4                            | 18.3        | 18.7            | −0.08                       | −0.44                      | 17.8                           | 0.46                        | 2.51                       |
| 600+ 9th-grade students      | 2,816             | 1,102           | 28.4                         | 21.2                            | 20.2        | 24.6            | −1.09*                      | −5.15                      | 19.9                           | −0.46                       | −2.17                      |
| Number of full-time teachers |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 50                         | 6,245             | 1,771           | 20.8                         | 27.6                            | 29.0        | 23.5            | 1.36*                       | 4.93                       | 28.7                           | −0.00                       | 0.00                       |
| 51–100                       | 7,630             | 2,493           | 25.0                         | 38.6                            | 38.4        | 39.3            | −0.21                       | −0.54                      | 39.0                           | −0.00                       | 0.00                       |
| 101–150                      | 3,694             | 1,319           | 27.7                         | 23.9                            | 22.9        | 26.9            | −0.98*                      | −4.10                      | 22.6                           | −0.00                       | 0.00                       |
| > 150                        | 1,297             | 503             | 25.9                         | 9.8                             | 9.6         | 10.3            | −0.17                       | −1.78                      | 9.6                            | −0.00                       | 0.00                       |
| Student to teacher ratio     |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 10                         | 1,389             | 452             | 23.2                         | 6.6                             | 6.8         | 6.3             | 0.12                        | 1.84                       | 6.7                            | −0.00                       | 0.00                       |
| 11–15                        | 5,544             | 1,664           | 22.6                         | 27.3                            | 28.0        | 25.1            | 0.70                        | 2.57                       | 29.1                           | −0.00                       | 0.00                       |
| 15–20                        | 8,587             | 2,896           | 25.8                         | 46.2                            | 45.5        | 48.6            | −0.75                       | −1.62                      | 45.5                           | −0.00                       | 0.00                       |
| 20–25                        | 3,199             | 1,034           | 25.1                         | 19.2                            | 19.0        | 19.6            | −0.15                       | −0.76                      | 18.0                           | −0.00                       | 0.00                       |
| > 25                         | 147               | 40              | 16.8                         | 0.7                             | 0.8         | 0.5             | 0.07                        | 10.25                      | 0.7                            | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-3. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the longitudinal student analytic weights (W2W1STU) for selected variables—Continued**

| Domain category             | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|-----------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                             | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative Bias <sup>4</sup> |
|                             |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Census region               |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Northeast                   | 2,940             | 986             | 23.9                         | 17.4                            | 17.5        | 17.0            | 0.14                        | 0.81                       | 18.9                           | −0.00                       | 0.00                       |
| Midwest                     | 5,039             | 1,585           | 24.6                         | 22.1                            | 22.1        | 22.1            | −0.01                       | −0.03                      | 21.4                           | −0.00                       | 0.00                       |
| South                       | 7,713             | 2,389           | 24.2                         | 37.6                            | 37.8        | 37.0            | 0.18                        | 0.49                       | 37.9                           | −0.00                       | 0.00                       |
| West                        | 3,174             | 1,126           | 25.6                         | 22.9                            | 22.6        | 23.9            | −0.32                       | −1.38                      | 21.8                           | −0.00                       | 0.00                       |
| School urbanicity           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| City                        | 5,314             | 1,857           | 25.8                         | 32.0                            | 31.5        | 33.6            | −0.51                       | −1.61                      | 29.3                           | −0.00                       | 0.00                       |
| Suburban                    | 6,648             | 2,448           | 28.2                         | 33.3                            | 31.7        | 38.3            | −1.61*                      | −4.84                      | 33.2                           | −0.00                       | 0.00                       |
| Town                        | 2,287             | 600             | 20.6                         | 11.6                            | 12.3        | 9.8             | 0.61*                       | 5.25                       | 13.1                           | −0.00                       | 0.00                       |
| Rural                       | 4,617             | 1,181           | 19.6                         | 23.0                            | 24.6        | 18.4            | 1.52*                       | 6.58                       | 24.3                           | −0.00                       | 0.00                       |
| Range of grades in school   |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| High school only            | 15,835            | 5,153           | 24.8                         | 86.0                            | 85.7        | 86.7            | −0.23                       | −0.27                      | 85.7                           | 0.15                        | 0.18                       |
| Middle and high school      | 1,884             | 530             | 23.1                         | 10.0                            | 10.2        | 9.4             | 0.20                        | 1.98                       | 10.6                           | −0.14                       | −1.44                      |
| Elementary to high school   | 1,147             | 403             | 24.0                         | 4.0                             | 4.1         | 3.9             | 0.03                        | 0.78                       | 3.8                            | −0.01                       | −0.16                      |
| Religious affiliation       |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                         | 3,365             | 1,031           | 23.8                         | 6.8                             | 6.9         | 6.6             | 0.07                        | 1.03                       | 6.9                            | −0.02                       | −0.32                      |
| No                          | 101               | 35              | 24.0                         | 0.3                             | 0.3         | 0.3             | 0.00                        | 0.69                       | 0.3                            | 0.02                        | 7.02                       |
| Public                      | 15,400            | 5,020           | 24.6                         | 92.8                            | 92.8        | 93.1            | −0.07                       | −0.08                      | 92.8                           | −0.00                       | 0.00                       |
| School is regular secondary |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                         | 3,195             | 955             | 23.3                         | 6.5                             | 6.6         | 6.2             | 0.11                        | 1.68                       | 6.5                            | −0.01                       | −0.11                      |
| No                          | 271               | 111             | 28.8                         | 0.7                             | 0.6         | 0.8             | −0.04                       | −5.58                      | 0.7                            | 0.01                        | 1.10                       |
| Public                      | 15,400            | 5,020           | 24.6                         | 92.8                            | 92.8        | 93.1            | −0.07                       | −0.08                      | 92.8                           | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-3. Unit nonresponse bias before and after adjustments were applied to the student base weights used in the longitudinal student analytic weights (W2W1STU) for selected variables—Continued**

| Domain category                             | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                             | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative Bias <sup>4</sup> |
|                                             |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Augmented sample-state (public school only) |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| California                                  | 963               | 313             | 24.9                         | 12.3                            | 12.2        | 12.5            | −0.05                       | −0.44                      | 13.0                           | −0.00                       | 0.00                       |
| Florida                                     | 626               | 322             | 33.6                         | 5.5                             | 4.8         | 7.5             | −0.66*                      | −11.98                     | 3.4                            | −0.00                       | 0.00                       |
| Georgia                                     | 869               | 344             | 26.1                         | 3.4                             | 3.3         | 3.6             | −0.07                       | −2.05                      | 2.3                            | −0.00                       | 0.00                       |
| Michigan                                    | 993               | 236             | 19.4                         | 3.3                             | 3.5         | 2.6             | 0.22*                       | 6.86                       | 3.3                            | −0.00                       | 0.00                       |
| North Carolina                              | 1,022             | 274             | 20.3                         | 2.9                             | 3.1         | 2.4             | 0.16*                       | 5.61                       | 3.3                            | −0.00                       | 0.00                       |
| Ohio                                        | 862               | 364             | 32.4                         | 3.8                             | 3.4         | 5.0             | −0.39*                      | −10.42                     | 2.8                            | −0.00                       | 0.00                       |
| Pennsylvania                                | 885               | 229             | 18.1                         | 3.3                             | 3.6         | 2.4             | 0.28*                       | 8.53                       | 3.7                            | −0.00                       | 0.00                       |
| Tennessee                                   | 1,005             | 228             | 19.9                         | 1.8                             | 1.9         | 1.5             | 0.11*                       | 6.21                       | 2.2                            | −0.00                       | 0.00                       |
| Texas                                       | 1,022             | 303             | 22.3                         | 8.5                             | 8.8         | 7.7             | 0.26                        | 3.02                       | 9.1                            | −0.00                       | 0.00                       |
| Washington state                            | 779               | 307             | 31.3                         | 1.8                             | 1.6         | 2.3             | −0.16                       | −8.88                      | 2.2                            | −0.00                       | 0.00                       |
| Public schools in other states              | 9,840             | 3,166           | 24.1                         | 53.4                            | 53.7        | 52.5            | 0.29                        | 0.55                       | 54.8                           | −0.00                       | 0.00                       |
| Gender                                      |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Male                                        | 9,482             | 3,239           | 25.8                         | 50.3                            | 49.4        | 52.9            | −0.84*                      | −1.68                      | 50.6                           | −0.00                       | 0.00                       |
| Female                                      | 9,384             | 2,847           | 23.3                         | 49.7                            | 50.6        | 47.1            | 0.84*                       | 1.70                       | 49.4                           | −0.00                       | 0.00                       |
| Race <sup>6</sup>                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Hispanic                                    | 1,967             | 599             | 22.3                         | 4.1                             | 4.2         | 3.7             | 0.12                        | 3.00                       | 4.2                            | −0.00                       | 0.00                       |
| Asian                                       | 2,130             | 721             | 25.7                         | 14.5                            | 14.3        | 15.2            | −0.22                       | −1.52                      | 14.3                           | −0.00                       | 0.00                       |
| Black                                       | 2,239             | 744             | 24.8                         | 17.4                            | 17.3        | 17.6            | −0.06                       | −0.37                      | 17.2                           | −0.00                       | 0.00                       |
| Other                                       | 12,530            | 4,022           | 24.4                         | 64.0                            | 64.2        | 63.5            | 0.16                        | 0.25                       | 64.4                           | −0.00                       | 0.00                       |

<sup>1</sup> Estimates were calculated with the student base weights excluding questionnaire-incapable student records.

<sup>2</sup> Estimates were calculated with the student longitudinal weights (W2W1STU) excluding questionnaire-incapable student records.

<sup>3</sup> Estimated bias is calculated as a function of the weighted nonresponse rate times the difference in the weighted respondent and nonrespondent means as shown in equation 6.20. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>4</sup> The relative bias is calculated as the estimated bias divided by the (before adjustments) overall mean.

<sup>5</sup> Estimated bias is calculated as the difference in the weighted overall mean before and after the adjustments following the equations discussed in section 6.7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>6</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up Restricted-use File.

**Table G-4. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student longitudinal weight (W2W1STU) for selected variables**

| Domain category                       | Unweighted counts |                 | After non-response weight adjustment   | After post-stratification adjustment |                                                                |                   |                   |
|---------------------------------------|-------------------|-----------------|----------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                                       |                   |                 | Mean                                   | Means                                |                                                                | Differences       |                   |
|                                       |                   |                 | Respondents, non-response adjusted (1) | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
|                                       | Respondents       | Non-respondents |                                        |                                      |                                                                |                   |                   |
| School type                           |                   |                 |                                        |                                      |                                                                |                   |                   |
| Public                                | 15,400            | 5,020           | 157.4                                  | 207.4                                | 250.7                                                          | –93.3             | –43.3             |
| Private                               | 3,466             | 1,066           | 54.7                                   | 71.6                                 | 85.8                                                           | –31.2             | –14.3             |
| Asian 9th-grade enrollment percent    |                   |                 |                                        |                                      |                                                                |                   |                   |
| ≤ 2 percent                           | 10,149            | 3,010           | 131.0                                  | 170.2                                | 202.7                                                          | –71.8             | –32.5             |
| > 2 percent                           | 8,717             | 3,076           | 147.3                                  | 196.8                                | 241.0                                                          | –93.6             | –44.2             |
| Black 9th-grade enrollment percent    |                   |                 |                                        |                                      |                                                                |                   |                   |
| ≤ 7 percent                           | 10,572            | 3,281           | 135.2                                  | 175.2                                | 208.9                                                          | –73.7             | –33.7             |
| > 7 percent                           | 8,294             | 2,805           | 142.7                                  | 191.7                                | 235.0                                                          | –92.3             | –43.3             |
| Hispanic 9th-grade enrollment percent |                   |                 |                                        |                                      |                                                                |                   |                   |
| ≤ 5 percent                           | 10,059            | 3,068           | 118.1                                  | 153.0                                | 180.3                                                          | –62.2             | –27.3             |
| > 5 percent                           | 8,807             | 3,018           | 161.9                                  | 216.1                                | 266.2                                                          | –104.3            | –50.1             |
| Other 9th-grade enrollment percent    |                   |                 |                                        |                                      |                                                                |                   |                   |
| < 80 percent                          | 9,653             | 3,369           | 164.0                                  | 219.7                                | 269.8                                                          | –105.8            | –50.1             |
| ≥ 80 percent                          | 9,213             | 2,717           | 111.9                                  | 143.5                                | 168.7                                                          | –56.8             | –25.2             |
| Charter school                        |                   |                 |                                        |                                      |                                                                |                   |                   |
| Yes                                   | 335               | 106             | 122.9                                  | 161.0                                | 225.6                                                          | –102.7            | –64.7             |
| No                                    | 15,000            | 4,904           | 157.3                                  | 207.4                                | 250.0                                                          | –92.7             | –42.6             |
| Private                               | 3,531             | 1,076           | 60.4                                   | 78.6                                 | 94.4                                                           | –34.0             | –15.8             |

See notes at end of table.



**Table G-4. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student longitudinal weight (W2W1STU) for selected variables—Continued**

| Domain category              | Unweighted counts |                 | After non-response weight adjustment<br>Mean | After post-stratification adjustment |                                                                |                   |                   |
|------------------------------|-------------------|-----------------|----------------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                              |                   |                 |                                              | Means                                |                                                                | Differences       |                   |
|                              | Respondents       | Non-respondents | Respondents, non-response adjusted (1)       | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
|                              |                   |                 |                                              |                                      |                                                                |                   |                   |
| Total enrollment             |                   |                 |                                              |                                      |                                                                |                   |                   |
| < 499 students               | 3,276             | 908             | 112.1                                        | 138.7                                | 161.6                                                          | -49.5             | -23.0             |
| 500–999 students             | 4,564             | 1,295           | 144.7                                        | 182.8                                | 210.1                                                          | -65.4             | -27.3             |
| 1,000–1,499 students         | 4,173             | 1,460           | 129.2                                        | 178.5                                | 210.4                                                          | -81.2             | -31.9             |
| 1,500–2,000 students         | 3,422             | 1,199           | 133.7                                        | 179.0                                | 225.8                                                          | -92.1             | -46.8             |
| > 2,000 students             | 3,431             | 1,224           | 171.7                                        | 232.1                                | 296.9                                                          | -125.3            | -64.9             |
| 9th-grade enrollment         |                   |                 |                                              |                                      |                                                                |                   |                   |
| 0–149 9th-grade students     | 4,515             | 1,228           | 109.7                                        | 135.3                                | 159.0                                                          | -49.3             | -23.7             |
| 150–299 9th-grade students   | 4,301             | 1,285           | 143.1                                        | 183.7                                | 212.4                                                          | -69.3             | -28.6             |
| 300–449 9th-grade students   | 4,252             | 1,470           | 128.9                                        | 174.9                                | 206.9                                                          | -78.0             | -32.0             |
| 450–600 9th-grade students   | 2,982             | 1,001           | 153.7                                        | 208.4                                | 262.1                                                          | -108.4            | -53.7             |
| 600+ 9th-grade students      | 2,816             | 1,102           | 176.3                                        | 240.1                                | 307.4                                                          | -131.2            | -67.3             |
| Number of full-time teachers |                   |                 |                                              |                                      |                                                                |                   |                   |
| ≤ 50                         | 6,245             | 1,771           | 126.7                                        | 158.4                                | 183.3                                                          | -56.6             | -24.8             |
| 51–100                       | 7,630             | 2,493           | 132.6                                        | 176.0                                | 211.3                                                          | -78.7             | -35.2             |
| 101–150                      | 3,694             | 1,319           | 153.2                                        | 211.0                                | 268.0                                                          | -114.8            | -57.0             |
| > 150                        | 1,297             | 503             | 188.8                                        | 254.7                                | 317.3                                                          | -128.5            | -62.6             |
| Student to teacher ratio     |                   |                 |                                              |                                      |                                                                |                   |                   |
| ≤ 10                         | 1,389             | 452             | 126.6                                        | 166.7                                | 200.3                                                          | -73.7             | -33.6             |
| 11–15                        | 5,544             | 1,664           | 140.3                                        | 180.6                                | 204.0                                                          | -63.7             | -23.4             |
| 15–20                        | 8,587             | 2,896           | 137.0                                        | 182.6                                | 223.9                                                          | -86.9             | -41.4             |
| 20–25                        | 3,199             | 1,034           | 144.8                                        | 193.2                                | 249.1                                                          | -104.3            | -55.9             |
| > 25                         | 147               | 40              | 136.6                                        | 164.8                                | 198.5                                                          | -61.9             | -33.7             |

See notes at end of table.

**Table G-4. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student longitudinal weight (W2W1STU) for selected variables—Continued**

| Domain category             | Unweighted counts |                 | After non-response weight adjustment   | After post-stratification adjustment |                                                                |                   |                   |
|-----------------------------|-------------------|-----------------|----------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                             |                   |                 | Mean                                   | Means                                |                                                                | Differences       |                   |
|                             | Respondents       | Non-respondents | Respondents, non-response adjusted (1) | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
| Census region               |                   |                 |                                        |                                      |                                                                |                   |                   |
| Northeast                   | 2,940             | 986             | 167.7                                  | 221.6                                | 246.0                                                          | -78.3             | -24.4             |
| Midwest                     | 5,039             | 1,585           | 111.1                                  | 145.9                                | 182.5                                                          | -71.4             | -36.6             |
| South                       | 7,713             | 2,389           | 129.7                                  | 169.0                                | 202.7                                                          | -73.0             | -33.7             |
| West                        | 3,174             | 1,126           | 176.4                                  | 236.9                                | 299.7                                                          | -123.3            | -62.8             |
| School urbanicity           |                   |                 |                                        |                                      |                                                                |                   |                   |
| City                        | 5,314             | 1,857           | 141.5                                  | 190.1                                | 250.2                                                          | -108.8            | -60.1             |
| Suburban                    | 6,648             | 2,448           | 124.3                                  | 172.1                                | 208.4                                                          | -84.1             | -36.3             |
| Town                        | 2,287             | 600             | 157.4                                  | 197.0                                | 212.1                                                          | -54.7             | -15.1             |
| Rural                       | 4,617             | 1,181           | 146.3                                  | 181.5                                | 207.5                                                          | -61.2             | -26.0             |
| Range of grades in school   |                   |                 |                                        |                                      |                                                                |                   |                   |
| High school only            | 15,835            | 5,153           | 141.1                                  | 186.4                                | 225.8                                                          | -84.8             | -39.4             |
| Middle and high school      | 1,884             | 530             | 149.7                                  | 191.9                                | 218.1                                                          | -68.4             | -26.1             |
| Elementary to high school   | 1,147             | 403             | 84.9                                   | 112.8                                | 149.2                                                          | -64.3             | -36.4             |
| Religious affiliation       |                   |                 |                                        |                                      |                                                                |                   |                   |
| Yes                         | 3,365             | 1,031           | 53.9                                   | 70.4                                 | 84.0                                                           | -30.0             | -13.6             |
| No                          | 101               | 35              | 79.0                                   | 111.8                                | 149.1                                                          | -70.1             | -37.3             |
| Public                      | 15,400            | 5,020           | 157.4                                  | 207.4                                | 250.7                                                          | -93.3             | -43.3             |
| School is regular secondary |                   |                 |                                        |                                      |                                                                |                   |                   |
| Yes                         | 3,195             | 955             | 54.0                                   | 70.2                                 | 84.6                                                           | -30.6             | -14.4             |
| No                          | 271               | 111             | 62.0                                   | 87.5                                 | 100.3                                                          | -38.2             | -12.7             |
| Public                      | 15,400            | 5,020           | 157.4                                  | 207.4                                | 250.7                                                          | -93.3             | -43.3             |

See notes at end of table.

**Table G-4. Comparison of student estimates calculated with the nonresponse adjusted weight, the base weight, and the student longitudinal weight (W2W1STU) for selected variables—Continued**

| Domain category                             | Unweighted counts |                 | After non-response weight adjustment   | After post-stratification adjustment |                                                                |                   |                   |
|---------------------------------------------|-------------------|-----------------|----------------------------------------|--------------------------------------|----------------------------------------------------------------|-------------------|-------------------|
|                                             |                   |                 | Mean                                   | Means                                |                                                                | Differences       |                   |
|                                             | Respondents       | Non-respondents | Respondents, non-response adjusted (1) | Full sample base weight (2)          | Respondents, adjusted for non-response and post-stratified (3) | Mean(1) – Mean(3) | Mean(2) – Mean(3) |
| Augmented sample-state (public school only) |                   |                 |                                        |                                      |                                                                |                   |                   |
| California                                  | 963               | 313             | 347.7                                  | 463.2                                | 530.8                                                          | -183.1            | -67.7             |
| Florida                                     | 626               | 322             | 125.3                                  | 188.9                                | 363.7                                                          | -238.3            | -174.8            |
| Georgia                                     | 869               | 344             | 67.1                                   | 90.8                                 | 163.2                                                          | -96.1             | -72.4             |
| Michigan                                    | 993               | 236             | 91.8                                   | 113.4                                | 136.6                                                          | -44.9             | -23.2             |
| North Carolina                              | 1,022             | 274             | 89.8                                   | 112.2                                | 118.0                                                          | -28.3             | -5.8              |
| Ohio                                        | 862               | 364             | 75.4                                   | 110.2                                | 182.0                                                          | -106.7            | -71.8             |
| Pennsylvania                                | 885               | 229             | 117.4                                  | 143.4                                | 155.6                                                          | -38.2             | -12.3             |
| Tennessee                                   | 1,005             | 228             | 59.7                                   | 73.9                                 | 75.7                                                           | -16.1             | -1.8              |
| Texas                                       | 1,022             | 303             | 240.3                                  | 308.0                                | 346.9                                                          | -106.6            | -38.9             |
| Washington state                            | 779               | 307             | 68.2                                   | 96.2                                 | 96.0                                                           | -27.8             | 0.2               |
| Public schools in other states              | 9,840             | 3,166           | 145.5                                  | 191.7                                | 225.7                                                          | -80.3             | -34.0             |
| Gender                                      |                   |                 |                                        |                                      |                                                                |                   |                   |
| Male                                        | 9,482             | 3,239           | 137.1                                  | 183.7                                | 220.5                                                          | -83.3             | -36.8             |
| Female                                      | 9,384             | 2,847           | 139.9                                  | 181.3                                | 220.3                                                          | -80.4             | -39.1             |
| Race <sup>1</sup>                           |                   |                 |                                        |                                      |                                                                |                   |                   |
| Hispanic                                    | 1,967             | 599             | 56.9                                   | 72.7                                 | 87.1                                                           | -30.3             | -14.4             |
| Asian                                       | 2,130             | 721             | 172.5                                  | 231.3                                | 286.1                                                          | -113.6            | -54.8             |
| Black                                       | 2,239             | 744             | 199.6                                  | 263.9                                | 323.3                                                          | -123.8            | -59.5             |
| Other                                       | 12,530            | 4,022           | 134.6                                  | 176.9                                | 211.8                                                          | -77.1             | -34.9             |

<sup>1</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up Restricted-use File.

**Table G-5. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual analytic weights (W2PARENT) for selected variables**

| Domain category                       | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                       | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                       |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| School type                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Public                                | 7,120             | 2,769           | 28.7                         | 92.9                            | 92.6        | 93.7            | −0.33                       | −0.36                      | 92.9                           | 0.00                        | 0.00                       |
| Private                               | 1,531             | 541             | 25.1                         | 7.1                             | 7.4         | 6.3             | 0.33                        | 4.68                       | 7.1                            | −0.00                       | 0.00                       |
| Asian 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 2 percent                           | 4,531             | 1,681           | 28.1                         | 50.0                            | 50.1        | 49.5            | 0.18                        | 0.36                       | 49.9                           | −0.11                       | −0.22                      |
| > 2 percent                           | 4,120             | 1,629           | 28.7                         | 50.0                            | 49.9        | 50.5            | −0.18                       | −0.36                      | 50.1                           | 0.11                        | 0.22                       |
| Black 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 7 percent                           | 4,843             | 1,788           | 26.8                         | 53.3                            | 54.5        | 50.4            | 1.17*                       | 2.19                       | 53.4                           | 0.21                        | 0.40                       |
| > 7 percent                           | 3,808             | 1,522           | 30.2                         | 46.7                            | 45.5        | 49.6            | −1.17*                      | −2.50                      | 46.6                           | −0.21                       | −0.46                      |
| Hispanic 9th-grade enrollment percent |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 5 percent                           | 4,522             | 1,590           | 26.9                         | 43.4                            | 44.3        | 41.0            | 0.92*                       | 2.13                       | 43.5                           | 0.37                        | 0.85                       |
| > 5 percent                           | 4,129             | 1,720           | 29.6                         | 56.6                            | 55.7        | 59.0            | −0.92*                      | −1.63                      | 56.5                           | −0.37                       | −0.65                      |
| Other 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 80 percent                          | 4,514             | 1,917           | 30.3                         | 62.8                            | 61.2        | 67.0            | −1.67*                      | −2.66                      | 62.6                           | −0.46                       | −0.73                      |
| ≥ 80 percent                          | 4,137             | 1,393           | 25.2                         | 37.2                            | 38.8        | 33.0            | 1.67*                       | 4.49                       | 37.4                           | 0.46                        | 1.24                       |
| Charter school                        |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                   | 156               | 60              | 31.9                         | 1.8                             | 1.7         | 2.0             | −0.09                       | −4.93                      | 1.8                            | −0.01                       | −0.58                      |
| No                                    | 6,937             | 2,702           | 28.7                         | 90.4                            | 90.0        | 91.5            | −0.42                       | −0.47                      | 90.3                           | −0.15                       | −0.17                      |
| Private                               | 1,558             | 548             | 23.7                         | 7.8                             | 8.4         | 6.6             | 0.51*                       | 6.50                       | 7.9                            | 0.16                        | 2.04                       |
| Total enrollment                      |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 499 students                        | 1,408             | 537             | 25.0                         | 12.9                            | 13.5        | 11.4            | 0.62*                       | 4.78                       | 13.0                           | 0.19                        | 1.45                       |
| 500–999 students                      | 2,034             | 705             | 26.7                         | 22.8                            | 23.4        | 21.4            | 0.55                        | 2.43                       | 22.8                           | 0.03                        | 0.12                       |
| 1,000–1,499 students                  | 1,923             | 770             | 31.0                         | 21.2                            | 20.4        | 23.1            | −0.77                       | −3.63                      | 20.9                           | −0.51                       | −2.43                      |
| 1,500–2,000 students                  | 1,610             | 596             | 26.8                         | 18.6                            | 19.0        | 17.6            | 0.41                        | 2.20                       | 18.9                           | 0.64                        | 3.43                       |
| > 2,000 students                      | 1,676             | 702             | 30.8                         | 24.5                            | 23.7        | 26.6            | −0.81*                      | −3.31                      | 24.4                           | −0.34                       | −1.38                      |

See notes at end of table.

**Table G-5. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual analytic weights (W2PARENT) for selected variables—Continued**

| Domain category              | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                              | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                              |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| 9th-grade enrollment         |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| 0–149 9th-grade students     | 1,948             | 714             | 24.2                         | 17.3                            | 18.4        | 14.8            | 1.02*                       | 5.88                       | 17.6                           | 0.45                        | 2.61                       |
| 150–299 9th-grade students   | 1,930             | 701             | 29.0                         | 21.9                            | 21.7        | 22.4            | −0.20                       | −0.90                      | 21.7                           | −0.40                       | −1.84                      |
| 300–449 9th-grade students   | 1,976             | 729             | 29.2                         | 20.9                            | 20.7        | 21.5            | −0.24                       | −1.14                      | 20.8                           | −0.15                       | −0.74                      |
| 450–600 9th-grade students   | 1,386             | 568             | 28.5                         | 18.5                            | 18.5        | 18.6            | −0.02                       | −0.11                      | 18.7                           | 0.35                        | 1.89                       |
| 600+ 9th-grade students      | 1,411             | 598             | 30.3                         | 21.3                            | 20.7        | 22.7            | −0.56                       | −2.65                      | 21.2                           | −0.25                       | −1.16                      |
| Number of full-time teachers |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 50                         | 2,725             | 975             | 25.2                         | 27.6                            | 28.9        | 24.5            | 1.25*                       | 4.54                       | 27.8                           | 0.31                        | 1.13                       |
| 51–100                       | 3,473             | 1,354           | 30.0                         | 38.5                            | 37.6        | 40.7            | −0.86                       | −2.24                      | 38.3                           | −0.45                       | −1.16                      |
| 101–150                      | 1,781             | 712             | 30.0                         | 24.0                            | 23.4        | 25.3            | −0.54                       | −2.25                      | 23.9                           | −0.17                       | −0.70                      |
| > 150                        | 672               | 269             | 27.3                         | 9.9                             | 10.1        | 9.6             | 0.15                        | 1.50                       | 10.1                           | 0.30                        | 3.05                       |
| Student to teacher ratio     |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 10                         | 615               | 254             | 23.7                         | 6.7                             | 7.1         | 5.6             | 0.44                        | 6.62                       | 6.9                            | 0.36                        | 5.38                       |
| 11–15                        | 2,474             | 957             | 28.8                         | 27.2                            | 27.0        | 27.6            | −0.17                       | −0.61                      | 27.0                           | −0.37                       | −1.37                      |
| 15–20                        | 3,953             | 1,487           | 29.2                         | 46.2                            | 45.7        | 47.5            | −0.52                       | −1.13                      | 45.8                           | −0.73                       | −1.58                      |
| 20–25                        | 1,546             | 582             | 27.4                         | 19.2                            | 19.5        | 18.5            | 0.27                        | 1.41                       | 19.6                           | 0.77                        | 4.00                       |
| > 25                         | 63                | 30              | 31.0                         | 0.7                             | 0.6         | 0.7             | −0.02                       | −3.67                      | 0.7                            | −0.02                       | −3.71                      |
| Census region                |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Northeast                    | 1,355             | 560             | 29.7                         | 17.4                            | 17.1        | 18.2            | −0.30                       | −1.75                      | 17.4                           | 0.00                        | 0.00                       |
| Midwest                      | 2,235             | 812             | 27.7                         | 22.1                            | 22.3        | 21.5            | 0.23                        | 1.03                       | 22.1                           | 0.00                        | 0.00                       |
| South                        | 3,503             | 1,316           | 28.1                         | 37.6                            | 37.8        | 37.2            | 0.16                        | 0.42                       | 37.6                           | 0.00                        | 0.00                       |
| West                         | 1,558             | 622             | 28.7                         | 22.9                            | 22.8        | 23.1            | −0.08                       | −0.35                      | 22.9                           | −0.00                       | 0.00                       |
| School urbanicity            |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| City                         | 2,530             | 953             | 29.2                         | 31.9                            | 31.5        | 32.8            | −0.37                       | −1.17                      | 31.9                           | 0.00                        | 0.00                       |
| Suburban                     | 3,147             | 1,253           | 30.1                         | 33.3                            | 32.6        | 35.3            | −0.78                       | −2.34                      | 33.3                           | 0.00                        | 0.00                       |
| Town                         | 985               | 358             | 24.6                         | 11.7                            | 12.4        | 10.2            | 0.62*                       | 5.25                       | 11.7                           | 0.00                        | 0.00                       |
| Rural                        | 1,989             | 746             | 26.7                         | 23.0                            | 23.6        | 21.7            | 0.54                        | 2.33                       | 23.0                           | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-5. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual analytic weights (W2PARENT) for selected variables—Continued**

| Domain category                             |                   |                 |                              | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                             | Unweighted counts |                 | Weighted percent nonresponse | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                             | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Range of grades in school                   |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| High school only                            | 7,272             | 2,794           | 28.8                         | 86.0                            | 85.6        | 87.1            | −0.43                       | −0.50                      | 85.9                           | −0.33                       | −0.39                      |
| Middle and high school                      | 881               | 293             | 25.4                         | 10.0                            | 10.4        | 8.9             | 0.43                        | 4.26                       | 10.1                           | 0.32                        | 3.18                       |
| Elementary to high school                   | 498               | 223             | 28.4                         | 4.0                             | 4.0         | 4.0             | 0.00                        | 0.04                       | 4.0                            | 0.01                        | 0.34                       |
| Religious affiliation                       |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                         | 1,492             | 520             | 24.6                         | 6.8                             | 7.2         | 5.9             | 0.36*                       | 5.37                       | 6.8                            | 0.02                        | 0.26                       |
| No                                          | 39                | 21              | 36.1                         | 0.3                             | 0.3         | 0.4             | −0.03                       | −10.80                     | 0.3                            | −0.02                       | −5.84                      |
| Public                                      | 7,120             | 2,769           | 28.7                         | 92.9                            | 92.6        | 93.7            | −0.33                       | −0.36                      | 92.9                           | 0.00                        | 0.00                       |
| School is regular secondary                 |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                         | 1,413             | 490             | 25.1                         | 6.4                             | 6.7         | 5.7             | 0.29                        | 4.57                       | 6.4                            | −0.02                       | −0.36                      |
| No                                          | 118               | 51              | 24.2                         | 0.7                             | 0.7         | 0.6             | 0.04                        | 5.82                       | 0.7                            | 0.02                        | 3.52                       |
| Public                                      | 7,120             | 2,769           | 28.7                         | 92.9                            | 92.6        | 93.7            | −0.33                       | −0.36                      | 92.9                           | 0.00                        | 0.00                       |
| Augmented sample-state (public school only) |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| California                                  | 545               | 221             | 29.0                         | 12.3                            | 12.2        | 12.5            | −0.10                       | −0.79                      | 12.3                           | 0.00                        | 0.00                       |
| Florida                                     | 316               | 156             | 33.9                         | 5.4                             | 5.0         | 6.5             | −0.42                       | −7.69                      | 5.4                            | 0.00                        | 0.00                       |
| Georgia                                     | 387               | 167             | 31.4                         | 3.4                             | 3.3         | 3.8             | −0.14                       | −4.13                      | 3.4                            | 0.00                        | 0.00                       |
| Michigan                                    | 429               | 144             | 26.0                         | 3.3                             | 3.4         | 3.0             | 0.11                        | 3.42                       | 3.3                            | 0.00                        | 0.00                       |
| North Carolina                              | 463               | 134             | 20.4                         | 2.9                             | 3.2         | 2.1             | 0.33*                       | 11.20                      | 2.9                            | 0.00                        | 0.00                       |
| Ohio                                        | 406               | 167             | 32.8                         | 3.8                             | 3.5         | 4.3             | −0.23                       | −6.11                      | 3.8                            | 0.00                        | 0.00                       |
| Pennsylvania                                | 443               | 177             | 30.4                         | 3.3                             | 3.2         | 3.6             | −0.09                       | −2.80                      | 3.3                            | 0.00                        | 0.00                       |
| Tennessee                                   | 451               | 121             | 21.8                         | 1.8                             | 2.0         | 1.4             | 0.17*                       | 9.26                       | 1.8                            | 0.00                        | 0.00                       |
| Texas                                       | 525               | 231             | 26.5                         | 8.5                             | 8.8         | 8.0             | 0.23                        | 2.68                       | 8.5                            | 0.00                        | 0.00                       |
| Washington state                            | 372               | 154             | 30.7                         | 1.8                             | 1.7         | 1.9             | −0.06                       | −3.20                      | 1.8                            | 0.00                        | 0.00                       |
| Public schools in other states              | 4,314             | 1,638           | 28.1                         | 53.5                            | 53.7        | 53.0            | 0.20                        | 0.38                       | 53.5                           | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-5. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual analytic weights (W2PARENT) for selected variables—Continued**

| Domain category   | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|-------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                   | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                   |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Gender            |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Male              | 4,384             | 1,757           | 29.4                         | 50.5                            | 49.8        | 52.2            | −0.70                       | −1.38                      | 50.5                           | 0.00                        | 0.00                       |
| Female            | 4,267             | 1,553           | 27.4                         | 49.5                            | 50.2        | 47.8            | 0.70                        | 1.41                       | 49.5                           | −0.00                       | 0.00                       |
| Race <sup>6</sup> |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Hispanic          | 877               | 415             | 30.7                         | 4.1                             | 4.0         | 4.4             | −0.13                       | −3.14                      | 4.1                            | 0.00                        | 0.00                       |
| Asian             | 1,038             | 416             | 32.9                         | 14.5                            | 13.6        | 16.8            | −0.90*                      | −6.22                      | 14.5                           | 0.00                        | 0.00                       |
| Black             | 1,058             | 480             | 29.9                         | 17.4                            | 17.0        | 18.3            | −0.37                       | −2.11                      | 17.4                           | 0.00                        | 0.00                       |
| Other             | 5,678             | 1,999           | 26.8                         | 64.0                            | 65.4        | 60.5            | 1.40*                       | 2.18                       | 64.0                           | −0.00                       | 0.00                       |

<sup>1</sup> Estimates were calculated with the student home-life contextual base weights excluding questionnaire-incapable student records.

<sup>2</sup> Estimates were calculated with the student home-life contextual analytic weights (W1PARENT) excluding questionnaire-incapable student records.

<sup>3</sup> Estimated bias is calculated as a function of the weighted nonresponse rate times the difference in the weighted respondent and nonrespondent means as shown in equation 6.20. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>4</sup> The relative bias is calculated as the estimated bias divided by the (before adjustments) overall mean.

<sup>5</sup> Estimated bias is calculated as the difference in the weighted overall mean before and after the adjustments following the equations discussed in section 6.7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>6</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up Restricted-use File.

**Table G-6. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual longitudinal weights (W2W1PAR) for selected variables**

| Domain category                       | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                       | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                       |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| School type                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Public                                | 5,190             | 4,699           | 47.7                         | 92.9                            | 91.9        | 94.0            | -0.99*                      | -1.07                      | 92.9                           | 0.00                        | 0.00                       |
| Private                               | 1,240             | 832             | 39.7                         | 7.1                             | 8.1         | 6.0             | 0.99*                       | 13.97                      | 7.1                            | -0.00                       | 0.00                       |
| Asian 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 2 percent                           | 3,343             | 2,869           | 48.1                         | 50.0                            | 49.1        | 50.9            | -0.87                       | -1.73                      | 49.2                           | -1.58*                      | -3.17                      |
| > 2 percent                           | 3,087             | 2,662           | 46.2                         | 50.0                            | 50.9        | 49.1            | 0.87                        | 1.73                       | 50.8                           | 1.58*                       | 3.16                       |
| Black 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 7 percent                           | 3,673             | 2,958           | 44.4                         | 53.3                            | 56.0        | 50.2            | 2.74*                       | 5.14                       | 53.6                           | 0.56                        | 1.06                       |
| > 7 percent                           | 2,757             | 2,573           | 50.2                         | 46.7                            | 44.0        | 49.8            | -2.74*                      | -5.87                      | 46.4                           | -0.56                       | -1.20                      |
| Hispanic 9th-grade enrollment percent |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 5 percent                           | 3,431             | 2,681           | 44.9                         | 43.4                            | 45.2        | 41.3            | 1.81*                       | 4.17                       | 43.7                           | 0.73                        | 1.67                       |
| > 5 percent                           | 2,999             | 2,850           | 48.8                         | 56.6                            | 54.8        | 58.7            | -1.81*                      | -3.19                      | 56.3                           | -0.73                       | -1.28                      |
| Other 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 80 percent                          | 3,261             | 3,170           | 49.7                         | 62.8                            | 59.8        | 66.3            | -3.09*                      | -4.91                      | 62.5                           | -0.71                       | -1.13                      |
| ≥ 80 percent                          | 3,169             | 2,361           | 42.7                         | 37.2                            | 40.2        | 33.7            | 3.09*                       | 8.31                       | 37.5                           | 0.71                        | 1.91                       |
| Charter school                        |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                   | 110               | 106             | 49.7                         | 1.8                             | 1.7         | 1.9             | -0.09                       | -4.87                      | 1.8                            | 0.08                        | 4.71                       |
| No                                    | 5,061             | 4,578           | 47.8                         | 90.4                            | 89.2        | 91.8            | -1.22*                      | -1.35                      | 90.2                           | -0.41                       | -0.45                      |
| Private                               | 1,259             | 847             | 38.3                         | 7.8                             | 9.2         | 6.4             | 1.31*                       | 16.67                      | 8.0                            | 0.33                        | 4.19                       |
| Total enrollment                      |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 499 students                        | 1,065             | 880             | 42.8                         | 12.9                            | 14.0        | 11.7            | 1.06*                       | 8.18                       | 12.9                           | -0.07                       | -0.54                      |
| 500–999 students                      | 1,534             | 1,205           | 43.4                         | 22.8                            | 24.4        | 21.0            | 1.60*                       | 7.01                       | 23.3                           | 1.00                        | 4.38                       |
| 1,000–1,499 students                  | 1,426             | 1,267           | 50.5                         | 21.2                            | 19.8        | 22.7            | -1.36*                      | -6.42                      | 20.6                           | -1.04                       | -4.92                      |
| 1,500–2,000 students                  | 1,175             | 1,031           | 46.7                         | 18.6                            | 18.7        | 18.4            | 0.14                        | 0.77                       | 19.0                           | 0.75                        | 4.01                       |
| > 2,000 students                      | 1,230             | 1,148           | 50.2                         | 24.5                            | 23.1        | 26.2            | -1.44*                      | -5.87                      | 24.2                           | -0.64                       | -2.59                      |

See notes at end of table.



**Table G-6. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual longitudinal weights (W2W1PAR) for selected variables—Continued**

| Domain category              | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                              | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                              |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| 9th-grade enrollment         |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| 0–149 9th-grade students     | 1,489             | 1,173           | 41.7                         | 17.3                            | 19.1        | 15.3            | 1.78*                       | 10.27                      | 17.5                           | 0.31                        | 1.81                       |
| 150–299 9th-grade students   | 1,465             | 1,166           | 45.5                         | 21.9                            | 22.6        | 21.2            | 0.67                        | 3.04                       | 22.1                           | 0.28                        | 1.27                       |
| 300–449 9th-grade students   | 1,464             | 1,241           | 47.2                         | 20.9                            | 20.9        | 21.0            | −0.05                       | −0.22                      | 21.1                           | 0.45                        | 2.15                       |
| 450–600 9th-grade students   | 1,007             | 947             | 48.8                         | 18.5                            | 18.0        | 19.2            | −0.58                       | −3.12                      | 18.5                           | −0.04                       | −0.24                      |
| 600+ 9th-grade students      | 1,005             | 1,004           | 51.7                         | 21.3                            | 19.5        | 23.3            | −1.82*                      | −8.57                      | 20.8                           | −1.00                       | −4.68                      |
| Number of full-time teachers |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 50                         | 2,076             | 1,624           | 42.3                         | 27.6                            | 30.2        | 24.8            | 2.55*                       | 9.22                       | 28.1                           | 0.90                        | 3.26                       |
| 51–100                       | 2,574             | 2,253           | 47.7                         | 38.5                            | 38.1        | 39.0            | −0.42                       | −1.08                      | 38.6                           | 0.15                        | 0.39                       |
| 101–150                      | 1,302             | 1,191           | 50.2                         | 24.0                            | 22.6        | 25.5            | −1.40*                      | −5.83                      | 23.5                           | −0.88                       | −3.66                      |
| > 150                        | 478               | 463             | 51.0                         | 9.9                             | 9.2         | 10.8            | −0.73                       | −7.38                      | 9.8                            | −0.17                       | −1.75                      |
| Student to teacher ratio     |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 10                         | 469               | 400             | 42.6                         | 6.7                             | 7.3         | 6.1             | 0.57                        | 8.56                       | 6.9                            | 0.41                        | 6.19                       |
| 11–15                        | 1,871             | 1,560           | 47.1                         | 27.2                            | 27.2        | 27.2            | 0.02                        | 0.08                       | 26.9                           | −0.58                       | −2.13                      |
| 15–20                        | 2,914             | 2,526           | 48.0                         | 46.2                            | 45.4        | 47.1            | −0.80                       | −1.72                      | 46.0                           | −0.44                       | −0.95                      |
| 20–25                        | 1,125             | 1,003           | 46.9                         | 19.2                            | 19.3        | 19.1            | 0.07                        | 0.35                       | 19.5                           | 0.47                        | 2.42                       |
| > 25                         | 51                | 42              | 36.5                         | 0.7                             | 0.8         | 0.5             | 0.13                        | 20.16                      | 0.7                            | 0.14                        | 21.26                      |
| Census region                |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Northeast                    | 1,018             | 897             | 47.9                         | 17.4                            | 17.2        | 17.7            | −0.25                       | −1.46                      | 17.4                           | 0.00                        | 0.00                       |
| Midwest                      | 1,681             | 1,366           | 45.9                         | 22.1                            | 22.6        | 21.5            | 0.52                        | 2.35                       | 22.1                           | 0.00                        | 0.00                       |
| South                        | 2,590             | 2,229           | 48.2                         | 37.6                            | 36.8        | 38.5            | −0.78                       | −2.07                      | 37.6                           | 0.00                        | 0.00                       |
| West                         | 1,141             | 1,039           | 45.9                         | 22.9                            | 23.4        | 22.3            | 0.52                        | 2.26                       | 22.9                           | −0.00                       | 0.00                       |
| School urbanicity            |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| City                         | 1,889             | 1,594           | 48.6                         | 31.9                            | 31.0        | 32.9            | −0.89                       | −2.78                      | 31.9                           | 0.00                        | 0.00                       |
| Suburban                     | 2,345             | 2,055           | 48.4                         | 33.3                            | 32.5        | 34.3            | −0.83                       | −2.48                      | 33.3                           | −0.00                       | 0.00                       |
| Town                         | 720               | 623             | 45.7                         | 11.7                            | 12.1        | 11.4            | 0.31                        | 2.68                       | 11.7                           | 0.00                        | 0.00                       |
| Rural                        | 1,476             | 1,259           | 43.9                         | 23.0                            | 24.4        | 21.5            | 1.40*                       | 6.07                       | 23.0                           | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-6. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual longitudinal weights (W2W1PAR) for selected variables—Continued**

| Domain category                             | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                             | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                             |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Range of grades in school                   |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| High school only                            | 5,377             | 4,689           | 47.7                         | 86.0                            | 85.2        | 87.0            | −0.87                       | −1.01                      | 85.9                           | −0.29                       | −0.33                      |
| Middle and high school                      | 675               | 499             | 43.2                         | 10.0                            | 10.7        | 9.2             | 0.74                        | 7.39                       | 10.1                           | 0.32                        | 3.19                       |
| Elementary to high school                   | 378               | 343             | 45.4                         | 4.0                             | 4.1         | 3.8             | 0.13                        | 3.30                       | 4.0                            | −0.03                       | −0.76                      |
| Religious affiliation                       |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                         | 1,210             | 802             | 39.1                         | 6.8                             | 7.8         | 5.6             | 1.03*                       | 15.10                      | 6.8                            | 0.03                        | 0.47                       |
| No                                          | 30                | 30              | 53.2                         | 0.3                             | 0.3         | 0.3             | −0.03                       | −11.48                     | 0.3                            | −0.03                       | −10.66                     |
| Public                                      | 5,190             | 4,699           | 47.7                         | 92.9                            | 91.9        | 94.0            | −0.99*                      | −1.07                      | 92.9                           | 0.00                        | 0.00                       |
| School is regular secondary                 |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                         | 1,145             | 758             | 40.0                         | 6.4                             | 7.3         | 5.5             | 0.87*                       | 13.43                      | 6.4                            | −0.05                       | −0.74                      |
| No                                          | 95                | 74              | 36.9                         | 0.7                             | 0.8         | 0.5             | 0.13                        | 19.28                      | 0.7                            | 0.05                        | 7.26                       |
| Public                                      | 5,190             | 4,699           | 47.7                         | 92.9                            | 91.9        | 94.0            | −0.99*                      | −1.07                      | 92.9                           | 0.00                        | 0.00                       |
| Augmented sample-state (public school only) |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| California                                  | 395               | 371             | 46.5                         | 12.3                            | 12.4        | 12.1            | 0.14                        | 1.11                       | 12.3                           | 0.00                        | 0.00                       |
| Florida                                     | 231               | 241             | 52.1                         | 5.4                             | 4.9         | 6.0             | −0.51                       | −9.41                      | 5.4                            | 0.00                        | 0.00                       |
| Georgia                                     | 287               | 267             | 50.9                         | 3.4                             | 3.2         | 3.7             | −0.24                       | −7.05                      | 3.4                            | 0.00                        | 0.00                       |
| Michigan                                    | 325               | 248             | 43.4                         | 3.3                             | 3.5         | 3.0             | 0.23                        | 7.07                       | 3.3                            | 0.00                        | 0.00                       |
| North Carolina                              | 339               | 258             | 40.7                         | 2.9                             | 3.3         | 2.5             | 0.36*                       | 12.25                      | 2.9                            | 0.00                        | 0.00                       |
| Ohio                                        | 290               | 283             | 52.8                         | 3.8                             | 3.4         | 4.2             | −0.40*                      | −10.67                     | 3.8                            | −0.00                       | 0.00                       |
| Pennsylvania                                | 343               | 277             | 45.4                         | 3.3                             | 3.4         | 3.2             | 0.11                        | 3.28                       | 3.3                            | 0.00                        | 0.00                       |
| Tennessee                                   | 320               | 252             | 46.9                         | 1.8                             | 1.8         | 1.8             | 0.01                        | 0.43                       | 1.8                            | 0.00                        | 0.00                       |
| Texas                                       | 369               | 387             | 49.5                         | 8.5                             | 8.2         | 9.0             | −0.37                       | −4.39                      | 8.5                            | 0.00                        | 0.00                       |
| Washington state                            | 274               | 252             | 48.6                         | 1.8                             | 1.7         | 1.8             | −0.05                       | −2.74                      | 1.8                            | 0.00                        | 0.00                       |
| Public schools in other states              | 3,257             | 2,695           | 46.4                         | 53.5                            | 54.2        | 52.6            | 0.74                        | 1.38                       | 53.5                           | −0.00                       | 0.00                       |

See notes at end of table.

**Table G-6. Unit nonresponse bias before and after adjustments were applied to the student home-life contextual base weights used in the student home-life contextual longitudinal weights (W2W1PAR) for selected variables—Continued**

| Domain category   |                   |                 |                              | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|-------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                   | Unweighted counts |                 | Weighted percent nonresponse | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                   | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Gender            |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Male              | 3,233             | 2,908           | 48.2                         | 50.5                            | 49.5        | 51.6            | −1.03                       | −2.04                      | 50.5                           | 0.00                        | 0.00                       |
| Female            | 3,197             | 2,623           | 46.0                         | 49.5                            | 50.5        | 48.4            | 1.03                        | 2.08                       | 49.5                           | −0.00                       | 0.00                       |
| Race <sup>6</sup> |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Hispanic          | 645               | 647             | 50.6                         | 4.1                             | 3.8         | 4.4             | −0.27                       | −6.55                      | 4.1                            | 0.00                        | 0.00                       |
| Asian             | 712               | 742             | 54.3                         | 14.5                            | 12.5        | 16.7            | −1.97*                      | −13.64                     | 14.5                           | 0.00                        | 0.00                       |
| Black             | 780               | 758             | 49.4                         | 17.4                            | 16.6        | 18.2            | −0.73                       | −4.23                      | 17.4                           | 0.00                        | 0.00                       |
| Other             | 4,293             | 3,384           | 44.7                         | 64.0                            | 67.0        | 60.7            | 2.98*                       | 4.65                       | 64.0                           | −0.00                       | 0.00                       |

<sup>1</sup> Estimates were calculated with the student base weights excluding questionnaire-incapable student records.

<sup>2</sup> Estimates were calculated with the student home-life contextual longitudinal weights (W2W1PAR) excluding questionnaire-incapable student records.

<sup>3</sup> Estimated bias is calculated as a function of the weighted nonresponse rate times the difference in the weighted respondent and nonrespondent means as shown in equation 6.20. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>4</sup> The relative bias is calculated as the estimated bias divided by the (before adjustments) overall mean.

<sup>5</sup> Estimated bias is calculated as the difference in the weighted overall mean before and after the adjustments following the equations discussed in section 6.7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>6</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up Restricted-use File.

## **G.2 Unit Nonresponse Bias for Student Home-life Contextual Responsive Design**

**Table G-7. Unit nonresponse bias before and after inclusion of additional parent cases attributed to the responsive design**

| Domain category                       | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                       |                   |                 |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                       | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| School type                           |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Public                                | 6,786             | 2,599           | 27.9                         | 92.9                            | 92.7        | 93.4            | -1.15*                      | -1.23                      | 92.5                           | -0.37                       | -0.40                      |
| Private                               | 1,524             | 541             | 25.6                         | 7.1                             | 7.3         | 6.6             | 1.15*                       | 16.08                      | 7.5                            | 0.37                        | 5.24                       |
| Asian 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 2 percent                           | 4,424             | 1,624           | 26.9                         | 50.0                            | 50.6        | 48.5            | -0.06                       | -0.11                      | 51.4                           | 1.34                        | 2.68                       |
| > 2 percent                           | 3,886             | 1,516           | 28.6                         | 50.0                            | 49.4        | 51.5            | 0.06                        | 0.11                       | 48.6                           | -1.34                       | -2.69                      |
| Black 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 7 percent                           | 4,667             | 1,709           | 26.8                         | 54.1                            | 54.8        | 52.2            | 0.64                        | 1.17                       | 53.6                           | -0.57                       | -1.05                      |
| > 7 percent                           | 3,643             | 1,431           | 28.9                         | 45.9                            | 45.2        | 47.8            | -0.64                       | -1.38                      | 46.4                           | 0.57                        | 1.23                       |
| Hispanic 9th-grade enrollment percent |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 5 percent                           | 4,465             | 1,568           | 26.1                         | 44.6                            | 45.6        | 41.9            | 1.40                        | 3.13                       | 45.9                           | 1.34                        | 3.00                       |
| > 5 percent                           | 3,845             | 1,572           | 29.1                         | 55.4                            | 54.4        | 58.1            | -1.40                       | -2.52                      | 54.1                           | -1.34                       | -2.41                      |
| Other 9th-grade enrollment percent    |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 80 percent                          | 4,225             | 1,769           | 29.6                         | 62.0                            | 60.4        | 66.0            | -2.35*                      | -3.80                      | 60.5                           | -1.53*                      | -2.47                      |
| ≥ 80 percent                          | 4,085             | 1,371           | 24.8                         | 38.0                            | 39.6        | 34.0            | 2.35*                       | 6.19                       | 39.5                           | 1.53*                       | 4.03                       |
| Charter school                        |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                   | 144               | 57              | 32.7                         | 1.6                             | 1.4         | 1.8             | -0.01                       | -0.51                      | 1.6                            | 0.03                        | 2.05                       |
| No                                    | 6,642             | 2,542           | 27.8                         | 91.3                            | 91.2        | 91.6            | -1.14*                      | -1.25                      | 90.9                           | -0.40                       | -0.44                      |
| Private                               | 1,524             | 541             | 25.6                         | 7.1                             | 7.3         | 6.6             | 1.15*                       | 16.08                      | 7.5                            | 0.37                        | 5.24                       |
| Total enrollment                      |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| < 499 students                        | 1,394             | 529             | 25.1                         | 13.2                            | 13.6        | 11.9            | 0.77                        | 5.82                       | 13.8                           | 0.62                        | 4.68                       |
| 500–999 students                      | 1,983             | 685             | 26.6                         | 23.9                            | 24.3        | 22.9            | 0.13                        | 0.54                       | 23.5                           | -0.46                       | -1.92                      |
| 1,000–1,499 students                  | 1,863             | 739             | 29.9                         | 21.9                            | 21.3        | 23.6            | -1.44                       | -6.55                      | 20.9                           | -1.04                       | -4.76                      |
| 1,500–2,000 students                  | 1,567             | 571             | 26.6                         | 18.0                            | 18.3        | 17.3            | 1.52*                       | 8.41                       | 19.6                           | 1.57*                       | 8.72                       |
| > 2,000 students                      | 1,503             | 616             | 29.3                         | 23.0                            | 22.5        | 24.3            | -0.97                       | -4.24                      | 22.3                           | -0.69                       | -2.98                      |

See notes at end of table.

**Table G-7. Unit nonresponse bias before and after inclusion of additional parent cases attributed to the responsive design—Continued**

| Domain category              |                   |                 |                              | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                              | Unweighted counts |                 | Weighted percent nonresponse | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                              | Respondents       | Non-respondents |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| 9th-grade enrollment         |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| 0–149 9th-grade students     | 1,917             | 698             | 24.2                         | 17.6                            | 18.4        | 15.3            | 1.41*                       | 8.01                       | 18.6                           | 1.02*                       | 5.79                       |
| 150–299 9th-grade students   | 1,889             | 685             | 28.2                         | 22.9                            | 22.7        | 23.3            | 0.01                        | 0.05                       | 22.2                           | –0.63                       | –2.74                      |
| 300–449 9th-grade students   | 1,928             | 710             | 28.8                         | 22.0                            | 21.7        | 22.8            | –0.99                       | –4.50                      | 21.0                           | –0.94                       | –4.27                      |
| 450–600 9th-grade students   | 1,317             | 528             | 27.7                         | 17.7                            | 17.7        | 17.6            | 0.68                        | 3.82                       | 18.9                           | 1.22                        | 6.89                       |
| 600+ 9th-grade students      | 1,259             | 519             | 29.2                         | 19.9                            | 19.5        | 21.0            | –1.11                       | –5.55                      | 19.3                           | –0.67                       | –3.35                      |
| Number of full-time teachers |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 50                         | 2,680             | 955             | 25.2                         | 28.3                            | 29.3        | 25.8            | 1.13                        | 3.99                       | 28.9                           | 0.62                        | 2.20                       |
| 51–100                       | 3,378             | 1,301           | 29.3                         | 39.4                            | 38.6        | 41.6            | –0.22                       | –0.57                      | 39.0                           | –0.46                       | –1.17                      |
| 101–150                      | 1,657             | 655             | 29.1                         | 22.7                            | 22.3        | 23.9            | –0.72                       | –3.16                      | 22.5                           | –0.25                       | –1.12                      |
| > 150                        | 595               | 229             | 25.4                         | 9.5                             | 9.8         | 8.7             | –0.19                       | –2.00                      | 9.6                            | 0.09                        | 0.96                       |
| Student to teacher ratio     |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| ≤ 10                         | 604               | 248             | 25.4                         | 6.6                             | 6.8         | 6.0             | 0.62                        | 9.47                       | 7.3                            | 0.70                        | 10.71                      |
| 11–15                        | 2,390             | 916             | 28.3                         | 28.8                            | 28.6        | 29.4            | –1.48*                      | –5.12                      | 27.1                           | –1.71*                      | –5.95                      |
| 15–20                        | 3,823             | 1,416           | 28.2                         | 45.4                            | 45.1        | 46.2            | 0.61                        | 1.33                       | 46.0                           | 0.62                        | 1.36                       |
| 20–25                        | 1,435             | 535             | 26.6                         | 18.6                            | 18.9        | 17.8            | 0.20                        | 1.07                       | 19.0                           | 0.45                        | 2.42                       |
| > 25                         | 58                | 25              | 25.8                         | 0.7                             | 0.7         | 0.6             | 0.05                        | 7.05                       | 0.6                            | –0.05                       | –7.92                      |
| Census region                |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Northeast                    | 1,287             | 524             | 29.0                         | 19.0                            | 18.7        | 19.9            | –0.91                       | –4.77                      | 18.0                           | –1.01                       | –5.32                      |
| Midwest                      | 2,231             | 812             | 26.8                         | 21.3                            | 21.6        | 20.6            | 2.18*                       | 10.22                      | 23.4                           | 2.09*                       | 9.83                       |
| South                        | 3,377             | 1,250           | 26.9                         | 37.8                            | 38.2        | 36.7            | –0.76                       | –2.01                      | 37.4                           | –0.39                       | –1.04                      |
| West                         | 1,415             | 554             | 29.0                         | 21.9                            | 21.5        | 22.9            | –0.51                       | –2.34                      | 21.2                           | –0.69                       | –3.15                      |
| School urbanicity            |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| City                         | 2,395             | 882             | 28.9                         | 29.1                            | 28.7        | 30.3            | 1.66*                       | 5.68                       | 31.1                           | 2.00*                       | 6.86                       |
| Suburban                     | 2,983             | 1,177           | 29.1                         | 33.0                            | 32.4        | 34.7            | –0.07                       | –0.21                      | 32.8                           | –0.23                       | –0.69                      |
| Town                         | 973               | 356             | 23.6                         | 13.4                            | 14.1        | 11.4            | –1.28*                      | –9.53                      | 12.3                           | –1.12*                      | –8.39                      |
| Rural                        | 1,959             | 725             | 26.7                         | 24.4                            | 24.8        | 23.6            | –0.31                       | –1.27                      | 23.8                           | –0.65                       | –2.65                      |

See notes at end of table.

**Table G-7. Unit nonresponse bias before and after inclusion of additional parent cases attributed to the responsive design—Continued**

| Domain category                             | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|---------------------------------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                                             | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                                             |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Range of grades in school                   |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| High school only                            | 6,983             | 2,647           | 27.9                         | 85.7                            | 85.6        | 86.2            | −0.34                       | −0.39                      | 85.8                           | 0.11                        | 0.13                       |
| Middle and high school                      | 839               | 276             | 26.1                         | 10.5                            | 10.7        | 9.9             | −0.03                       | −0.33                      | 10.1                           | −0.45                       | −4.28                      |
| Elementary to high school                   | 488               | 217             | 28.8                         | 3.8                             | 3.7         | 3.9             | 0.37                        | 9.83                       | 4.1                            | 0.34                        | 8.89                       |
| Religious affiliation                       |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                         | 1,485             | 520             | 25.1                         | 6.8                             | 7.1         | 6.2             | 1.14*                       | 16.79                      | 7.2                            | 0.39                        | 5.77                       |
| No                                          | 39                | 21              | 36.2                         | 0.3                             | 0.3         | 0.4             | 0.00                        | 0.97                       | 0.3                            | −0.02                       | −6.08                      |
| Public                                      | 6,786             | 2,599           | 27.9                         | 92.9                            | 92.7        | 93.4            | −1.15*                      | −1.23                      | 92.5                           | −0.37                       | −0.40                      |
| School is regular secondary                 |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Yes                                         | 1,406             | 490             | 25.5                         | 6.5                             | 6.7         | 5.9             | 1.01*                       | 15.60                      | 6.8                            | 0.31                        | 4.74                       |
| No                                          | 118               | 51              | 26.7                         | 0.7                             | 0.7         | 0.6             | 0.14                        | 20.85                      | 0.7                            | 0.07                        | 10.12                      |
| Public                                      | 6,786             | 2,599           | 27.9                         | 92.9                            | 92.7        | 93.4            | −1.15*                      | −1.23                      | 92.5                           | −0.37                       | −0.40                      |
| Augmented sample-state (public school only) |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| California                                  | 429               | 173             | 29.8                         | 13.3                            | 13.0        | 14.3            | −3.03*                      | −22.69                     | 10.3                           | −3.09*                      | −23.14                     |
| Florida                                     | 284               | 141             | 34.9                         | 3.3                             | 3.0         | 4.2             | 1.76*                       | 53.06                      | 5.0                            | 1.72*                       | 51.79                      |
| Georgia                                     | 387               | 167             | 30.6                         | 2.3                             | 2.2         | 2.5             | 0.82*                       | 36.05                      | 3.6                            | 1.32*                       | 57.48                      |
| Michigan                                    | 429               | 144             | 25.7                         | 3.3                             | 3.4         | 3.0             | 0.33*                       | 9.90                       | 3.5                            | 0.17                        | 5.05                       |
| North Carolina                              | 462               | 134             | 18.7                         | 3.3                             | 3.7         | 2.2             | −0.17                       | −5.10                      | 3.1                            | −0.25                       | −7.59                      |
| Ohio                                        | 406               | 167             | 32.7                         | 2.8                             | 2.6         | 3.3             | 1.01*                       | 36.47                      | 4.0                            | 1.21*                       | 43.74                      |
| Pennsylvania                                | 377               | 141             | 28.1                         | 3.8                             | 3.8         | 3.9             | −0.79*                      | −20.50                     | 3.1                            | −0.75*                      | −19.43                     |
| Tennessee                                   | 451               | 121             | 20.8                         | 2.2                             | 2.4         | 1.6             | −0.33*                      | −14.90                     | 1.9                            | −0.25*                      | −11.30                     |
| Texas                                       | 437               | 180             | 25.8                         | 9.0                             | 9.3         | 8.4             | −1.64*                      | −18.15                     | 7.4                            | −1.64*                      | −18.18                     |
| Washington state                            | 356               | 142             | 29.4                         | 2.2                             | 2.1         | 2.3             | −0.38*                      | −17.27                     | 1.8                            | −0.40*                      | −18.11                     |
| Public schools in other states              | 4,292             | 1,630           | 27.6                         | 54.4                            | 54.5        | 54.2            | 2.40*                       | 4.42                       | 56.4                           | 1.96*                       | 3.60                       |

See notes at end of table.

**Table G-7. Unit nonresponse bias before and after inclusion of additional parent cases attributed to the responsive design—Continued**

| Domain category   | Unweighted counts |                 | Weighted percent nonresponse | Before adjustments <sup>1</sup> |             |                 |                             |                            | After adjustments <sup>2</sup> |                             |                            |
|-------------------|-------------------|-----------------|------------------------------|---------------------------------|-------------|-----------------|-----------------------------|----------------------------|--------------------------------|-----------------------------|----------------------------|
|                   | Respondents       | Non-respondents |                              | Weighted mean                   |             |                 | Estimated bias <sup>3</sup> | Relative bias <sup>4</sup> | Overall weighted mean          | Estimated bias <sup>5</sup> | Relative bias <sup>4</sup> |
|                   |                   |                 |                              | Overall                         | Respondents | Non-respondents |                             |                            |                                |                             |                            |
| Gender            |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Male              | 4,221             | 1,667           | 28.4                         | 51.3                            | 50.9        | 52.5            | 0.12                        | 0.24                       | 50.8                           | -0.51                       | -0.99                      |
| Female            | 4,089             | 1,473           | 27.1                         | 48.7                            | 49.1        | 47.5            | -0.12                       | -0.25                      | 49.2                           | 0.51                        | 1.04                       |
| Race <sup>6</sup> |                   |                 |                              |                                 |             |                 |                             |                            |                                |                             |                            |
| Hispanic          | 824               | 383             | 31.2                         | 4.0                             | 3.8         | 4.5             | -0.25                       | -6.16                      | 3.7                            | -0.29                       | -7.26                      |
| Asian             | 959               | 431             | 28.8                         | 16.7                            | 16.5        | 17.4            | -0.60                       | -3.62                      | 15.8                           | -0.90                       | -5.37                      |
| Black             | 974               | 375             | 31.6                         | 14.6                            | 13.8        | 16.6            | -1.88*                      | -12.88                     | 14.1                           | -0.51                       | -3.51                      |
| Other             | 5,553             | 1,951           | 26.4                         | 64.7                            | 65.9        | 61.5            | 2.73*                       | 4.22                       | 66.4                           | 1.70                        | 2.63                       |

<sup>1</sup> Estimates were calculated with the student base weights excluding questionnaire-incapable student records.

<sup>2</sup> Estimates were calculated with the student analytic weights (W2STUDENT) excluding questionnaire-incapable student records.

<sup>3</sup> Estimated bias is calculated as a function of the weighted nonresponse rate times the difference in the weighted respondent and nonrespondent means as shown in equation 6.20. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>4</sup> The relative bias is calculated as the estimated bias divided by the (before adjustments) overall mean.

<sup>5</sup> Estimated bias is calculated as the difference in the weighted overall mean before and after the adjustments following the equations discussed in section 6.7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

<sup>6</sup> Student race as defined on the school enrollment lists used for sampling purposes.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLS:09) First Follow-up Restricted-use File.



### **G.3 Item Nonresponse Bias**

Item nonresponse bias analysis, like the unit-level bias discussed in the previous section, is used to evaluate bias associated with nonresponse. The difference is that this analysis focuses on non-negligible patterns of item nonresponse among the (unit) respondents. All variable values collected in the student and parent questionnaires were evaluated to identify those with weighted item response rates less than 85 percent for this analysis. Details of the analysis procedure along with the summary of the analysis tables are included in section 7.2. Within the item nonresponse bias analysis tables presented in this section,

- 576 bias tests were conducted on a total of 36 student questionnaire variables (tables G-8–G-43) using the student base weight, where 38.6 percent of the tests showed significant levels of bias<sup>1</sup>; and
- 528 bias tests were conducted on a total of 33 parent questionnaire variables (tables G-44–G-76) using the parent subsample base weight, where 37.5 percent of the tests showed significant levels of bias.

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<sup>1</sup> All statistical tests were conducted at the 0.05 significance level.

**Table G-8. Comparison of item respondents and nonrespondents for S2MNOFAMREC (Not taking math because family member discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.67*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.0       | 20.1          | -6.14*                      |
| Midwest         | 18.5                           | 17.1       | 19.4          | -1.40*                      |
| South           | 42.8                           | 50.8       | 37.7          | 8.01*                       |
| West            | 22.5                           | 22.0       | 22.8          | -0.46                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.9       | 32.6          | -5.29*                      |
| Suburban        | 26.7                           | 22.3       | 29.6          | -4.40*                      |
| Town            | 14.9                           | 18.3       | 12.7          | 3.40*                       |
| Rural           | 29.1                           | 35.4       | 25.1          | 6.30*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.5       | 25.2          | -3.49                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.52*                      |
| Black           | 17.1                           | 18.2       | 16.4          | 1.12*                       |
| Other           | 57.6                           | 60.4       | 55.7          | 2.89                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.8       | 53.5          | -1.61                       |
| Female          | 47.5                           | 49.2       | 46.5          | 1.61                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-9. Comparison of item respondents and nonrespondents for S2MNOTCHREC (Not taking math because teacher discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.68*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.68*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.0       | 20.1          | -6.14*                      |
| Midwest         | 18.5                           | 16.7       | 19.6          | -1.77*                      |
| South           | 42.8                           | 51.0       | 37.6          | 8.22*                       |
| West            | 22.5                           | 22.2       | 22.7          | -0.31                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.6       | 32.8          | -5.60*                      |
| Suburban        | 26.7                           | 22.4       | 29.5          | -4.33*                      |
| Town            | 14.9                           | 18.5       | 12.6          | 3.58*                       |
| Rural           | 29.1                           | 35.5       | 25.1          | 6.35*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.3       | 25.3          | -3.68*                      |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.52*                      |
| Black           | 17.1                           | 18.1       | 16.5          | 1.01*                       |
| Other           | 57.6                           | 60.7       | 55.5          | 3.18                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.8       | 53.5          | -1.64                       |
| Female          | 47.5                           | 49.2       | 46.5          | 1.64                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-10. Comparison of item respondents and nonrespondents for S2MNOASSIGN (Not taking math because not assigned to it) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.67*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.0       | 20.2          | -6.23*                      |
| Midwest         | 18.5                           | 16.9       | 19.5          | -1.58*                      |
| South           | 42.8                           | 51.0       | 37.6          | 8.13*                       |
| West            | 22.5                           | 22.2       | 22.7          | -0.32                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.8       | 32.7          | -5.44*                      |
| Suburban        | 26.7                           | 22.3       | 29.6          | -4.50*                      |
| Town            | 14.9                           | 18.4       | 12.6          | 3.53*                       |
| Rural           | 29.1                           | 35.5       | 25.0          | 6.41*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.4       | 25.2          | -3.54                       |
| Asian           | 2.4                            | 1.8        | 2.7           | -0.53*                      |
| Black           | 17.1                           | 18.2       | 16.4          | 1.07*                       |
| Other           | 57.6                           | 60.6       | 55.6          | 3.01                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.8       | 53.5          | -1.61                       |
| Female          | 47.5                           | 49.2       | 46.5          | 1.61                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-11. Comparison of item respondents and nonrespondents for S2MDONTDOWELL (Not taking math because doesn't do well in math) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.67*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 9.9        | 20.2          | -6.29*                      |
| Midwest         | 18.5                           | 16.8       | 19.6          | -1.66*                      |
| South           | 42.8                           | 51.1       | 37.5          | 8.33*                       |
| West            | 22.5                           | 22.1       | 22.7          | -0.38                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 24.1       | 32.5          | -5.17*                      |
| Suburban        | 26.7                           | 22.4       | 29.5          | -4.39*                      |
| Town            | 14.9                           | 18.3       | 12.7          | 3.46*                       |
| Rural           | 29.1                           | 35.2       | 25.3          | 6.09*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.3       | 25.3          | -3.62                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.51*                      |
| Black           | 17.1                           | 18.3       | 16.4          | 1.16*                       |
| Other           | 57.6                           | 60.5       | 55.7          | 2.97                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.6       | 53.6          | -1.82                       |
| Female          | 47.5                           | 49.4       | 46.4          | 1.82                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-12. Comparison of item respondents and nonrespondents for S2MNOCNSLREC (Not taking math because HS counselor discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.66*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.1       | 20.1          | -6.12*                      |
| Midwest         | 18.5                           | 16.9       | 19.5          | -1.58*                      |
| South           | 42.8                           | 50.8       | 37.7          | 8.03*                       |
| West            | 22.5                           | 22.2       | 22.7          | -0.32                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.8       | 32.7          | -5.45*                      |
| Suburban        | 26.7                           | 22.4       | 29.5          | -4.39*                      |
| Town            | 14.9                           | 18.5       | 12.6          | 3.65*                       |
| Rural           | 29.1                           | 35.3       | 25.2          | 6.19*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.4       | 25.2          | -3.56                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.51*                      |
| Black           | 17.1                           | 18.1       | 16.5          | 0.93*                       |
| Other           | 57.6                           | 60.7       | 55.6          | 3.14                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.9       | 53.4          | -1.51                       |
| Female          | 47.5                           | 49.1       | 46.6          | 1.51                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-13. Comparison of item respondents and nonrespondents for S2MNOPARREC (Not taking math because parent discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.67*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.0       | 20.1          | -6.20*                      |
| Midwest         | 18.5                           | 17.1       | 19.4          | -1.45*                      |
| South           | 42.8                           | 50.8       | 37.8          | 7.97*                       |
| West            | 22.5                           | 22.2       | 22.7          | -0.32                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.9       | 32.6          | -5.33*                      |
| Suburban        | 26.7                           | 22.4       | 29.5          | -4.33*                      |
| Town            | 14.9                           | 18.4       | 12.6          | 3.54*                       |
| Rural           | 29.1                           | 35.3       | 25.2          | 6.13*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.3       | 25.3          | -3.65                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.52*                      |
| Black           | 17.1                           | 18.3       | 16.4          | 1.18*                       |
| Other           | 57.6                           | 60.5       | 55.6          | 2.99                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.9       | 53.4          | -1.55                       |
| Female          | 47.5                           | 49.1       | 46.6          | 1.55                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-14. Comparison of item respondents and nonrespondents for S2MNOCAREER (Not taking math because won't be needed for career) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.66*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.1       | 20.1          | -6.13*                      |
| Midwest         | 18.5                           | 16.8       | 19.6          | -1.67*                      |
| South           | 42.8                           | 50.9       | 37.7          | 8.05*                       |
| West            | 22.5                           | 22.2       | 22.7          | -0.26                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.9       | 32.6          | -5.31*                      |
| Suburban        | 26.7                           | 22.5       | 29.5          | -4.27*                      |
| Town            | 14.9                           | 18.5       | 12.6          | 3.62*                       |
| Rural           | 29.1                           | 35.1       | 25.4          | 5.96*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.5       | 25.1          | -3.45                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.51*                      |
| Black           | 17.1                           | 18.2       | 16.5          | 1.04*                       |
| Other           | 57.6                           | 60.5       | 55.7          | 2.92                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.9       | 53.4          | -1.56                       |
| Female          | 47.5                           | 49.1       | 46.6          | 1.56                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).



**Table G-15. Comparison of item respondents and nonrespondents for S2MNOEMPREG (Not taking math because employer discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.2       | 93.8          | 2.69*                       |
| Private         | 4.5                            | 1.8        | 6.2           | -2.69*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 9.9        | 20.2          | -6.27*                      |
| Midwest         | 18.5                           | 17.0       | 19.5          | -1.53*                      |
| South           | 42.8                           | 50.8       | 37.7          | 8.03*                       |
| West            | 22.5                           | 22.3       | 22.6          | -0.23                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.7       | 32.7          | -5.52*                      |
| Suburban        | 26.7                           | 22.4       | 29.5          | -4.33*                      |
| Town            | 14.9                           | 18.4       | 12.7          | 3.47*                       |
| Rural           | 29.1                           | 35.5       | 25.1          | 6.38*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.5       | 25.1          | -3.41                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.51*                      |
| Black           | 17.1                           | 18.0       | 16.5          | 0.92*                       |
| Other           | 57.6                           | 60.6       | 55.6          | 3.01                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.9       | 53.4          | -1.52                       |
| Female          | 47.5                           | 49.1       | 46.6          | 1.52                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-16. Comparison of item respondents and nonrespondents for S2MNOCLGSUCC (Not taking math because won't be needed to succeed in college) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.66*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.1       | 20.1          | -6.12*                      |
| Midwest         | 18.5                           | 16.8       | 19.6          | -1.69*                      |
| South           | 42.8                           | 51.0       | 37.7          | 8.15*                       |
| West            | 22.5                           | 22.2       | 22.7          | -0.33                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.8       | 32.7          | -5.45*                      |
| Suburban        | 26.7                           | 22.5       | 29.4          | -4.26*                      |
| Town            | 14.9                           | 18.4       | 12.7          | 3.52*                       |
| Rural           | 29.1                           | 35.3       | 25.2          | 6.19*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.5       | 25.1          | -3.41                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.51*                      |
| Black           | 17.1                           | 18.2       | 16.4          | 1.11*                       |
| Other           | 57.6                           | 60.4       | 55.8          | 2.81                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.8       | 53.5          | -1.70                       |
| Female          | 47.5                           | 49.2       | 46.5          | 1.70                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-17. Comparison of item respondents and nonrespondents for S2MNOFRIEND (Not taking math because friends were not taking it) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.5                           | 98.1       | 93.8          | 2.65*                       |
| Private         | 4.5                            | 1.9        | 6.2           | -2.65*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 16.2                           | 10.1       | 20.0          | -6.11*                      |
| Midwest         | 18.5                           | 16.9       | 19.5          | -1.65*                      |
| South           | 42.8                           | 50.8       | 37.8          | 7.96*                       |
| West            | 22.5                           | 22.3       | 22.6          | -0.20                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 23.8       | 32.6          | -5.41*                      |
| Suburban        | 26.7                           | 22.3       | 29.5          | -4.43*                      |
| Town            | 14.9                           | 18.3       | 12.7          | 3.42*                       |
| Rural           | 29.1                           | 35.6       | 25.1          | 6.42*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.9                           | 19.4       | 25.2          | -3.50                       |
| Asian           | 2.4                            | 1.9        | 2.7           | -0.50*                      |
| Black           | 17.1                           | 18.1       | 16.5          | 0.93*                       |
| Other           | 57.6                           | 60.6       | 55.6          | 3.07                        |
| Sex             |                                |            |               |                             |
| Male            | 52.5                           | 50.7       | 53.6          | -1.74                       |
| Female          | 47.5                           | 49.3       | 46.4          | 1.74                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-18. Comparison of item respondents and nonrespondents for S2SDISLIKE (Not taking science because really dislikes science) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.0       | 93.8          | 1.64*                       |
| Private         | 4.6                            | 3.0        | 6.2           | -1.64*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.9       | 19.1          | -3.62*                      |
| Midwest         | 19.8                           | 19.4       | 20.2          | -0.41                       |
| South           | 39.1                           | 40.1       | 38.1          | 0.96                        |
| West            | 25.6                           | 28.6       | 22.5          | 3.07*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.1       | 32.4          | -3.65*                      |
| Suburban        | 27.4                           | 24.5       | 30.3          | -2.88*                      |
| Town            | 15.6                           | 18.4       | 12.9          | 2.76*                       |
| Rural           | 28.2                           | 32.0       | 24.4          | 3.77                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.3       | 25.2          | -0.95                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.66*                      |
| Black           | 15.5                           | 15.1       | 16.0          | -0.46                       |
| Other           | 57.9                           | 60.0       | 55.8          | 2.07                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.0       | 54.8          | -1.40                       |
| Female          | 46.6                           | 48.0       | 45.2          | 1.40                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-19. Comparison of item respondents and nonrespondents for S2SNOTHREQ (Not taking science because it is not required for HS graduation) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.7          | 1.69*                       |
| Private         | 4.6                            | 2.9        | 6.3           | -1.69*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.7       | 19.3          | -3.81*                      |
| Midwest         | 19.8                           | 19.5       | 20.2          | -0.36                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.87                        |
| West            | 25.6                           | 28.9       | 22.3          | 3.31*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.4          | -3.61*                      |
| Suburban        | 27.4                           | 24.4       | 30.3          | -2.98*                      |
| Town            | 15.6                           | 18.4       | 12.8          | 2.81*                       |
| Rural           | 28.2                           | 32.0       | 24.5          | 3.78                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.3       | 25.2          | -0.96                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.66*                      |
| Black           | 15.5                           | 15.1       | 15.9          | -0.39                       |
| Other           | 57.9                           | 59.9       | 55.9          | 2.01                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.1       | 54.7          | -1.31                       |
| Female          | 46.6                           | 47.9       | 45.3          | 1.31                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-20. Comparison of item respondents and nonrespondents for S2STOOKBEFORE (Not taking science because took it earlier in the school year) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.0       | 93.8          | 1.62*                       |
| Private         | 4.6                            | 3.0        | 6.2           | -1.62*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.85*                      |
| Midwest         | 19.8                           | 19.3       | 20.3          | -0.51                       |
| South           | 39.1                           | 40.1       | 38.1          | 0.99                        |
| West            | 25.6                           | 28.9       | 22.3          | 3.37*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.3       | 32.2          | -3.49*                      |
| Suburban        | 27.4                           | 24.4       | 30.3          | -2.95*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.83*                       |
| Rural           | 28.2                           | 31.8       | 24.7          | 3.61                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.2          | -0.91                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 15.1       | 16.0          | -0.44                       |
| Other           | 57.9                           | 59.9       | 55.9          | 2.00                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.3       | 54.5          | -1.11                       |
| Female          | 46.6                           | 47.7       | 45.5          | 1.11                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-21. Comparison of item respondents and nonrespondents for S2SNOCNSLREC (Not taking science because HS counselor discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.7          | 1.67*                       |
| Private         | 4.6                            | 2.9        | 6.3           | -1.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.5       | 19.4          | -3.96*                      |
| Midwest         | 19.8                           | 19.5       | 20.2          | -0.35                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.90                        |
| West            | 25.6                           | 29.0       | 22.2          | 3.41*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.3          | -3.59*                      |
| Suburban        | 27.4                           | 24.3       | 30.4          | -3.04*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.87*                       |
| Rural           | 28.2                           | 32.0       | 24.5          | 3.76                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.2          | -0.89                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 15.0       | 16.1          | -0.56                       |
| Other           | 57.9                           | 60.0       | 55.8          | 2.11                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.1       | 54.8          | -1.35                       |
| Female          | 46.6                           | 47.9       | 45.2          | 1.35                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-22. Comparison of item respondents and nonrespondents for S2SNOCAREER (Not taking science because won't be needed for career) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.7          | 1.68*                       |
| Private         | 4.6                            | 2.9        | 6.3           | -1.68*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.90*                      |
| Midwest         | 19.8                           | 19.5       | 20.2          | -0.35                       |
| South           | 39.1                           | 39.9       | 38.3          | 0.82                        |
| West            | 25.6                           | 29.0       | 22.2          | 3.43*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.1       | 32.4          | -3.69*                      |
| Suburban        | 27.4                           | 24.4       | 30.3          | -3.01*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.86*                       |
| Rural           | 28.2                           | 32.0       | 24.4          | 3.84                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.1          | -0.86                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.67*                      |
| Black           | 15.5                           | 15.0       | 16.0          | -0.53                       |
| Other           | 57.9                           | 60.0       | 55.9          | 2.05                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.2       | 54.7          | -1.29                       |
| Female          | 46.6                           | 47.8       | 45.3          | 1.29                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).



**Table G-23. Comparison of item respondents and nonrespondents for S2SNOASSIGN (Not taking science because not assigned to it) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.0       | 93.8          | 1.65*                       |
| Private         | 4.6                            | 3.0        | 6.2           | -1.65*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.85*                      |
| Midwest         | 19.8                           | 19.4       | 20.3          | -0.44                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.92                        |
| West            | 25.6                           | 28.9       | 22.3          | 3.37*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.3          | -3.61*                      |
| Suburban        | 27.4                           | 24.5       | 30.2          | -2.85*                      |
| Town            | 15.6                           | 18.4       | 12.9          | 2.77*                       |
| Rural           | 28.2                           | 31.9       | 24.6          | 3.69                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.2          | -0.93                       |
| Asian           | 2.3                            | 1.6        | 3.0           | -0.70*                      |
| Black           | 15.5                           | 15.1       | 15.9          | -0.38                       |
| Other           | 57.9                           | 59.9       | 55.9          | 2.01                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.1       | 54.8          | -1.38                       |
| Female          | 46.6                           | 47.9       | 45.2          | 1.38                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-24. Comparison of item respondents and nonrespondents for S2SNOCLGADM (Not taking science because won't be needed to get into college) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.7          | 1.67*                       |
| Private         | 4.6                            | 2.9        | 6.3           | -1.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.7       | 19.3          | -3.84*                      |
| Midwest         | 19.8                           | 19.5       | 20.1          | -0.30                       |
| South           | 39.1                           | 40.1       | 38.1          | 0.98                        |
| West            | 25.6                           | 28.7       | 22.5          | 3.17*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.1       | 32.3          | -3.63*                      |
| Suburban        | 27.4                           | 24.3       | 30.4          | -3.09*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.90*                       |
| Rural           | 28.2                           | 32.0       | 24.5          | 3.81                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.3       | 25.3          | -1.04                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.66*                      |
| Black           | 15.5                           | 15.0       | 16.1          | -0.53                       |
| Other           | 57.9                           | 60.1       | 55.7          | 2.23                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.3       | 54.6          | -1.18                       |
| Female          | 46.6                           | 47.7       | 45.4          | 1.18                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-25. Comparison of item respondents and nonrespondents for S2OCC30EARN (Expected earnings for choice of occupation at age 30) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.3                           | 93.3       | 93.3          | -0.02                       |
| Private         | 6.7                            | 6.7        | 6.7           | 0.02                        |
| Census region   |                                |            |               |                             |
| Northeast       | 19.0                           | 18.5       | 20.2          | -0.52                       |
| Midwest         | 21.0                           | 21.6       | 19.6          | 0.61                        |
| South           | 39.5                           | 39.9       | 38.5          | 0.42*                       |
| West            | 20.5                           | 20.0       | 21.7          | -0.51*                      |
| School urbanity |                                |            |               |                             |
| City            | 29.3                           | 28.9       | 30.3          | -0.43                       |
| Suburban        | 27.2                           | 26.3       | 29.2          | -0.88*                      |
| Town            | 13.1                           | 13.0       | 13.1          | -0.01                       |
| Rural           | 30.5                           | 31.8       | 27.4          | 1.33*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.4                           | 19.6       | 25.6          | -1.79*                      |
| Asian           | 3.1                            | 3.3        | 2.6           | 0.20                        |
| Black           | 14.3                           | 14.7       | 13.6          | 0.33*                       |
| Other           | 61.2                           | 62.4       | 58.3          | 1.25*                       |
| Sex             |                                |            |               |                             |
| Male            | 47.8                           | 48.5       | 46.0          | 0.74*                       |
| Female          | 52.2                           | 51.5       | 54.0          | -0.74*                      |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-26. Comparison of item respondents and nonrespondents for S2SNOFAMREC (Not taking science because family member discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.8          | 1.67*                       |
| Private         | 4.6                            | 2.9        | 6.2           | -1.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.90*                      |
| Midwest         | 19.8                           | 19.4       | 20.3          | -0.48                       |
| South           | 39.1                           | 40.1       | 38.1          | 0.99                        |
| West            | 25.6                           | 29.0       | 22.3          | 3.39*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.3          | -3.61*                      |
| Suburban        | 27.4                           | 24.5       | 30.2          | -2.92*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.87*                       |
| Rural           | 28.2                           | 31.9       | 24.6          | 3.66                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.1          | -0.87                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.69*                      |
| Black           | 15.5                           | 15.0       | 16.0          | -0.49                       |
| Other           | 57.9                           | 60.0       | 55.9          | 2.05                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.1       | 54.8          | -1.37                       |
| Female          | 46.6                           | 47.9       | 45.2          | 1.37                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-27. Comparison of item respondents and nonrespondents for S2SNOTCHRREC (Not taking science because teacher discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.8          | 1.66*                       |
| Private         | 4.6                            | 2.9        | 6.2           | -1.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.93*                      |
| Midwest         | 19.8                           | 19.5       | 20.2          | -0.35                       |
| South           | 39.1                           | 40.1       | 38.1          | 0.99                        |
| West            | 25.6                           | 28.9       | 22.4          | 3.28*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.1       | 32.4          | -3.72*                      |
| Suburban        | 27.4                           | 24.5       | 30.2          | -2.87*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.86*                       |
| Rural           | 28.2                           | 31.9       | 24.6          | 3.74                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.3       | 25.2          | -0.98                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 15.0       | 16.0          | -0.52                       |
| Other           | 57.9                           | 60.1       | 55.8          | 2.15                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.0       | 54.9          | -1.47                       |
| Female          | 46.6                           | 48.0       | 45.1          | 1.47                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-28. Comparison of item respondents and nonrespondents for S2SNOPARREC (Not taking science because parent discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.8          | 1.66*                       |
| Private         | 4.6                            | 2.9        | 6.2           | -1.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.90*                      |
| Midwest         | 19.8                           | 19.3       | 20.3          | -0.49                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.95                        |
| West            | 25.6                           | 29.0       | 22.2          | 3.45*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.3          | -3.58*                      |
| Suburban        | 27.4                           | 24.5       | 30.3          | -2.94*                      |
| Town            | 15.6                           | 18.6       | 12.8          | 2.93*                       |
| Rural           | 28.2                           | 31.8       | 24.7          | 3.59                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.1          | -0.86                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 15.0       | 16.0          | -0.53                       |
| Other           | 57.9                           | 60.0       | 55.9          | 2.05                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.1       | 54.8          | -1.37                       |
| Female          | 46.6                           | 47.9       | 45.2          | 1.37                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-29. Comparison of item respondents and nonrespondents for S2SDONTDOWELL (Not taking science because doesn't do well in science) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.8          | 1.66*                       |
| Private         | 4.6                            | 2.9        | 6.2           | -1.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.93*                      |
| Midwest         | 19.8                           | 19.3       | 20.3          | -0.50                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.95                        |
| West            | 25.6                           | 29.0       | 22.2          | 3.48*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.3          | -3.58*                      |
| Suburban        | 27.4                           | 24.5       | 30.2          | -2.92*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.89*                       |
| Rural           | 28.2                           | 31.8       | 24.7          | 3.60                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.5       | 25.1          | -0.82                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 15.1       | 16.0          | -0.47                       |
| Other           | 57.9                           | 59.9       | 56.0          | 1.94                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.1       | 54.8          | -1.34                       |
| Female          | 46.6                           | 47.9       | 45.2          | 1.34                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-30. Comparison of item respondents and nonrespondents for S2SNOEMPREG (Not taking science because employer discouraged teen) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.1       | 93.8          | 1.67*                       |
| Private         | 4.6                            | 2.9        | 6.2           | -1.67*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.91*                      |
| Midwest         | 19.8                           | 19.4       | 20.3          | -0.43                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.95                        |
| West            | 25.6                           | 29.0       | 22.3          | 3.39*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.3       | 32.2          | -3.52*                      |
| Suburban        | 27.4                           | 24.5       | 30.2          | -2.87*                      |
| Town            | 15.6                           | 18.6       | 12.8          | 2.95*                       |
| Rural           | 28.2                           | 31.7       | 24.9          | 3.45                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.5       | 25.0          | -0.76                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 15.0       | 16.1          | -0.55                       |
| Other           | 57.9                           | 59.9       | 56.0          | 1.96                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 51.9       | 54.9          | -1.53                       |
| Female          | 46.6                           | 48.1       | 45.1          | 1.53                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).



**Table G-31. Comparison of item respondents and nonrespondents for S2SNOCLGSUCC (Not taking science because won't be needed to succeed in college) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.0       | 93.8          | 1.66*                       |
| Private         | 4.6                            | 3.0        | 6.2           | -1.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.7       | 19.2          | -3.82*                      |
| Midwest         | 19.8                           | 19.5       | 20.1          | -0.30                       |
| South           | 39.1                           | 40.0       | 38.2          | 0.91                        |
| West            | 25.6                           | 28.8       | 22.5          | 3.20*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.2          | -3.54*                      |
| Suburban        | 27.4                           | 24.2       | 30.5          | -3.21*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.91*                       |
| Rural           | 28.2                           | 32.1       | 24.5          | 3.85                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.4       | 25.2          | -0.94                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 14.9       | 16.1          | -0.59                       |
| Other           | 57.9                           | 60.1       | 55.8          | 2.18                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.3       | 54.6          | -1.18                       |
| Female          | 46.6                           | 47.7       | 45.4          | 1.18                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-32. Comparison of item respondents and nonrespondents for S2SNOFRIEND (Not taking science because friends were not taking it) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 95.4                           | 97.0       | 93.8          | 1.66*                       |
| Private         | 4.6                            | 3.0        | 6.2           | -1.66*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 15.5                           | 11.6       | 19.3          | -3.91*                      |
| Midwest         | 19.8                           | 19.5       | 20.2          | -0.36                       |
| South           | 39.1                           | 39.9       | 38.3          | 0.78                        |
| West            | 25.6                           | 29.1       | 22.2          | 3.50*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.8                           | 25.2       | 32.2          | -3.53*                      |
| Suburban        | 27.4                           | 24.5       | 30.2          | -2.94*                      |
| Town            | 15.6                           | 18.5       | 12.8          | 2.92*                       |
| Rural           | 28.2                           | 31.8       | 24.8          | 3.55                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.3                           | 23.5       | 25.0          | -0.77                       |
| Asian           | 2.3                            | 1.6        | 2.9           | -0.65*                      |
| Black           | 15.5                           | 14.9       | 16.1          | -0.61                       |
| Other           | 57.9                           | 59.9       | 55.9          | 2.03                        |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 52.0       | 54.8          | -1.43                       |
| Female          | 46.6                           | 48.0       | 45.2          | 1.43                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-33. Comparison of item respondents and nonrespondents for S2JOBYR (Year dropout/early grad started current/most recent job) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.7                           | 99.9       | 93.4          | 6.18*                       |
| Private         | 6.3                            | 0.1        | 6.6           | -6.18*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 19.0                           | 11.6       | 19.4          | -7.37*                      |
| Midwest         | 19.7                           | 19.8       | 19.7          | 0.14                        |
| South           | 38.8                           | 61.8       | 37.6          | 23.00*                      |
| West            | 22.5                           | 6.7        | 23.4          | -15.77*                     |
| School urbanity |                                |            |               |                             |
| City            | 31.8                           | 26.8       | 32.1          | -5.05                       |
| Suburban        | 29.6                           | 28.2       | 29.7          | -1.44                       |
| Town            | 13.2                           | 18.4       | 12.9          | 5.24                        |
| Rural           | 25.4                           | 26.7       | 25.3          | 1.25                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.4                           | 28.3       | 25.3          | 2.91                        |
| Asian           | 2.6                            | 0.5        | 2.7           | -2.14*                      |
| Black           | 15.4                           | 12.5       | 15.5          | -2.87                       |
| Other           | 56.6                           | 58.7       | 56.5          | 2.10                        |
| Sex             |                                |            |               |                             |
| Male            | 54.6                           | 59.8       | 54.3          | 5.20                        |
| Female          | 45.4                           | 40.2       | 45.7          | -5.20                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-34. Comparison of item respondents and nonrespondents for X2PROBLEM (X2 Scale of problems at high school) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 92.9       | 93.6          | -0.18                       |
| Private         | 6.9                            | 7.1        | 6.4           | 0.18                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.8                           | 20.0       | 14.8          | 1.25*                       |
| Midwest         | 21.1                           | 21.3       | 20.6          | 0.16                        |
| South           | 38.4                           | 37.6       | 41.0          | -0.81                       |
| West            | 21.7                           | 21.1       | 23.6          | -0.61                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 26.4       | 38.0          | -2.78*                      |
| Suburban        | 27.8                           | 27.7       | 28.0          | -0.07                       |
| Town            | 13.0                           | 13.8       | 10.6          | 0.76                        |
| Rural           | 30.1                           | 32.2       | 23.4          | 2.09*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.1                           | 20.5       | 27.1          | -1.58*                      |
| Asian           | 3.5                            | 4.0        | 2.2           | 0.42*                       |
| Black           | 13.4                           | 11.6       | 19.4          | -1.87*                      |
| Other           | 60.9                           | 63.9       | 51.3          | 3.03*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 50.5       | 50.3          | 0.05                        |
| Female          | 49.5                           | 49.5       | 49.7          | -0.05                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-35. Comparison of item respondents and nonrespondents for S2CHILDBORNYR (Year dropout/early grad's first child was born) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.6                           | 99.1       | 93.4          | 5.54*                       |
| Private         | 6.4                            | 0.9        | 6.6           | -5.54*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 18.7                           | 3.7        | 19.3          | -14.97*                     |
| Midwest         | 20.0                           | 24.2       | 19.8          | 4.17                        |
| South           | 38.4                           | 60.2       | 37.5          | 21.74*                      |
| West            | 22.9                           | 11.9       | 23.3          | -10.94*                     |
| School urbanity |                                |            |               |                             |
| City            | 32.6                           | 43.3       | 32.2          | 10.65*                      |
| Suburban        | 29.2                           | 20.7       | 29.5          | -8.46                       |
| Town            | 12.9                           | 13.1       | 12.9          | 0.26                        |
| Rural           | 25.4                           | 22.9       | 25.5          | -2.45                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.9                           | 42.1       | 25.3          | 16.13*                      |
| Asian           | 2.6                            | 0.0        | 2.7           | -2.64*                      |
| Black           | 15.9                           | 17.7       | 15.8          | 1.76                        |
| Other           | 55.5                           | 40.3       | 56.2          | -15.25*                     |
| Sex             |                                |            |               |                             |
| Male            | 53.4                           | 32.1       | 54.3          | -21.32*                     |
| Female          | 46.6                           | 67.9       | 45.7          | 21.32*                      |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-36. Comparison of item respondents and nonrespondents for X2S2EARNNOHS (Earnings without HS diploma standardized by year) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 92.7       | 93.5          | -0.35*                      |
| Private         | 6.9                            | 7.3        | 6.5           | 0.35*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.8                           | 17.9       | 19.9          | -0.86                       |
| Midwest         | 21.1                           | 22.2       | 19.6          | 1.08*                       |
| South           | 38.4                           | 38.9       | 37.8          | 0.45                        |
| West            | 21.7                           | 21.0       | 22.6          | -0.68                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 28.8       | 29.7          | -0.37                       |
| Suburban        | 27.8                           | 27.5       | 28.2          | -0.28                       |
| Town            | 13.0                           | 13.0       | 12.9          | 0.05                        |
| Rural           | 30.1                           | 30.7       | 29.3          | 0.60                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.1                           | 20.7       | 24.1          | -1.44*                      |
| Asian           | 3.5                            | 3.6        | 3.5           | 0.04                        |
| Black           | 13.4                           | 12.3       | 15.1          | -1.19*                      |
| Other           | 60.9                           | 63.5       | 57.3          | 2.58*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 50.8       | 50.1          | 0.28                        |
| Female          | 49.5                           | 49.2       | 49.9          | -0.28                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-37. Comparison of item respondents and nonrespondents for X2S2EARNHS (Earnings with HS diploma standardized by year) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 92.7       | 93.6          | -0.38*                      |
| Private         | 6.9                            | 7.3        | 6.4           | 0.38*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.8                           | 17.9       | 19.9          | -0.85                       |
| Midwest         | 21.1                           | 22.2       | 19.6          | 1.07*                       |
| South           | 38.4                           | 38.7       | 38.0          | 0.31                        |
| West            | 21.7                           | 21.2       | 22.4          | -0.53                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 28.9       | 29.5          | -0.26                       |
| Suburban        | 27.8                           | 27.6       | 28.0          | -0.17                       |
| Town            | 13.0                           | 12.8       | 13.3          | -0.19                       |
| Rural           | 30.1                           | 30.7       | 29.2          | 0.61                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.1                           | 20.7       | 24.1          | -1.43*                      |
| Asian           | 3.5                            | 3.6        | 3.4           | 0.10                        |
| Black           | 13.4                           | 12.3       | 15.0          | -1.17*                      |
| Other           | 60.9                           | 63.4       | 57.5          | 2.50*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 50.9       | 50.0          | 0.36                        |
| Female          | 49.5                           | 49.1       | 50.0          | -0.36                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-38. Comparison of item respondents and nonrespondents for X2S2EARN4Y (Earnings with four year college degree standardized by year) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 92.5       | 93.8          | -0.56*                      |
| Private         | 6.9                            | 7.5        | 6.2           | 0.56*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.8                           | 17.9       | 19.8          | -0.83                       |
| Midwest         | 21.1                           | 22.3       | 19.5          | 1.24*                       |
| South           | 38.4                           | 38.6       | 38.2          | 0.14                        |
| West            | 21.7                           | 21.2       | 22.4          | -0.55                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 28.9       | 29.5          | -0.28                       |
| Suburban        | 27.8                           | 27.7       | 27.9          | -0.07                       |
| Town            | 13.0                           | 12.7       | 13.3          | -0.27                       |
| Rural           | 30.1                           | 30.7       | 29.3          | 0.62                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.1                           | 20.2       | 24.5          | -1.89*                      |
| Asian           | 3.5                            | 3.7        | 3.3           | 0.18                        |
| Black           | 13.4                           | 12.3       | 14.9          | -1.15*                      |
| Other           | 60.9                           | 63.8       | 57.2          | 2.86*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 50.8       | 50.1          | 0.33                        |
| Female          | 49.5                           | 49.2       | 49.9          | -0.33                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).



**Table G-39. Comparison of item respondents and nonrespondents for X2S2EARNOCC (Earnings with occupational training diploma standardized by year) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 92.6       | 93.6          | -0.43*                      |
| Private         | 6.9                            | 7.4        | 6.4           | 0.43*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.8                           | 17.8       | 20.0          | -0.96                       |
| Midwest         | 21.1                           | 22.3       | 19.5          | 1.23*                       |
| South           | 38.4                           | 38.7       | 38.1          | 0.27                        |
| West            | 21.7                           | 21.2       | 22.4          | -0.54                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 28.8       | 29.5          | -0.31                       |
| Suburban        | 27.8                           | 27.5       | 28.1          | -0.24                       |
| Town            | 13.0                           | 12.8       | 13.2          | -0.18                       |
| Rural           | 30.1                           | 30.8       | 29.2          | 0.73                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.1                           | 20.4       | 24.3          | -1.71*                      |
| Asian           | 3.5                            | 3.7        | 3.3           | 0.16                        |
| Black           | 13.4                           | 12.3       | 14.9          | -1.13*                      |
| Other           | 60.9                           | 63.6       | 57.5          | 2.68*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 50.9       | 50.0          | 0.39                        |
| Female          | 49.5                           | 49.1       | 50.0          | -0.39                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-40. Comparison of item respondents and nonrespondents for X2S2EARN2YPUB (Earnings with two year college degree standardized by year) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 92.6       | 93.6          | -0.47*                      |
| Private         | 6.9                            | 7.4        | 6.4           | 0.47*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.8                           | 17.8       | 20.0          | -0.98                       |
| Midwest         | 21.1                           | 22.4       | 19.5          | 1.25*                       |
| South           | 38.4                           | 38.6       | 38.2          | 0.21                        |
| West            | 21.7                           | 21.2       | 22.3          | -0.48                       |
| School urbanity |                                |            |               |                             |
| City            | 29.2                           | 28.9       | 29.5          | -0.24                       |
| Suburban        | 27.8                           | 27.7       | 27.9          | -0.07                       |
| Town            | 13.0                           | 12.7       | 13.3          | -0.26                       |
| Rural           | 30.1                           | 30.7       | 29.4          | 0.57                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 22.1                           | 20.5       | 24.2          | -1.63*                      |
| Asian           | 3.5                            | 3.7        | 3.3           | 0.18                        |
| Black           | 13.4                           | 12.2       | 15.0          | -1.20*                      |
| Other           | 60.9                           | 63.6       | 57.5          | 2.66*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 51.0       | 49.9          | 0.46                        |
| Female          | 49.5                           | 49.0       | 50.1          | -0.46                       |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-41. Comparison of item respondents and nonrespondents for S2IBOTHER (Has taken IB course(s) in another subject) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.0                           | 96.5       | 93.7          | 2.45                        |
| Private         | 6.0                            | 3.5        | 6.3           | -2.45                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.7                           | 14.2       | 19.4          | -4.50                       |
| Midwest         | 20.2                           | 22.3       | 19.9          | 2.07                        |
| South           | 39.0                           | 42.9       | 38.4          | 3.95                        |
| West            | 22.1                           | 20.6       | 22.3          | -1.52                       |
| School urbanity |                                |            |               |                             |
| City            | 33.9                           | 47.5       | 32.0          | 13.53*                      |
| Suburban        | 30.3                           | 32.8       | 29.9          | 2.47                        |
| Town            | 11.7                           | 4.3        | 12.8          | -7.47*                      |
| Rural           | 24.0                           | 15.5       | 25.2          | -8.53*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 21.5       | 25.2          | -3.26                       |
| Asian           | 3.4                            | 7.8        | 2.7           | 4.46*                       |
| Black           | 15.4                           | 12.1       | 15.9          | -3.35                       |
| Other           | 56.4                           | 58.6       | 56.1          | 2.15                        |
| Sex             |                                |            |               |                             |
| Male            | 53.8                           | 45.6       | 55.0          | -8.22                       |
| Female          | 46.2                           | 54.4       | 45.0          | 8.22                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-42. Comparison of item respondents and nonrespondents for S2IBSCIENCE (Has taken IB science course(s)) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.0                           | 96.5       | 93.7          | 2.43                        |
| Private         | 6.0                            | 3.5        | 6.3           | -2.43                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.7                           | 14.3       | 19.3          | -4.43                       |
| Midwest         | 20.2                           | 22.4       | 19.9          | 2.19                        |
| South           | 39.0                           | 42.6       | 38.5          | 3.66                        |
| West            | 22.1                           | 20.7       | 22.3          | -1.41                       |
| School urbanity |                                |            |               |                             |
| City            | 33.9                           | 47.6       | 32.0          | 13.69*                      |
| Suburban        | 30.3                           | 32.9       | 29.9          | 2.64                        |
| Town            | 11.7                           | 4.3        | 12.8          | -7.45*                      |
| Rural           | 24.0                           | 15.1       | 25.3          | -8.88*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 21.6       | 25.2          | -3.15                       |
| Asian           | 3.4                            | 7.8        | 2.7           | 4.42*                       |
| Black           | 15.4                           | 11.7       | 15.9          | -3.71                       |
| Other           | 56.4                           | 58.9       | 56.1          | 2.44                        |
| Sex             |                                |            |               |                             |
| Male            | 53.8                           | 45.3       | 55.0          | -8.49                       |
| Female          | 46.2                           | 54.7       | 45.0          | 8.49                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-43. Comparison of item respondents and nonrespondents for S2IBMATH (Has taken IB math course(s)) by select sample school characteristics, using student base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.0                           | 96.6       | 93.7          | 2.61*                       |
| Private         | 6.0                            | 3.4        | 6.3           | -2.61*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 18.7                           | 14.4       | 19.3          | -4.33                       |
| Midwest         | 20.2                           | 22.6       | 19.9          | 2.34                        |
| South           | 39.0                           | 42.7       | 38.4          | 3.75                        |
| West            | 22.1                           | 20.3       | 22.3          | -1.75                       |
| School urbanity |                                |            |               |                             |
| City            | 33.9                           | 47.5       | 32.1          | 13.54*                      |
| Suburban        | 30.3                           | 33.0       | 29.9          | 2.66                        |
| Town            | 11.7                           | 4.3        | 12.8          | -7.42*                      |
| Rural           | 24.0                           | 15.2       | 25.3          | -8.78*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 21.8       | 25.2          | -3.01                       |
| Asian           | 3.4                            | 7.9        | 2.7           | 4.56*                       |
| Black           | 15.4                           | 11.8       | 15.9          | -3.64                       |
| Other           | 56.4                           | 58.5       | 56.1          | 2.09                        |
| Sex             |                                |            |               |                             |
| Male            | 53.8                           | 45.7       | 55.0          | -8.11                       |
| Female          | 46.2                           | 54.3       | 45.0          | 8.11                        |

<sup>1</sup> Estimates were calculated with the student base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-44. Comparison of item respondents and nonrespondents for P2CLGWORKFT (Teenager will work full-time or part-time while attending college) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.7                           | 93.4       | 93.9          | -0.29                       |
| Private         | 6.3                            | 6.6        | 6.1           | 0.29                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.2                           | 16.3       | 19.5          | -1.90*                      |
| Midwest         | 22.8                           | 27.2       | 19.6          | 4.39*                       |
| South           | 36.9                           | 35.0       | 38.4          | -1.96*                      |
| West            | 22.1                           | 21.6       | 22.5          | -0.53                       |
| School urbanity |                                |            |               |                             |
| City            | 27.8                           | 24.3       | 30.2          | -3.42*                      |
| Suburban        | 27.7                           | 26.0       | 28.9          | -1.65                       |
| Town            | 13.3                           | 14.7       | 12.3          | 1.37                        |
| Rural           | 31.3                           | 35.0       | 28.6          | 3.70*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 20.6                           | 15.0       | 24.6          | -5.62*                      |
| Asian           | 3.9                            | 2.4        | 5.0           | -1.50*                      |
| Black           | 13.9                           | 11.7       | 15.5          | -2.23                       |
| Other           | 61.6                           | 71.0       | 54.9          | 9.34*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 51.9       | 49.6          | 1.34                        |
| Female          | 49.5                           | 48.1       | 50.4          | -1.34                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-45. Comparison of item respondents and nonrespondents for P2CONF2YPUB (Confidence in estimate of cost of public in-state 2-year college) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.2                           | 92.2       | 94.4          | -0.98*                      |
| Private         | 6.8                            | 7.8        | 5.6           | 0.98*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.6                           | 17.9       | 19.4          | -0.65                       |
| Midwest         | 21.1                           | 22.8       | 19.0          | 1.66*                       |
| South           | 38.1                           | 38.0       | 38.3          | -0.13                       |
| West            | 22.2                           | 21.3       | 23.3          | -0.88                       |
| School urbanity |                                |            |               |                             |
| City            | 28.1                           | 26.8       | 29.8          | -1.34                       |
| Suburban        | 27.5                           | 26.6       | 28.6          | -0.87                       |
| Town            | 13.6                           | 14.2       | 12.8          | 0.60                        |
| Rural           | 30.8                           | 32.5       | 28.8          | 1.62*                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 20.4                           | 16.2       | 25.7          | -4.20*                      |
| Asian           | 3.6                            | 2.7        | 4.7           | -0.85*                      |
| Black           | 13.8                           | 12.5       | 15.4          | -1.26                       |
| Other           | 62.2                           | 68.5       | 54.2          | 6.32*                       |
| Sex             |                                |            |               |                             |
| Male            | 51.0                           | 52.0       | 49.9          | 0.95                        |
| Female          | 49.0                           | 48.0       | 50.1          | -0.95                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-46. Comparison of item respondents and nonrespondents for P2CONF4YPRV (Confidence in estimate for cost of typical 4-year private college) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 91.6                           | 89.3       | 94.4          | -2.27*                      |
| Private         | 8.4                            | 10.7       | 5.6           | 2.27*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 19.5                           | 19.8       | 19.3          | 0.22                        |
| Midwest         | 21.5                           | 23.3       | 19.2          | 1.80*                       |
| South           | 38.2                           | 38.0       | 38.5          | -0.23                       |
| West            | 20.7                           | 18.9       | 23.0          | -1.80*                      |
| School urbanity |                                |            |               |                             |
| City            | 28.6                           | 27.4       | 30.2          | -1.23                       |
| Suburban        | 28.5                           | 28.8       | 28.3          | 0.22                        |
| Town            | 12.8                           | 12.9       | 12.7          | 0.08                        |
| Rural           | 30.0                           | 30.9       | 28.9          | 0.93                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 19.2                           | 14.1       | 25.6          | -5.12*                      |
| Asian           | 3.9                            | 3.3        | 4.6           | -0.55                       |
| Black           | 13.1                           | 11.0       | 15.8          | -2.12*                      |
| Other           | 63.8                           | 71.6       | 54.0          | 7.79*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.0                           | 50.7       | 49.2          | 0.69                        |
| Female          | 50.0                           | 49.3       | 50.8          | -0.69                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).



**Table G-47. Comparison of item respondents and nonrespondents for P2FIRSTCHOICE (Most likely postsec school is parent's 1st choice not considering cost) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.9                           | 93.5       | 94.3          | -0.41                       |
| Private         | 6.1                            | 6.5        | 5.7           | 0.41                        |
| Census region   |                                |            |               |                             |
| Northeast       | 17.1                           | 14.1       | 20.0          | -3.00*                      |
| Midwest         | 20.9                           | 22.9       | 19.0          | 1.99*                       |
| South           | 40.8                           | 43.5       | 38.3          | 2.71*                       |
| West            | 21.1                           | 19.4       | 22.7          | -1.70*                      |
| School urbanity |                                |            |               |                             |
| City            | 28.1                           | 26.1       | 30.0          | -2.01*                      |
| Suburban        | 27.6                           | 26.6       | 28.5          | -1.00                       |
| Town            | 14.2                           | 16.1       | 12.4          | 1.89*                       |
| Rural           | 30.1                           | 31.2       | 29.1          | 1.11                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.0                           | 16.1       | 25.5          | -4.86*                      |
| Asian           | 4.1                            | 3.4        | 4.7           | -0.70                       |
| Black           | 13.4                           | 11.3       | 15.4          | -2.11*                      |
| Other           | 61.5                           | 69.2       | 54.3          | 7.66*                       |
| Sex             |                                |            |               |                             |
| Male            | 49.5                           | 49.0       | 49.9          | -0.43                       |
| Female          | 50.5                           | 51.0       | 50.1          | 0.43                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-48. Comparison of item respondents and nonrespondents for P2CERTAINCLG (How certain teenager is to attend most likely postsecondary institution) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.9                           | 93.5       | 94.3          | -0.44                       |
| Private         | 6.1                            | 6.5        | 5.7           | 0.44                        |
| Census region   |                                |            |               |                             |
| Northeast       | 17.1                           | 14.2       | 19.9          | -2.95*                      |
| Midwest         | 20.9                           | 22.8       | 19.1          | 1.91                        |
| South           | 40.8                           | 43.5       | 38.4          | 2.62*                       |
| West            | 21.1                           | 19.6       | 22.6          | -1.58*                      |
| School urbanity |                                |            |               |                             |
| City            | 28.1                           | 25.9       | 30.2          | -2.19*                      |
| Suburban        | 27.6                           | 26.6       | 28.5          | -0.98                       |
| Town            | 14.2                           | 16.1       | 12.4          | 1.93*                       |
| Rural           | 30.1                           | 31.3       | 28.9          | 1.25                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.0                           | 16.2       | 25.5          | -4.82*                      |
| Asian           | 4.1                            | 3.4        | 4.7           | -0.68                       |
| Black           | 13.4                           | 11.2       | 15.5          | -2.24*                      |
| Other           | 61.5                           | 69.3       | 54.3          | 7.74*                       |
| Sex             |                                |            |               |                             |
| Male            | 49.5                           | 49.0       | 49.9          | -0.47                       |
| Female          | 50.5                           | 51.0       | 50.1          | 0.47                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-49. Comparison of item respondents and nonrespondents for P2USYR1 (Year Parent 1 came to U.S. to stay) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.3                           | 94.6       | 94.2          | 0.32*                       |
| Private         | 5.7                            | 5.4        | 5.8           | -0.32*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 19.8                           | 19.8       | 19.9          | -0.07                       |
| Midwest         | 15.8                           | 9.1        | 19.0          | -6.62*                      |
| South           | 35.8                           | 31.6       | 37.9          | -4.18*                      |
| West            | 28.6                           | 39.4       | 23.2          | 10.87*                      |
| School urbanity |                                |            |               |                             |
| City            | 34.6                           | 43.4       | 30.2          | 8.80*                       |
| Suburban        | 30.1                           | 31.6       | 29.3          | 1.59                        |
| Town            | 10.2                           | 6.4        | 12.0          | -3.76*                      |
| Rural           | 25.2                           | 18.6       | 28.5          | -6.64*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 36.9                           | 58.6       | 26.2          | 21.69*                      |
| Asian           | 8.1                            | 14.1       | 5.1           | 6.06*                       |
| Black           | 12.1                           | 5.3        | 15.5          | -6.80*                      |
| Other           | 42.9                           | 22.0       | 53.3          | -20.95*                     |
| Sex             |                                |            |               |                             |
| Male            | 51.1                           | 52.5       | 50.5          | 1.33                        |
| Female          | 48.9                           | 47.5       | 49.5          | -1.33                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-50. Comparison of item respondents and nonrespondents for P2USYR2 (Year Parent 2 came to U.S. to stay) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.0                           | 93.7       | 94.1          | -0.30                       |
| Private         | 6.0                            | 6.3        | 5.9           | 0.30                        |
| Census region   |                                |            |               |                             |
| Northeast       | 19.2                           | 19.5       | 19.1          | 0.29                        |
| Midwest         | 16.6                           | 10.1       | 19.2          | -6.54*                      |
| South           | 36.2                           | 32.1       | 37.8          | -4.09*                      |
| West            | 28.0                           | 38.3       | 23.9          | 10.34*                      |
| School urbanity |                                |            |               |                             |
| City            | 34.3                           | 43.8       | 30.5          | 9.59*                       |
| Suburban        | 30.0                           | 31.5       | 29.4          | 1.51                        |
| Town            | 10.6                           | 7.1        | 12.0          | -3.53*                      |
| Rural           | 25.2                           | 17.6       | 28.2          | -7.57*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 34.4                           | 54.6       | 26.4          | 20.19*                      |
| Asian           | 8.2                            | 15.8       | 5.2           | 7.56*                       |
| Black           | 12.6                           | 5.9        | 15.3          | -6.72*                      |
| Other           | 44.8                           | 23.7       | 53.1          | -21.03*                     |
| Sex             |                                |            |               |                             |
| Male            | 51.2                           | 53.1       | 50.5          | 1.83                        |
| Female          | 48.8                           | 46.9       | 49.5          | -1.83                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-51. Comparison of item respondents and nonrespondents for P2LIKELYCLGLV (Level of postsecondary institution most likely to attend in fall 2013) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.9                           | 93.2       | 94.4          | -0.71                       |
| Private         | 6.1                            | 6.8        | 5.6           | 0.71                        |
| Census region   |                                |            |               |                             |
| Northeast       | 17.1                           | 13.1       | 20.1          | -4.05*                      |
| Midwest         | 20.9                           | 23.0       | 19.3          | 2.13*                       |
| South           | 40.8                           | 44.9       | 37.9          | 4.08*                       |
| West            | 21.1                           | 19.0       | 22.7          | -2.16*                      |
| School urbanity |                                |            |               |                             |
| City            | 28.1                           | 25.9       | 29.7          | -2.25*                      |
| Suburban        | 27.6                           | 26.7       | 28.3          | -0.91                       |
| Town            | 14.2                           | 15.5       | 13.3          | 1.27*                       |
| Rural           | 30.1                           | 32.0       | 28.7          | 1.89                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.0                           | 15.8       | 24.8          | -5.22*                      |
| Asian           | 4.1                            | 3.6        | 4.5           | -0.51                       |
| Black           | 13.4                           | 10.9       | 15.2          | -2.51*                      |
| Other           | 61.5                           | 69.8       | 55.6          | 8.24*                       |
| Sex             |                                |            |               |                             |
| Male            | 49.5                           | 48.5       | 50.2          | -0.98                       |
| Female          | 50.5                           | 51.5       | 49.8          | 0.98                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-52. Comparison of item respondents and nonrespondents for P2LIKELYCLGTYP (Control (public/private) of postsec inst most likely to attend in fall 2013) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.9                           | 93.2       | 94.4          | -0.72                       |
| Private         | 6.1                            | 6.8        | 5.6           | 0.72                        |
| Census region   |                                |            |               |                             |
| Northeast       | 17.1                           | 13.0       | 20.1          | -4.15*                      |
| Midwest         | 20.9                           | 23.1       | 19.3          | 2.21*                       |
| South           | 40.8                           | 45.0       | 37.9          | 4.16*                       |
| West            | 21.1                           | 18.9       | 22.7          | -2.22*                      |
| School urbanity |                                |            |               |                             |
| City            | 28.1                           | 26.0       | 29.6          | -2.16*                      |
| Suburban        | 27.6                           | 26.7       | 28.2          | -0.88                       |
| Town            | 14.2                           | 15.3       | 13.4          | 1.09*                       |
| Rural           | 30.1                           | 32.0       | 28.7          | 1.95                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.0                           | 15.8       | 24.7          | -5.20*                      |
| Asian           | 4.1                            | 3.6        | 4.4           | -0.50                       |
| Black           | 13.4                           | 10.9       | 15.2          | -2.49*                      |
| Other           | 61.5                           | 69.7       | 55.7          | 8.19*                       |
| Sex             |                                |            |               |                             |
| Male            | 49.5                           | 48.3       | 50.3          | -1.13                       |
| Female          | 50.5                           | 51.7       | 49.7          | 1.13                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-53. Comparison of item respondents and nonrespondents for X2PEARNNOHS (Parent questionnaire earnings without HS diploma standardized by year) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.2                           | 92.5       | 94.0          | -0.74*                      |
| Private         | 6.8                            | 7.5        | 6.0           | 0.74*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 17.1       | 19.9          | -1.37*                      |
| Midwest         | 21.1                           | 22.9       | 19.2          | 1.82*                       |
| South           | 38.5                           | 38.0       | 39.0          | -0.51                       |
| West            | 22.0                           | 22.1       | 22.0          | 0.06                        |
| School urbanity |                                |            |               |                             |
| City            | 28.4                           | 28.0       | 28.8          | -0.41                       |
| Suburban        | 28.0                           | 26.7       | 29.2          | -1.21                       |
| Town            | 13.2                           | 13.8       | 12.5          | 0.61                        |
| Rural           | 30.4                           | 31.5       | 29.4          | 1.01                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.9                           | 19.6       | 24.4          | -2.37*                      |
| Asian           | 3.6                            | 2.7        | 4.5           | -0.90*                      |
| Black           | 13.5                           | 12.1       | 15.0          | -1.42                       |
| Other           | 61.0                           | 65.7       | 56.1          | 4.69*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 51.4       | 49.6          | 0.87                        |
| Female          | 49.5                           | 48.6       | 50.4          | -0.87                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-54. Comparison of item respondents and nonrespondents for X2PEARNHS (Parent questionnaire earnings with HS diploma standardized by year) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.2                           | 92.4       | 94.0          | -0.80*                      |
| Private         | 6.8                            | 7.6        | 6.0           | 0.80*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 17.0       | 20.0          | -1.48*                      |
| Midwest         | 21.1                           | 22.7       | 19.4          | 1.62*                       |
| South           | 38.5                           | 38.5       | 38.5          | -0.01                       |
| West            | 22.0                           | 21.9       | 22.2          | -0.13                       |
| School urbanity |                                |            |               |                             |
| City            | 28.4                           | 27.4       | 29.4          | -0.99                       |
| Suburban        | 28.0                           | 26.7       | 29.2          | -1.23                       |
| Town            | 13.2                           | 14.0       | 12.4          | 0.77                        |
| Rural           | 30.4                           | 31.9       | 28.9          | 1.45                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.9                           | 18.8       | 25.2          | -3.14*                      |
| Asian           | 3.6                            | 2.7        | 4.5           | -0.87*                      |
| Black           | 13.5                           | 12.1       | 14.9          | -1.37                       |
| Other           | 61.0                           | 66.4       | 55.3          | 5.38*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 51.3       | 49.6          | 0.84                        |
| Female          | 49.5                           | 48.7       | 50.4          | -0.84                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).



**Table G-55. Comparison of item respondents and nonrespondents for P2CHOICECLGLV (Level of parent's first choice postsecondary institution) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.0                           | 93.6       | 94.3          | -0.43                       |
| Private         | 6.0                            | 6.4        | 5.7           | 0.43                        |
| Census region   |                                |            |               |                             |
| Northeast       | 17.2                           | 12.8       | 20.0          | -4.45*                      |
| Midwest         | 20.5                           | 21.4       | 20.0          | 0.87                        |
| South           | 40.6                           | 45.2       | 37.8          | 4.57*                       |
| West            | 21.6                           | 20.6       | 22.2          | -0.98                       |
| School urbanity |                                |            |               |                             |
| City            | 28.7                           | 27.5       | 29.5          | -1.21                       |
| Suburban        | 27.4                           | 25.7       | 28.4          | -1.72*                      |
| Town            | 14.0                           | 15.7       | 13.0          | 1.70*                       |
| Rural           | 29.9                           | 31.1       | 29.1          | 1.22                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.5                           | 17.2       | 24.1          | -4.31*                      |
| Asian           | 4.2                            | 3.8        | 4.5           | -0.41                       |
| Black           | 13.7                           | 11.6       | 15.1          | -2.17                       |
| Other           | 60.5                           | 67.4       | 56.3          | 6.88*                       |
| Sex             |                                |            |               |                             |
| Male            | 49.3                           | 48.2       | 50.0          | -1.13                       |
| Female          | 50.7                           | 51.8       | 50.0          | 1.13                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-56. Comparison of item respondents and nonrespondents for P2CHOICECLGTYP (Control (public/private) of parent's first choice postsecondary institution) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.0                           | 93.5       | 94.3          | -0.54                       |
| Private         | 6.0                            | 6.5        | 5.7           | 0.54                        |
| Census region   |                                |            |               |                             |
| Northeast       | 17.2                           | 12.6       | 20.0          | -4.59*                      |
| Midwest         | 20.5                           | 21.4       | 20.0          | 0.91                        |
| South           | 40.6                           | 45.2       | 37.8          | 4.60*                       |
| West            | 21.6                           | 20.7       | 22.2          | -0.92                       |
| School urbanity |                                |            |               |                             |
| City            | 28.7                           | 27.6       | 29.4          | -1.16                       |
| Suburban        | 27.4                           | 25.7       | 28.4          | -1.72*                      |
| Town            | 14.0                           | 15.7       | 13.0          | 1.68*                       |
| Rural           | 29.9                           | 31.1       | 29.2          | 1.20                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.5                           | 17.1       | 24.1          | -4.35*                      |
| Asian           | 4.2                            | 3.8        | 4.5           | -0.40                       |
| Black           | 13.7                           | 11.6       | 15.1          | -2.18                       |
| Other           | 60.5                           | 67.5       | 56.4          | 6.92*                       |
| Sex             |                                |            |               |                             |
| Male            | 49.3                           | 48.1       | 50.0          | -1.20                       |
| Female          | 50.7                           | 51.9       | 50.0          | 1.20                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-57. Comparison of item respondents and nonrespondents for X2PEARN4Y (Parent questionnaire earnings with four year college degree standardized by year) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.2                           | 91.8       | 94.6          | -1.40*                      |
| Private         | 6.8                            | 8.2        | 5.4           | 1.40*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 17.4       | 19.5          | -1.07                       |
| Midwest         | 21.1                           | 23.0       | 19.1          | 1.93*                       |
| South           | 38.5                           | 38.0       | 39.0          | -0.52                       |
| West            | 22.0                           | 21.7       | 22.4          | -0.34                       |
| School urbanity |                                |            |               |                             |
| City            | 28.4                           | 27.7       | 29.2          | -0.75                       |
| Suburban        | 28.0                           | 27.0       | 28.9          | -0.95                       |
| Town            | 13.2                           | 13.6       | 12.8          | 0.38                        |
| Rural           | 30.4                           | 31.8       | 29.1          | 1.32                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.9                           | 17.7       | 26.2          | -4.18*                      |
| Asian           | 3.6                            | 3.1        | 4.1           | -0.47*                      |
| Black           | 13.5                           | 12.2       | 14.8          | -1.28                       |
| Other           | 61.0                           | 66.9       | 55.0          | 5.93*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 50.9       | 50.1          | 0.40                        |
| Female          | 49.5                           | 49.1       | 49.9          | -0.40                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-58. Comparison of item respondents and nonrespondents for P2ENGLISH (English is regularly spoken in home) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.3                           | 94.0       | 94.4          | -0.29                       |
| Private         | 5.7                            | 6.0        | 5.6           | 0.29                        |
| Census region   |                                |            |               |                             |
| Northeast       | 19.4                           | 20.7       | 18.7          | 1.31                        |
| Midwest         | 17.3                           | 11.4       | 20.2          | -5.89*                      |
| South           | 36.4                           | 32.6       | 38.2          | -3.78*                      |
| West            | 27.0                           | 35.4       | 22.9          | 8.36*                       |
| School urbanity |                                |            |               |                             |
| City            | 34.0                           | 42.0       | 30.0          | 8.02*                       |
| Suburban        | 29.5                           | 31.7       | 28.4          | 2.21                        |
| Town            | 11.4                           | 8.5        | 12.8          | -2.87*                      |
| Rural           | 25.2                           | 17.9       | 28.8          | -7.36*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 36.0                           | 56.8       | 25.8          | 20.78*                      |
| Asian           | 6.7                            | 10.8       | 4.6           | 4.15*                       |
| Black           | 12.4                           | 6.6        | 15.3          | -5.81*                      |
| Other           | 44.9                           | 25.8       | 54.3          | -19.11*                     |
| Sex             |                                |            |               |                             |
| Male            | 50.4                           | 51.9       | 49.7          | 1.49                        |
| Female          | 49.6                           | 48.1       | 50.3          | -1.49                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-59. Comparison of item respondents and nonrespondents for X2PEARN2YPUB (Parent questionnaire earnings with two year college degree standardized by year) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.2                           | 92.3       | 94.1          | -0.93*                      |
| Private         | 6.8                            | 7.7        | 5.9           | 0.93*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 17.2       | 19.6          | -1.25                       |
| Midwest         | 21.1                           | 23.2       | 19.0          | 2.15*                       |
| South           | 38.5                           | 38.2       | 38.8          | -0.31                       |
| West            | 22.0                           | 21.4       | 22.6          | -0.59                       |
| School urbanity |                                |            |               |                             |
| City            | 28.4                           | 27.5       | 29.3          | -0.92                       |
| Suburban        | 28.0                           | 26.8       | 29.1          | -1.19                       |
| Town            | 13.2                           | 13.8       | 12.6          | 0.64                        |
| Rural           | 30.4                           | 31.9       | 29.0          | 1.48                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.9                           | 17.9       | 25.7          | -4.00*                      |
| Asian           | 3.6                            | 2.7        | 4.4           | -0.86*                      |
| Black           | 13.5                           | 12.3       | 14.6          | -1.15                       |
| Other           | 61.0                           | 67.0       | 55.3          | 6.01*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 51.1       | 49.9          | 0.62                        |
| Female          | 49.5                           | 48.9       | 50.1          | -0.62                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-60. Comparison of item respondents and nonrespondents for X2PEARNOCC (Parent questionnaire earnings with occupational training diploma standardized by year) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.2                           | 92.4       | 94.0          | -0.83*                      |
| Private         | 6.8                            | 7.6        | 6.0           | 0.83*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 17.2       | 19.6          | -1.20                       |
| Midwest         | 21.1                           | 23.1       | 19.1          | 2.04*                       |
| South           | 38.5                           | 37.9       | 39.0          | -0.60                       |
| West            | 22.0                           | 21.8       | 22.3          | -0.24                       |
| School urbanity |                                |            |               |                             |
| City            | 28.4                           | 27.6       | 29.2          | -0.84                       |
| Suburban        | 28.0                           | 26.7       | 29.2          | -1.29                       |
| Town            | 13.2                           | 13.9       | 12.6          | 0.67                        |
| Rural           | 30.4                           | 31.9       | 29.0          | 1.47                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 21.9                           | 18.2       | 25.5          | -3.77*                      |
| Asian           | 3.6                            | 2.7        | 4.4           | -0.87*                      |
| Black           | 13.5                           | 12.1       | 14.8          | -1.36                       |
| Other           | 61.0                           | 67.0       | 55.3          | 6.00*                       |
| Sex             |                                |            |               |                             |
| Male            | 50.5                           | 51.3       | 49.8          | 0.78                        |
| Female          | 49.5                           | 48.7       | 50.2          | -0.78                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-61. Comparison of item respondents and nonrespondents for P2USGRADE (Grade level teenager was placed in when started school in U.S.) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.5                           | 95.8       | 94.2          | 1.33*                       |
| Private         | 5.5                            | 4.2        | 5.8           | -1.33*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 20.2                           | 20.2       | 20.2          | 0.04                        |
| Midwest         | 17.9                           | 10.5       | 19.2          | -7.39*                      |
| South           | 38.0                           | 40.9       | 37.5          | 2.91                        |
| West            | 23.9                           | 28.4       | 23.2          | 4.44                        |
| School urbanity |                                |            |               |                             |
| City            | 32.7                           | 47.7       | 30.1          | 15.04*                      |
| Suburban        | 29.6                           | 32.1       | 29.1          | 2.49                        |
| Town            | 11.2                           | 6.1        | 12.0          | -5.11*                      |
| Rural           | 26.6                           | 14.2       | 28.7          | -12.42*                     |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 29.8                           | 56.0       | 25.3          | 26.27*                      |
| Asian           | 6.6                            | 16.6       | 4.9           | 10.02*                      |
| Black           | 14.5                           | 7.2        | 15.8          | -7.35*                      |
| Other           | 49.1                           | 20.2       | 54.1          | -28.93*                     |
| Sex             |                                |            |               |                             |
| Male            | 50.3                           | 47.1       | 50.8          | -3.16                       |
| Female          | 49.7                           | 52.9       | 49.2          | 3.16                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-62. Comparison of item respondents and nonrespondents for P2USYRT (Year teenager came to the U.S. to stay) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.4                           | 95.6       | 94.2          | 1.22*                       |
| Private         | 5.6                            | 4.4        | 5.8           | -1.22*                      |
| Census region   |                                |            |               |                             |
| Northeast       | 20.2                           | 20.2       | 20.2          | 0.02                        |
| Midwest         | 17.9                           | 10.6       | 19.2          | -7.30*                      |
| South           | 37.9                           | 40.2       | 37.5          | 2.26                        |
| West            | 23.9                           | 28.9       | 23.1          | 5.02                        |
| School urbanity |                                |            |               |                             |
| City            | 32.6                           | 47.1       | 30.2          | 14.51*                      |
| Suburban        | 29.6                           | 32.2       | 29.2          | 2.59                        |
| Town            | 11.1                           | 5.8        | 12.0          | -5.33*                      |
| Rural           | 26.6                           | 14.8       | 28.6          | -11.77*                     |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 29.7                           | 55.1       | 25.4          | 25.49*                      |
| Asian           | 6.6                            | 16.9       | 4.9           | 10.23*                      |
| Black           | 14.6                           | 8.4        | 15.6          | -6.21*                      |
| Other           | 49.1                           | 19.6       | 54.1          | -29.52*                     |
| Sex             |                                |            |               |                             |
| Male            | 50.1                           | 46.4       | 50.8          | -3.75                       |
| Female          | 49.9                           | 53.6       | 49.2          | 3.75                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).



**Table G-63. Comparison of item respondents and nonrespondents for P2DKHOWAPP (Won't apply for financial aid because does not know how) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 88.8       | 94.3          | -4.28*                      |
| Private         | 6.9                            | 11.2       | 5.7           | 4.28*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.5                           | 16.0       | 19.3          | -2.50                       |
| Midwest         | 19.8                           | 19.7       | 19.8          | -0.12                       |
| South           | 38.0                           | 37.8       | 38.0          | -0.14                       |
| West            | 23.7                           | 26.5       | 22.9          | 2.76*                       |
| School urbanity |                                |            |               |                             |
| City            | 30.1                           | 31.3       | 29.7          | 1.26                        |
| Suburban        | 27.9                           | 26.1       | 28.5          | -1.81                       |
| Town            | 13.0                           | 14.2       | 12.6          | 1.24                        |
| Rural           | 29.0                           | 28.3       | 29.2          | -0.68                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 22.1       | 25.6          | -2.66                       |
| Asian           | 4.3                            | 3.1        | 4.7           | -1.21                       |
| Black           | 14.1                           | 9.7        | 15.4          | -4.39                       |
| Other           | 56.9                           | 65.1       | 54.4          | 8.26                        |
| Sex             |                                |            |               |                             |
| Male            | 50.6                           | 51.9       | 50.2          | 1.34                        |
| Female          | 49.4                           | 48.1       | 49.8          | -1.34                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-64. Comparison of item respondents and nonrespondents for P2NODEBT (Won't apply for financial aid because family doesn't want debt) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 88.7       | 94.3          | -4.36*                      |
| Private         | 6.9                            | 11.3       | 5.7           | 4.36*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.5                           | 15.8       | 19.3          | -2.75                       |
| Midwest         | 19.8                           | 19.9       | 19.8          | 0.13                        |
| South           | 38.0                           | 37.7       | 38.0          | -0.26                       |
| West            | 23.7                           | 26.6       | 22.9          | 2.87*                       |
| School urbanity |                                |            |               |                             |
| City            | 30.1                           | 31.0       | 29.8          | 0.93                        |
| Suburban        | 27.9                           | 26.4       | 28.4          | -1.56                       |
| Town            | 13.0                           | 14.3       | 12.6          | 1.32                        |
| Rural           | 29.0                           | 28.3       | 29.2          | -0.69                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 21.9       | 25.6          | -2.87                       |
| Asian           | 4.3                            | 3.1        | 4.6           | -1.16                       |
| Black           | 14.1                           | 9.8        | 15.3          | -4.22                       |
| Other           | 56.9                           | 65.1       | 54.4          | 8.25                        |
| Sex             |                                |            |               |                             |
| Male            | 50.6                           | 51.9       | 50.2          | 1.28                        |
| Female          | 49.4                           | 48.1       | 49.8          | -1.28                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-65. Comparison of item respondents and nonrespondents for P2NOPLANS (Won't apply for financial aid because doesn't plan to continue education) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 88.6       | 94.4          | -4.47*                      |
| Private         | 6.9                            | 11.4       | 5.6           | 4.47*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.5                           | 16.1       | 19.2          | -2.43                       |
| Midwest         | 19.8                           | 19.7       | 19.8          | -0.06                       |
| South           | 38.0                           | 37.4       | 38.1          | -0.58                       |
| West            | 23.7                           | 26.8       | 22.8          | 3.06*                       |
| School urbanity |                                |            |               |                             |
| City            | 30.1                           | 31.3       | 29.7          | 1.26                        |
| Suburban        | 27.9                           | 26.3       | 28.4          | -1.69                       |
| Town            | 13.0                           | 14.6       | 12.5          | 1.61                        |
| Rural           | 29.0                           | 27.8       | 29.3          | -1.18                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 22.4       | 25.5          | -2.41                       |
| Asian           | 4.3                            | 3.1        | 4.6           | -1.20                       |
| Black           | 14.1                           | 9.8        | 15.3          | -4.26                       |
| Other           | 56.9                           | 64.8       | 54.6          | 7.87                        |
| Sex             |                                |            |               |                             |
| Male            | 50.6                           | 52.1       | 50.1          | 1.56                        |
| Female          | 49.4                           | 47.9       | 49.9          | -1.56                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-66. Comparison of item respondents and nonrespondents for P2INELIGIBLE (Won't apply for financial aid because may be ineligible/unqualified) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 88.4       | 94.4          | -4.61*                      |
| Private         | 6.9                            | 11.6       | 5.6           | 4.61*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.5                           | 15.8       | 19.3          | -2.74                       |
| Midwest         | 19.8                           | 20.2       | 19.7          | 0.44                        |
| South           | 38.0                           | 37.5       | 38.1          | -0.49                       |
| West            | 23.7                           | 26.5       | 22.9          | 2.79*                       |
| School urbanity |                                |            |               |                             |
| City            | 30.1                           | 30.4       | 30.0          | 0.35                        |
| Suburban        | 27.9                           | 26.4       | 28.4          | -1.55                       |
| Town            | 13.0                           | 14.7       | 12.5          | 1.73                        |
| Rural           | 29.0                           | 28.4       | 29.1          | -0.53                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 21.6       | 25.7          | -3.17                       |
| Asian           | 4.3                            | 3.0        | 4.7           | -1.25                       |
| Black           | 14.1                           | 9.9        | 15.3          | -4.16                       |
| Other           | 56.9                           | 65.5       | 54.4          | 8.58                        |
| Sex             |                                |            |               |                             |
| Male            | 50.6                           | 51.6       | 50.3          | 1.04                        |
| Female          | 49.4                           | 48.4       | 49.7          | -1.04                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-67. Comparison of item respondents and nonrespondents for P2FORMSDIFF (Won't apply for financial aid because forms are too difficult) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 88.6       | 94.4          | -4.44*                      |
| Private         | 6.9                            | 11.4       | 5.6           | 4.44*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.5                           | 15.4       | 19.4          | -3.07                       |
| Midwest         | 19.8                           | 19.9       | 19.8          | 0.14                        |
| South           | 38.0                           | 38.3       | 37.9          | 0.38                        |
| West            | 23.7                           | 26.3       | 23.0          | 2.55*                       |
| School urbanity |                                |            |               |                             |
| City            | 30.1                           | 30.6       | 29.9          | 0.51                        |
| Suburban        | 27.9                           | 26.0       | 28.5          | -1.93                       |
| Town            | 13.0                           | 14.8       | 12.5          | 1.77                        |
| Rural           | 29.0                           | 28.6       | 29.1          | -0.34                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 21.9       | 25.6          | -2.89                       |
| Asian           | 4.3                            | 3.0        | 4.7           | -1.28                       |
| Black           | 14.1                           | 9.6        | 15.3          | -4.42                       |
| Other           | 56.9                           | 65.5       | 54.4          | 8.58                        |
| Sex             |                                |            |               |                             |
| Male            | 50.6                           | 51.6       | 50.3          | 1.02                        |
| Female          | 49.4                           | 48.4       | 49.7          | -1.02                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-68. Comparison of item respondents and nonrespondents for P2CANAFFORD (Won't apply for financial aid because can afford college/school w/out it) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 93.1                           | 88.5       | 94.4          | -4.57*                      |
| Private         | 6.9                            | 11.5       | 5.6           | 4.57*                       |
| Census region   |                                |            |               |                             |
| Northeast       | 18.5                           | 13.6       | 19.9          | -4.88*                      |
| Midwest         | 19.8                           | 21.0       | 19.4          | 1.20                        |
| South           | 38.0                           | 38.4       | 37.8          | 0.47                        |
| West            | 23.7                           | 26.9       | 22.8          | 3.22*                       |
| School urbanity |                                |            |               |                             |
| City            | 30.1                           | 29.4       | 30.3          | -0.72                       |
| Suburban        | 27.9                           | 27.0       | 28.2          | -0.94                       |
| Town            | 13.0                           | 14.8       | 12.5          | 1.84                        |
| Rural           | 29.0                           | 28.8       | 29.0          | -0.18                       |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 24.8                           | 22.4       | 25.5          | -2.38                       |
| Asian           | 4.3                            | 3.0        | 4.7           | -1.28                       |
| Black           | 14.1                           | 7.2        | 16.0          | -6.83*                      |
| Other           | 56.9                           | 67.4       | 53.9          | 10.49*                      |
| Sex             |                                |            |               |                             |
| Male            | 50.6                           | 53.5       | 49.8          | 2.89                        |
| Female          | 49.4                           | 46.5       | 50.2          | -2.89                       |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-69. Comparison of item respondents and nonrespondents for P2NOQUALCRED (Won't qualify for financial aid because of credit score) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.1                           | 92.8       | 94.4          | -1.26                       |
| Private         | 5.9                            | 7.2        | 5.6           | 1.26                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 14.5       | 19.4          | -3.83*                      |
| Midwest         | 19.8                           | 20.1       | 19.7          | 0.29                        |
| South           | 38.1                           | 38.9       | 37.9          | 0.75                        |
| West            | 23.7                           | 26.5       | 22.9          | 2.79*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.3                           | 23.5       | 29.6          | -4.81*                      |
| Suburban        | 28.8                           | 30.5       | 28.3          | 1.67                        |
| Town            | 13.0                           | 13.7       | 12.8          | 0.74                        |
| Rural           | 29.9                           | 32.3       | 29.3          | 2.41                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.2                           | 24.6       | 25.4          | -0.64                       |
| Asian           | 4.5                            | 3.9        | 4.6           | -0.55                       |
| Black           | 13.3                           | 6.9        | 15.0          | -6.35*                      |
| Other           | 57.0                           | 64.6       | 55.0          | 7.54                        |
| Sex             |                                |            |               |                             |
| Male            | 51.8                           | 56.8       | 50.4          | 5.01*                       |
| Female          | 48.2                           | 43.2       | 49.6          | -5.01*                      |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-70. Comparison of item respondents and nonrespondents for P2NOQUALTEST (Won't qualify for financial aid because grades or test scores too low) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.1                           | 92.9       | 94.4          | -1.12                       |
| Private         | 5.9                            | 7.1        | 5.6           | 1.12                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 15.2       | 19.2          | -3.18                       |
| Midwest         | 19.8                           | 20.7       | 19.6          | 0.86                        |
| South           | 38.1                           | 38.7       | 38.0          | 0.60                        |
| West            | 23.7                           | 25.4       | 23.2          | 1.72                        |
| School urbanity |                                |            |               |                             |
| City            | 28.3                           | 23.1       | 29.7          | -5.17*                      |
| Suburban        | 28.8                           | 30.6       | 28.3          | 1.84                        |
| Town            | 13.0                           | 13.8       | 12.8          | 0.85                        |
| Rural           | 29.9                           | 32.4       | 29.2          | 2.48                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.2                           | 24.1       | 25.5          | -1.15                       |
| Asian           | 4.5                            | 3.6        | 4.7           | -0.86                       |
| Black           | 13.3                           | 7.0        | 15.0          | -6.30*                      |
| Other           | 57.0                           | 65.4       | 54.8          | 8.30*                       |
| Sex             |                                |            |               |                             |
| Male            | 51.8                           | 56.4       | 50.5          | 4.66*                       |
| Female          | 48.2                           | 43.6       | 49.5          | -4.66*                      |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).



**Table G-71. Comparison of item respondents and nonrespondents for P2NOQUALINC (Won't qualify for financial aid because income is too high) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.1                           | 93.0       | 94.3          | -1.07                       |
| Private         | 5.9                            | 7.0        | 5.7           | 1.07                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 14.7       | 19.4          | -3.67*                      |
| Midwest         | 19.8                           | 20.4       | 19.6          | 0.60                        |
| South           | 38.1                           | 39.2       | 37.9          | 1.03                        |
| West            | 23.7                           | 25.7       | 23.1          | 2.04                        |
| School urbanity |                                |            |               |                             |
| City            | 28.3                           | 22.5       | 29.8          | -5.74*                      |
| Suburban        | 28.8                           | 30.4       | 28.4          | 1.57                        |
| Town            | 13.0                           | 14.1       | 12.7          | 1.11                        |
| Rural           | 29.9                           | 33.0       | 29.1          | 3.07                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.2                           | 24.1       | 25.5          | -1.16                       |
| Asian           | 4.5                            | 3.5        | 4.7           | -0.91                       |
| Black           | 13.3                           | 6.9        | 15.0          | -6.37*                      |
| Other           | 57.0                           | 65.5       | 54.8          | 8.44*                       |
| Sex             |                                |            |               |                             |
| Male            | 51.8                           | 56.6       | 50.4          | 4.81*                       |
| Female          | 48.2                           | 43.4       | 49.6          | -4.81*                      |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-72. Comparison of item respondents and nonrespondents for P2NOQUALFAM (Won't qualify for financial aid because family member didn't qualify) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.1                           | 92.8       | 94.4          | -1.22                       |
| Private         | 5.9                            | 7.2        | 5.6           | 1.22                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 14.4       | 19.4          | -3.94*                      |
| Midwest         | 19.8                           | 20.8       | 19.5          | 0.96                        |
| South           | 38.1                           | 38.5       | 38.0          | 0.40                        |
| West            | 23.7                           | 26.3       | 23.0          | 2.58*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.3                           | 23.4       | 29.6          | -4.93*                      |
| Suburban        | 28.8                           | 30.7       | 28.3          | 1.94                        |
| Town            | 13.0                           | 13.9       | 12.7          | 0.91                        |
| Rural           | 29.9                           | 32.0       | 29.4          | 2.08                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.2                           | 24.0       | 25.6          | -1.21                       |
| Asian           | 4.5                            | 3.9        | 4.6           | -0.52                       |
| Black           | 13.3                           | 7.0        | 15.0          | -6.30*                      |
| Other           | 57.0                           | 65.1       | 54.9          | 8.03                        |
| Sex             |                                |            |               |                             |
| Male            | 51.8                           | 56.6       | 50.5          | 4.80*                       |
| Female          | 48.2                           | 43.4       | 49.5          | -4.80*                      |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09).

**Table G-73. Comparison of item respondents and nonrespondents for P2NOQUALPT (Won't qualify for financial aid because will attend part-time) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.1                           | 92.7       | 94.4          | -1.34                       |
| Private         | 5.9                            | 7.3        | 5.6           | 1.34                        |
| Census region   |                                |            |               |                             |
| Northeast       | 18.4                           | 15.1       | 19.2          | -3.27                       |
| Midwest         | 19.8                           | 20.3       | 19.7          | 0.47                        |
| South           | 38.1                           | 37.9       | 38.2          | -0.26                       |
| West            | 23.7                           | 26.8       | 22.9          | 3.06*                       |
| School urbanity |                                |            |               |                             |
| City            | 28.3                           | 23.6       | 29.5          | -4.69*                      |
| Suburban        | 28.8                           | 30.5       | 28.3          | 1.73                        |
| Town            | 13.0                           | 13.4       | 12.9          | 0.41                        |
| Rural           | 29.9                           | 32.5       | 29.2          | 2.55                        |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 25.2                           | 23.4       | 25.7          | -1.83                       |
| Asian           | 4.5                            | 4.0        | 4.6           | -0.44                       |
| Black           | 13.3                           | 7.1        | 14.9          | -6.19*                      |
| Other           | 57.0                           | 65.5       | 54.8          | 8.45*                       |
| Sex             |                                |            |               |                             |
| Male            | 51.8                           | 57.2       | 50.3          | 5.43*                       |
| Female          | 48.2                           | 42.8       | 49.7          | -5.43*                      |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-74. Comparison of item respondents and nonrespondents for P2QHELP2 (Other family member helped respondent complete questionnaire) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.5                           | 95.4       | 94.4          | 0.88                        |
| Private         | 5.5                            | 4.6        | 5.6           | -0.88                       |
| Census region   |                                |            |               |                             |
| Northeast       | 19.0                           | 17.9       | 19.1          | -1.05                       |
| Midwest         | 19.2                           | 14.6       | 19.7          | -4.57*                      |
| South           | 37.7                           | 34.0       | 38.1          | -3.72                       |
| West            | 24.2                           | 33.5       | 23.2          | 9.34*                       |
| School urbanity |                                |            |               |                             |
| City            | 31.6                           | 45.1       | 30.2          | 13.46*                      |
| Suburban        | 28.3                           | 25.7       | 28.6          | -2.58                       |
| Town            | 12.3                           | 10.4       | 12.5          | -1.94                       |
| Rural           | 27.8                           | 18.8       | 28.7          | -8.94*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 27.7                           | 40.0       | 26.4          | 12.31*                      |
| Asian           | 5.3                            | 10.3       | 4.7           | 5.05*                       |
| Black           | 14.8                           | 8.6        | 15.4          | -6.21                       |
| Other           | 52.3                           | 41.1       | 53.4          | -11.15*                     |
| Sex             |                                |            |               |                             |
| Male            | 49.3                           | 47.4       | 49.4          | -1.80                       |
| Female          | 50.7                           | 52.6       | 50.6          | 1.80                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-75. Comparison of item respondents and nonrespondents for P2QHELP4 (Someone else helped respondent complete questionnaire) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.5                           | 95.4       | 94.4          | 0.88                        |
| Private         | 5.5                            | 4.6        | 5.6           | -0.88                       |
| Census region   |                                |            |               |                             |
| Northeast       | 19.0                           | 17.9       | 19.1          | -1.05                       |
| Midwest         | 19.2                           | 14.6       | 19.7          | -4.57*                      |
| South           | 37.7                           | 34.0       | 38.1          | -3.72                       |
| West            | 24.2                           | 33.5       | 23.2          | 9.34*                       |
| School urbanity |                                |            |               |                             |
| City            | 31.6                           | 45.1       | 30.2          | 13.46*                      |
| Suburban        | 28.3                           | 25.7       | 28.6          | -2.58                       |
| Town            | 12.3                           | 10.4       | 12.5          | -1.94                       |
| Rural           | 27.8                           | 18.8       | 28.7          | -8.94*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 27.7                           | 40.0       | 26.4          | 12.31*                      |
| Asian           | 5.3                            | 10.3       | 4.7           | 5.05*                       |
| Black           | 14.8                           | 8.6        | 15.4          | -6.21                       |
| Other           | 52.3                           | 41.1       | 53.4          | -11.15*                     |
| Sex             |                                |            |               |                             |
| Male            | 49.3                           | 47.4       | 49.4          | -1.80                       |
| Female          | 50.7                           | 52.6       | 50.6          | 1.80                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

**Table G-76. Comparison of item respondents and nonrespondents for P2QHELP1 (Teenager helped respondent complete questionnaire) by select sample school characteristics, using parent base weight**

| Characteristic  | Percent estimated <sup>1</sup> |            |               | Estimated bias <sup>2</sup> |
|-----------------|--------------------------------|------------|---------------|-----------------------------|
|                 | Total                          | Respondent | Nonrespondent |                             |
| School type     |                                |            |               |                             |
| Public          | 94.5                           | 95.4       | 94.4          | 0.88                        |
| Private         | 5.5                            | 4.6        | 5.6           | -0.88                       |
| Census region   |                                |            |               |                             |
| Northeast       | 19.0                           | 17.9       | 19.1          | -1.05                       |
| Midwest         | 19.2                           | 14.6       | 19.7          | -4.57*                      |
| South           | 37.7                           | 34.0       | 38.1          | -3.72                       |
| West            | 24.2                           | 33.5       | 23.2          | 9.34*                       |
| School urbanity |                                |            |               |                             |
| City            | 31.6                           | 45.1       | 30.2          | 13.46*                      |
| Suburban        | 28.3                           | 25.7       | 28.6          | -2.58                       |
| Town            | 12.3                           | 10.4       | 12.5          | -1.94                       |
| Rural           | 27.8                           | 18.8       | 28.7          | -8.94*                      |
| Race/ethnicity  |                                |            |               |                             |
| Hispanic        | 27.7                           | 40.0       | 26.4          | 12.31*                      |
| Asian           | 5.3                            | 10.3       | 4.7           | 5.05*                       |
| Black           | 14.8                           | 8.6        | 15.4          | -6.21                       |
| Other           | 52.3                           | 41.1       | 53.4          | -11.15*                     |
| Sex             |                                |            |               |                             |
| Male            | 49.3                           | 47.4       | 49.4          | -1.80                       |
| Female          | 50.7                           | 52.6       | 50.6          | 1.80                        |

<sup>1</sup> Estimates were calculated with the parent base weight. Unit nonrespondents are classified for this analysis as item nonrespondents.

<sup>2</sup> Estimated bias is defined by equation 7.1. A value marked with an asterisk (\*) identifies a bias that is significantly different from zero with statistical significance  $\leq 0.05$ . Bias estimates without an asterisk are labeled as negligible.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09).

## **Appendix H. Imputation Details**

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## H.1 Single-value Imputation

Item response rates were relatively high in the HSLS:09 first follow-up data. However, a set of key analytic variables was identified as being critical for complete-case analysis and subjected to imputation procedures. A single value was assigned in place of the missing response for 17 categorical variables from the student and parent questionnaires using a weighted sequential hot-deck imputation procedure (WSHD). An associated indicator “flag” variable was generated to distinguish the imputed values from those responses collected during the base-year study (see chapter 7). Details on the single-value imputation for the student variables, including variables used to create the imputation classes, are included in table H-1. The associated information for students with first follow-up responding parent is displayed in tables H-2 and H-3. Imputation details for the remaining students (i.e., students not selected for the parent survey subsample and others without a responding parent) are shown in tables H-4, H-5, and H-6. Tests for differences in the distribution of these variables both before and after imputation are summarized in table H-7 for the student variables, in table H-8 for the parent variables among the parent survey subsample cases, and in table H-9 for the parent variables among all responding student cases.

Table H-1. Details of imputation procedures for first follow-up student variables

| Variable <sup>1</sup>                                   | Method of imputation <sup>2,3</sup> | Imputation class variables | Sort variables within class |
|---------------------------------------------------------|-------------------------------------|----------------------------|-----------------------------|
| Student's sex (X2SEX)                                   | Logical                             | —                          | —                           |
| Student is Hispanic (X2HISPANIC)                        | CART                                | X2SEX                      | X2SEX<br>X2CONTROL          |
| Student's native language (X2NATIVELANG)                | CART                                | X2RACE                     | X2SEX<br>X2CONTROL          |
| Student's race (X2RACE)                                 | Derived                             | —                          | —                           |
| How far student expects to get in school (X2STUEDEXPCT) | CART                                | X2CONTROL<br>X2ASIAN       | X2SEX<br>X2CONTROL          |

— Not applicable.

<sup>1</sup> The variables are listed in the order in which the missing values were imputed.

<sup>2</sup> The variable was derived from another (source) variable containing imputed values. The imputation flag corresponds with the flag for the source variable.

<sup>3</sup> Identifies a statistical imputation performed with the assistance of a nonparametric classification and regression tree (CART) procedure for classification. CART isolates the variables and combination of variable values most associated with the imputation variable. The single-value imputation within these classes was implemented through a weighted sequential hot-deck methodology (WSHD).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.

**Table H-2. Details of imputation procedures for first follow-up responding parent – base-year responding parent (Group 1—see chapter 7)**

| Variable <sup>1</sup>                                                | Method of imputation <sup>2,3</sup> | Imputation class variables                          | Sort variables within class |
|----------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------|-----------------------------|
| Parent 1 relationship to sample member (X2P1RELATION)                | CART                                | X1P1RELATION                                        | X2CONTROL                   |
| Parent 2 relationship to sample member (X2P2RELATION)                | CART                                | X1P2RELATION X2P1RELATION                           | X2CONTROL                   |
| Parent 1 highest level of education (X2PAR1EDU)                      | CART                                | X1PAR1EDU SCHTYPE X2P2RELATION                      | X2CONTROL                   |
| Parent 2 highest level of education (X2PAR2EDU)                      | CART                                | X2PAR2EDU X2P2RELATION X2PAR1EDU                    | X2CONTROL                   |
| Highest level of education for Parents (X2PAREDU)                    | Derived                             | —                                                   |                             |
| Parent 1 and 2 relationship pattern (X2PARPATTERN)                   | Derived                             | —                                                   |                             |
| Parent 1 occupational prestige score (X2PAR1OCC2)                    | CART                                | X1PAR1OCC2 X2P1RELATION X2PAR1EDU                   | X2CONTROL                   |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | CART                                | X1PAREDEXPCT                                        | X2CONTROL                   |
| Parent 2 occupational prestige score (X2PAR2OCC2)                    | CART                                | X1PAR2OCC2 X2P2RELATION X2PAR2EDU                   | X2CONTROL                   |
| Number in household (X2HHNUMBER)                                     | Derived                             | —                                                   |                             |
| Parent 1 employment status (X2PAR1EMP)                               | CART                                | X1PAR1EMP X2P1RELATION X2PAR1EDU X2HHNUMBER         | X2CONTROL                   |
| Categorized family income (X2FAMINCOME)                              | CART                                | X1FAMINCOME X2PAR2EDU X2PAR1EDU X2PAREDU X2PAR2OCC2 | X2CONTROL                   |
| Parent 2 employment status (X2PAR2EMP)                               | CART                                | X1PAR2EMP X2PAR2EDU                                 | X2CONTROL                   |

— Not applicable.

<sup>1</sup> The variables are listed in the order in which the missing values were imputed.

<sup>2</sup> The variable was derived from another (source) variable containing imputed values. The imputation flag corresponds with the flag for the source variable.

<sup>3</sup> Identifies a statistical imputation performed with the assistance of a nonparametric classification and regression tree (CART) procedure for classification. CART isolates the variables and combination of variable values most associated with the imputation variable. The single-value imputation within these classes was implemented through weighted sequential hot-deck imputation procedure (WSHD).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.

**Table H-3. Details of imputation procedures for first follow-up responding parent – no base-year parent data (Group 2—see chapter 7)**

| Variable <sup>1</sup>                                                | Method of imputation <sup>2,3</sup> | Imputation class variables                 | Sort variables within class |
|----------------------------------------------------------------------|-------------------------------------|--------------------------------------------|-----------------------------|
| Parent 1 relationship to sample member (X2P1RELATION)                | CART                                | —                                          | X2CONTROL                   |
| Parent 2 relationship to sample member (X2P2RELATION)                | CART                                | X2P1RELATION                               | X2CONTROL                   |
| Parent 1 highest level of education (X2PAR1EDU)                      | CART                                | SCHTYPE X2P2RELATION                       | X2CONTROL                   |
| Parent 2 highest level of education (X2PAR2EDU)                      | CART                                | X2P2RELATION X2PAR1EDU                     | X2CONTROL                   |
| Highest level of education for Parents (X2PAREDU)                    | Derived                             | —                                          |                             |
| Parent 1 occupational prestige score (X2PAR1OCC2)                    | CART                                | X2PAR1EDU X2P1RELATION                     | X2CONTROL                   |
| Parent 2 occupational prestige score (X2PAR2OCC2)                    | CART                                | X2PAR2EDU                                  | X2CONTROL                   |
| Parent 1 and 2 relationship pattern (X2PARPATTERN)                   | Derived                             | —                                          |                             |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | CART                                | X2PAREDU                                   | X2CONTROL                   |
| Categorized family income (X2FAMINCOME)                              | CART                                | X2PAR2EDU X2PAR1EDU X2PAREDU<br>X2PAR2OCC2 | X2CONTROL                   |
| Parent 2 employment status (X2PAR2EMP)                               | CART                                | X2PAR2EDU                                  | X2CONTROL                   |
| Number in household (X2HHNUMBER)                                     | Derived                             | —                                          |                             |
| Parent 1 employment status (X2PAR1EMP)                               | CART                                | X2FAMINCOME X2P2RELATION                   | X2CONTROL                   |

— Not applicable.

<sup>1</sup> The variables are listed in the order in which the missing values were imputed.

<sup>2</sup> The variable was derived from another (source) variable containing imputed values. The imputation flag corresponds with the flag for the source variable.

<sup>3</sup> Identifies a statistical imputation performed with the assistance of a nonparametric classification and regression tree (CART) procedure for classification. CART isolates the variables and combination of variable values most associated with the imputation variable. The single-value imputation within these classes was implemented through weighted sequential hot-deck imputation procedure (WSHD).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table H-4. Details of imputation procedures for no first follow-up parent data – base-year responding parent (Group 3—see chapter 7)**

| Variable <sup>1</sup>                                                | Method of imputation <sup>2,3,4</sup> | Imputation class variables | Sort variables within class <sup>5</sup>       |
|----------------------------------------------------------------------|---------------------------------------|----------------------------|------------------------------------------------|
| Parent 1 relationship to sample member (X2P1RELATION)                | WSHD                                  | X1P1RELATION               | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 relationship to sample member (X2P2RELATION)                | WSHD                                  | X1P1RELATION               | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 highest level of education (X2PAR1EDU)                      | WSHD                                  | X1PAR1EDU                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 highest level of education (X2PAR2EDU)                      | WSHD                                  | X1PAR2EDU                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Highest level of education for Parents (X2PAREDU)                    | Derived                               | —                          |                                                |
| Parent 1 employment status (X2PAR1EMP)                               | WSHD                                  | X1PAR1EMP                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 occupational prestige score (X2PAR1OCC2)                    | WSHD                                  | X1PAR1EMP                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 employment status (X2PAR2EMP)                               | WSHD                                  | X1PAR2EMP                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 occupational prestige score (X2PAR2OCC2)                    | WSHD                                  | X1PAR2EMP                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Categorized family income (X2FAMINCOME)                              | WSHD                                  | X1FAMINCOME                | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 and 2 relationship pattern (X2PARPATTERN)                   | Derived                               | —                          |                                                |
| Number in household (X2HHNUMBER)                                     | Derived                               | —                          |                                                |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | WSHD                                  | X1PAREDEXPCT               | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |

— Not applicable.

<sup>1</sup> The variables are listed in the order in which the missing values were imputed.

<sup>2</sup> The variable was derived from another (source) variable containing imputed values. The imputation flag corresponds with the flag for the source variable.

<sup>3</sup> WSHD (weighted sequential hot-deck imputation procedure) is a statistical imputation performed with a pre-determined group of classification variables.

<sup>4</sup> Identifies a statistical imputation performed with the assistance of a nonparametric classification and regression tree (CART) procedure for classification. CART isolates the variables and combination of variable values most associated with the imputation variable. The single-value imputation within these classes was implemented through WSHD.

<sup>5</sup> SCHTYPE (school type) is a 10-level variable to identify the type of public and SCHSIZE (school size) is the size of the first follow-up school. These variables were developed for internal use only from the latest CCD/PSS and are not included on the HLS:09 data files.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HLS:09) First Follow-up.

**Table H-5. Details of imputation procedures for no first follow-up parent data – no base-year parent data – first follow-up responding student – base-year responding student (Group 4—see chapter 7)**

| Variable <sup>1</sup>                                                | Method of imputation <sup>2,3,4</sup> | Imputation class variables        | Sort variables within class <sup>5</sup>       |
|----------------------------------------------------------------------|---------------------------------------|-----------------------------------|------------------------------------------------|
| Parent 1 relationship to sample member (X2P1RELATION)                | WSHD                                  | X1SESQ5                           | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 relationship to sample member (X2P2RELATION)                | WSHD                                  | X1SESQ5                           | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 highest level of education (X2PAR1EDU)                      | CART                                  | X1SESQ5 X2CONTROL                 | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 highest level of education (X2PAR2EDU)                      | CART                                  | X1SESQ5 X2P2RELATION<br>X2PAR1EDU | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Highest level of education for Parents (X2PAREDU)                    | Derived                               | —                                 |                                                |
| Parent 1 employment status (X2PAR1EMP)                               | CART                                  | X1SESQ5 X2P1RELATION<br>X2PAR1EDU | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 occupational prestige score (X2PAR1OCC2)                    | CART                                  | X1SESQ5 X2P1RELATION<br>X2PAR1EDU | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 employment status (X2PAR2EMP)                               | CART                                  | X1SESQ5 X2PAR2EDU<br>X2P2RELATION | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 occupational prestige score (X2PAR2OCC2)                    | CART                                  | X1SESQ5 X2PAR2EDU<br>X2P2RELATION | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Categorized family income (X2FAMINCOME)                              | CART                                  | X1SESQ5 X2PAR2EDU<br>X2PAR1EDU    | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 and 2 relationship pattern (X2PARPATTERN)                   | Derived                               | —                                 |                                                |
| Number in household (X2HHNUMBER)                                     | Derived                               | —                                 |                                                |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | CART                                  | X1SESQ5 X2PAR1EDU                 | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |

— Not applicable.

<sup>1</sup> The variables are listed in the order in which the missing values were imputed.

<sup>2</sup> The variable was derived from another (source) variable containing imputed values. The imputation flag corresponds with the flag for the source variable.

<sup>3</sup> WSHD (weighted sequential hot-deck imputation procedure) is a statistical imputation performed with a pre-determined group of classification variables.

<sup>4</sup> Identifies a statistical imputation performed with the assistance of a nonparametric classification and regression tree (CART) procedure for classification. CART isolates the variables and combination of variable values most associated with the imputation variable. The single-value imputation within these classes was implemented through WSHD.

<sup>5</sup> SCHTYPE (school type) is a 10-level variable to identify the type of public and SCHSIZE (school size) is the size of the first follow-up school. These variables were developed for internal use only from the latest CCD/PSS and are not included on the HSLs:09 data files.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

**Table H-6. Details of imputation procedures for no first follow-up parent data – no base-year parent data – first follow-up responding student – no base-year student data (Group 5—see chapter 7)**

| Variable <sup>1</sup>                                                | Method of imputation <sup>2,3,4</sup> | Imputation class variables | Sort variables within class <sup>5</sup>       |
|----------------------------------------------------------------------|---------------------------------------|----------------------------|------------------------------------------------|
| Parent 1 relationship to sample member (X2P1RELATION)                | WSHD                                  | S2PARREL1                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 relationship to sample member (X2P2RELATION)                | WSHD                                  | S2PARREL1                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 highest level of education (X2PAR1EDU)                      | WSHD                                  | S2HIDEG1                   | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 highest level of education (X2PAR2EDU)                      | WSHD                                  | S2HIDEG2                   | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Highest level of education for Parents (X2PAREDU)                    | Derived                               | —                          |                                                |
| Parent 1 employment status (X2PAR1EMP)                               | WSHD                                  | S2JOBNOW1                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 occupational prestige score (X2PAR1OCC2)                    | WSHD                                  | S2JOBNOW1                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 employment status (X2PAR2EMP)                               | WSHD                                  | S2JOBNOW2                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 2 occupational prestige score (X2PAR2OCC2)                    | WSHD                                  | S2JOBNOW2                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Categorized family income (X2FAMINCOME)                              | CART                                  | X2PAR2EDU<br>X2PAR1EDU     | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |
| Parent 1 and 2 relationship pattern (X2PARPATTERN)                   | Derived                               | —                          |                                                |
| Number in household (X2HHNUMBER)                                     | Derived                               | —                          |                                                |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | CART                                  | X2PAR1EDU                  | X2CONTROL X1REGION X1LOCALE<br>SCHTYPE SCHSIZE |

— Not applicable.

<sup>1</sup> The variables are listed in the order in which the missing values were imputed.

<sup>2</sup> The variable was derived from another (source) variable containing imputed values. The imputation flag corresponds with the flag for the source variable.

<sup>3</sup> WSHD (weighted sequential hot-deck imputation procedure) is a statistical imputation performed with a pre-determined group of classification variables.

<sup>4</sup> Identifies a statistical imputation performed with the assistance of a nonparametric classification and regression tree (CART) procedure for classification. CART isolates the variables and combination of variable values most associated with the imputation variable. The single-value imputation within these classes was implemented through WSHD.

<sup>5</sup> SCHTYPE (school type) is a 10-level variable to identify the type of public and SCHSIZE (school size) is the size of the first follow-up school. These variables were developed for internal use only from the latest CCD/PSS and are not included on the HSL:09 data files.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.

**Table H-7. Weighted distribution of imputed first follow-up student variables before and after imputation**

| Imputation variable                      | Variable category                              | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|------------------------------------------|------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                          |                                                | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Student's race (X2RACE)                  | American Indian/Alaska Native, non-Hispanic    | 142                      | 0.69             | 142                      | 0.69             |                                     |
|                                          | Asian, non-Hispanic                            | 1,675                    | 3.54             | 1,675                    | 3.54             |                                     |
|                                          | Black/African-American, non-Hispanic           | 2,120                    | 13.71            | 2,121                    | 13.72            |                                     |
|                                          | Hispanic, no race specified                    | 174                      | 1.51             | 174                      | 1.51             |                                     |
|                                          | Hispanic, race specified                       | 3,095                    | 20.83            | 3,095                    | 20.83            |                                     |
|                                          | More than one race, non-Hispanic               | 1,755                    | 7.47             | 1,755                    | 7.47             |                                     |
|                                          | Native Hawaiian/Pacific Islander, non-Hispanic | 97                       | 0.46             | 97                       | 0.46             |                                     |
|                                          | White, non-Hispanic                            | 11,532                   | 51.79            | 11,535                   | 51.78            |                                     |
| Student is Hispanic (X2HISPANIC)         | Not Hispanic                                   | 17,321                   | 77.66            | 17,325                   | 77.66            |                                     |
|                                          | Hispanic                                       | 3,269                    | 22.34            | 3,269                    | 22.34            |                                     |
| Student's native language (X2NATIVELANG) | English only                                   | 17,184                   | 81.94            | 17,186                   | 81.94            |                                     |
|                                          | Spanish                                        | 1,729                    | 13.09            | 1,729                    | 13.09            |                                     |
|                                          | A non-Spanish European language                | 209                      | 1.01             | 210                      | 1.01             |                                     |
|                                          | A Chinese language                             | 245                      | 0.55             | 245                      | 0.55             |                                     |
|                                          | A Filipino language                            | 123                      | 0.39             | 123                      | 0.39             |                                     |
|                                          | A southeast Asian language                     | 284                      | 0.63             | 284                      | 0.63             |                                     |
|                                          | A south Asian language                         | 197                      | 0.38             | 197                      | 0.38             |                                     |
|                                          | Another Asian language                         | 130                      | 0.21             | 130                      | 0.21             |                                     |
|                                          | A Middle Eastern language                      | 116                      | 0.44             | 116                      | 0.44             |                                     |
|                                          | Other non-English language                     | 371                      | 1.35             | 371                      | 1.35             |                                     |
|                                          | Unknown non-English language                   | 3                        | 0.01             | 3                        | 0.01             |                                     |

See notes at end of table



**Table H-7. Weighted distribution of imputed first follow-up student variables before and after imputation—Continued**

| Imputation variable                                        | Variable category                                                                       | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                            |                                                                                         | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| How far student expects to get in school<br>(X2STUEDEXPCT) | Less than high school completion                                                        | 115                      | 0.55             | 115                      | 0.55             | yes                                 |
|                                                            | Complete HS diploma/GED/alternative HS credential                                       | 1,724                    | 10.40            | 1,730                    | 10.43            |                                     |
|                                                            | Start, but not complete certificate/diploma from school providing occupational training | 106                      | 0.67             | 106                      | 0.67             | yes                                 |
|                                                            | Complete certificate/diploma from school providing occupational training                | 1,037                    | 5.59             | 1,041                    | 5.60             |                                     |
|                                                            | Start, but not complete Associate's degree                                              | 166                      | 0.89             | 166                      | 0.89             | yes                                 |
|                                                            | Complete Associate's degree                                                             | 1,834                    | 9.37             | 1,835                    | 9.36             | yes                                 |
|                                                            | Start, but not complete Bachelor's degree                                               | 237                      | 1.26             | 237                      | 1.26             | yes                                 |
|                                                            | Complete Bachelor's degree                                                              | 5,477                    | 26.00            | 5,487                    | 25.99            |                                     |
|                                                            | Start, but not complete Master's degree                                                 | 311                      | 1.55             | 311                      | 1.55             | yes                                 |
|                                                            | Complete Master's degree                                                                | 4,355                    | 19.72            | 4,362                    | 19.72            |                                     |
|                                                            | Start, but not complete Ph.D./M.D./law degree/high level professional degree            | 169                      | 0.75             | 169                      | 0.75             | yes                                 |
|                                                            | Complete Ph.D./M.D./law degree/other high level professional degree                     | 2,925                    | 12.43            | 2,927                    | 12.42            |                                     |
|                                                            | Don't know                                                                              | 2,106                    | 10.81            | 2,108                    | 10.81            |                                     |

<sup>1</sup> Unweighted sample size excludes records with item nonresponse.

<sup>2</sup> Unweighted sample size includes all records with either actual or imputed values.

<sup>3</sup> Rows are flagged where the difference between the before and after estimates is significantly different from zero at the 0.05 significance level.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation**

| Imputation variable                                   | Variable category                    | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------|--------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                       |                                      | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 1 relationship to sample member (X2P1RELATION) | Biological mother                    | 6,180                    | 73.51            | 6,184                    | 73.54            |                                     |
|                                                       | Biological father                    | 1,748                    | 18.71            | 1,748                    | 18.69            |                                     |
|                                                       | Adoptive mother                      | 186                      | 1.87             | 186                      | 1.86             |                                     |
|                                                       | Adoptive father                      | 60                       | 0.53             | 60                       | 0.53             |                                     |
|                                                       | Stepmother                           | 70                       | 0.75             | 70                       | 0.74             |                                     |
|                                                       | Stepfather                           | 69                       | 0.73             | 69                       | 0.73             |                                     |
|                                                       | Foster mother                        | 9                        | 0.11             | 9                        | 0.11             |                                     |
|                                                       | Foster father                        | 6                        | 0.04             | 6                        | 0.04             |                                     |
|                                                       | Female partner of parent or guardian | 6                        | 0.07             | 6                        | 0.07             |                                     |
|                                                       | Male partner of parent or guardian   | 6                        | 0.08             | 6                        | 0.08             |                                     |
|                                                       | Grandmother                          | 138                      | 1.92             | 138                      | 1.92             |                                     |
|                                                       | Grandfather                          | 21                       | 0.22             | 21                       | 0.22             |                                     |
|                                                       | Other female relative                | 39                       | 0.48             | 39                       | 0.48             |                                     |
|                                                       | Other male relative                  | 18                       | 0.26             | 18                       | 0.26             |                                     |
|                                                       | Other female guardian                | 47                       | 0.63             | 47                       | 0.63             |                                     |
|                                                       | Other male guardian                  | 14                       | 0.09             | 14                       | 0.09             |                                     |

See notes at end of table

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                                   | Variable category                                   | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------|-----------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                       |                                                     | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 2 relationship to sample member (X2P2RELATION) | Not Applicable                                      | 1,934                    | 26.05            | 1,934                    | 25.98            | yes                                 |
|                                                       | Biological mother                                   | 1,309                    | 13.60            | 1,316                    | 13.65            |                                     |
|                                                       | Biological father                                   | 3,574                    | 39.82            | 3,581                    | 39.78            |                                     |
|                                                       | Adoptive mother                                     | 48                       | 0.35             | 48                       | 0.35             | yes                                 |
|                                                       | Adoptive father                                     | 171                      | 1.59             | 171                      | 1.58             | yes                                 |
|                                                       | Stepmother                                          | 165                      | 1.95             | 166                      | 1.97             |                                     |
|                                                       | Stepfather                                          | 781                      | 9.39             | 785                      | 9.43             |                                     |
|                                                       | Foster mother                                       | 5                        | 0.03             | 5                        | 0.03             |                                     |
|                                                       | Foster father                                       | 7                        | 0.09             | 7                        | 0.09             |                                     |
|                                                       | Female partner of parent or guardian                | 41                       | 0.54             | 41                       | 0.54             | yes                                 |
|                                                       | Male partner of parent or guardian                  | 143                      | 1.62             | 143                      | 1.62             | yes                                 |
|                                                       | Grandmother                                         | 144                      | 1.62             | 145                      | 1.62             |                                     |
|                                                       | Grandfather                                         | 75                       | 1.06             | 76                       | 1.06             |                                     |
|                                                       | Other female relative                               | 52                       | 0.53             | 52                       | 0.53             | yes                                 |
|                                                       | Other male relative                                 | 50                       | 0.76             | 50                       | 0.75             | yes                                 |
|                                                       | Other female guardian                               | 34                       | 0.28             | 36                       | 0.29             |                                     |
|                                                       | Other male guardian                                 | 65                       | 0.72             | 65                       | 0.72             | yes                                 |
| Parent 1 highest level of education (X2PAR1EDU)       | Less than high school                               | 714                      | 11.11            | 748                      | 11.37            |                                     |
|                                                       | High school diploma or GED                          | 2,859                    | 37.53            | 2,950                    | 37.70            |                                     |
|                                                       | Associate's degree                                  | 496                      | 6.03             | 508                      | 5.96             |                                     |
|                                                       | Bachelor's degree                                   | 1,227                    | 14.51            | 1,262                    | 14.56            |                                     |
|                                                       | Master's degree                                     | 1,964                    | 20.24            | 2,004                    | 20.06            |                                     |
|                                                       | Educational Specialist diploma                      | 823                      | 8.07             | 832                      | 7.92             | yes                                 |
|                                                       | Ph.D./M.D./law/other high level professional degree | 315                      | 2.50             | 317                      | 2.43             | yes                                 |

See notes at end of table

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                               | Variable category                                   | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|---------------------------------------------------|-----------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                   |                                                     | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 2 highest level of education (X2PAR2EDU)   | Not applicable                                      | 1,934                    | 26.70            | 1,934                    | 25.98            | yes                                 |
|                                                   | Less than high school                               | 701                      | 9.85             | 733                      | 10.05            |                                     |
|                                                   | High school diploma or GED                          | 2,549                    | 30.96            | 2,640                    | 31.47            | yes                                 |
|                                                   | Associate's degree                                  | 313                      | 3.58             | 322                      | 3.60             |                                     |
|                                                   | Bachelor's degree                                   | 763                      | 8.80             | 783                      | 8.77             |                                     |
|                                                   | Master's degree                                     | 1,347                    | 12.74            | 1,376                    | 12.81            |                                     |
|                                                   | Educational Specialist diploma                      | 504                      | 4.96             | 511                      | 4.98             |                                     |
|                                                   | Ph.D./M.D./law/other high level professional degree | 321                      | 2.40             | 322                      | 2.34             | yes                                 |
| Highest level of education for Parents (X2PAREDU) | Less than high school                               | 525                      | 8.54             | 543                      | 8.52             |                                     |
|                                                   | High school diploma or GED                          | 2,435                    | 33.22            | 2,542                    | 33.68            | yes                                 |
|                                                   | Associate's degree                                  | 509                      | 6.17             | 527                      | 6.16             |                                     |
|                                                   | Bachelor's degree                                   | 1,240                    | 15.13            | 1,285                    | 15.16            |                                     |
|                                                   | Master's degree                                     | 2,045                    | 21.43            | 2,095                    | 21.24            |                                     |
|                                                   | Educational specialist diploma                      | 1,066                    | 11.18            | 1,082                    | 11.07            |                                     |
|                                                   | Ph.D./M.D./law/other high level professional degree | 544                      | 4.32             | 547                      | 4.18             | yes                                 |
| Parent 1 employment status (X2PAR1EMP)            | P1 has never worked for pay                         | 149                      | 2.08             | 151                      | 1.87             | yes                                 |
|                                                   | P1 not currently working for pay                    | 1,735                    | 22.59            | 1,923                    | 22.84            |                                     |
|                                                   | P1 currently working PT (<35 hrs/wk)                | 984                      | 12.58            | 1,097                    | 12.78            |                                     |
|                                                   | P1 currently working FT (>=35 hrs/wk)               | 4,943                    | 62.75            | 5,450                    | 62.51            |                                     |
| Parent 2 employment status (X2PAR2EMP)            | Not applicable                                      | 1,934                    | 28.25            | 1,934                    | 25.98            | yes                                 |
|                                                   | P2 has never worked for pay                         | 133                      | 1.86             | 134                      | 1.71             | yes                                 |
|                                                   | P2 not currently working for pay                    | 951                      | 11.61            | 1,052                    | 11.97            |                                     |
|                                                   | P2 currently working PT (<35 hrs/wk)                | 434                      | 4.84             | 481                      | 5.01             |                                     |
|                                                   | P2 currently working FT (>=35 hrs/wk)               | 4,525                    | 53.44            | 5,020                    | 55.33            | yes                                 |

See notes at end of table

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                                                     | Variable category                                          | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------------------------|------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                                         |                                                            | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 1 current/most recent occupation: 2-digit ONET code (X2PAR1OCC2) | Not applicable                                             | 149                      | 1.97             | 151                      | 1.87             | yes                                 |
|                                                                         | Management occupations                                     | 1,129                    | 12.37            | 1,175                    | 12.17            |                                     |
|                                                                         | Business and financial operations occupations              | 423                      | 4.48             | 444                      | 4.45             |                                     |
|                                                                         | Computer and mathematical occupations                      | 154                      | 1.48             | 158                      | 1.45             |                                     |
|                                                                         | Architecture and engineering occupations                   | 136                      | 1.35             | 142                      | 1.35             |                                     |
|                                                                         | Life, physical, and social science occupations             | 94                       | 0.92             | 100                      | 0.89             | yes                                 |
|                                                                         | Community and social services occupations                  | 216                      | 2.87             | 226                      | 2.94             |                                     |
|                                                                         | Legal occupations                                          | 94                       | 0.98             | 95                       | 0.93             | yes                                 |
|                                                                         | Education, training, and library occupations               | 773                      | 8.88             | 800                      | 8.79             |                                     |
|                                                                         | Arts, design, entertainment, sports, and media occupations | 118                      | 1.48             | 128                      | 1.53             |                                     |
|                                                                         | Healthcare practitioners and technical occupations         | 711                      | 7.37             | 746                      | 7.29             |                                     |
|                                                                         | Healthcare support occupations                             | 333                      | 4.59             | 356                      | 4.63             |                                     |
|                                                                         | Protective service occupations                             | 106                      | 1.44             | 112                      | 1.41             |                                     |
|                                                                         | Food preparation and serving related occupations           | 326                      | 4.38             | 351                      | 4.51             |                                     |
|                                                                         | Building and grounds cleaning and maintenance occupations  | 222                      | 3.69             | 241                      | 3.71             |                                     |
|                                                                         | Personal care and service occupations                      | 313                      | 4.41             | 336                      | 4.47             |                                     |
|                                                                         | Sales and related occupations                              | 573                      | 7.19             | 602                      | 7.13             |                                     |
|                                                                         | Office and administrative support occupations              | 1,185                    | 14.89            | 1,251                    | 14.97            |                                     |
|                                                                         | Farming, fishing, and forestry occupations                 | 48                       | 0.85             | 54                       | 0.98             |                                     |
|                                                                         | Construction and extraction occupations                    | 140                      | 2.10             | 150                      | 2.07             |                                     |
|                                                                         | Installation, maintenance, and repair occupations          | 167                      | 2.25             | 177                      | 2.20             |                                     |
|                                                                         | Production occupations                                     | 491                      | 6.69             | 532                      | 6.84             |                                     |
|                                                                         | Transportation and material moving occupations             | 252                      | 3.07             | 268                      | 3.12             |                                     |
|                                                                         | Military specific occupations                              | 23                       | 0.29             | 26                       | 0.29             |                                     |

See notes at end of table

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                                                     | Variable category                                          | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------------------------|------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                                         |                                                            | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 2 current/most recent occupation: 2-digit ONET code (X2PAR2OCC2) | Not applicable                                             | 2,067                    | 29.13            | 2,068                    | 27.70            | yes                                 |
|                                                                         | Management occupations                                     | 1,060                    | 11.29            | 1,112                    | 11.25            |                                     |
|                                                                         | Business and financial operations occupations              | 254                      | 2.74             | 267                      | 2.72             |                                     |
|                                                                         | Computer and mathematical occupations                      | 176                      | 1.84             | 181                      | 1.78             | yes                                 |
|                                                                         | Architecture and engineering occupations                   | 222                      | 2.27             | 237                      | 2.37             |                                     |
|                                                                         | Life, physical, and social science occupations             | 70                       | 0.74             | 74                       | 0.76             |                                     |
|                                                                         | Community and social services occupations                  | 83                       | 0.81             | 86                       | 0.80             |                                     |
|                                                                         | Legal occupations                                          | 61                       | 0.54             | 65                       | 0.55             |                                     |
|                                                                         | Education, training, and library occupations               | 279                      | 3.01             | 290                      | 3.00             |                                     |
|                                                                         | Arts, design, entertainment, sports, and media occupations | 88                       | 1.09             | 95                       | 1.09             |                                     |
|                                                                         | Healthcare practitioners and technical occupations         | 380                      | 3.16             | 399                      | 3.22             |                                     |
|                                                                         | Healthcare support occupations                             | 98                       | 1.15             | 104                      | 1.22             |                                     |
|                                                                         | Protective service occupations                             | 157                      | 1.90             | 167                      | 1.98             |                                     |
|                                                                         | Food preparation and serving related occupations           | 148                      | 1.78             | 158                      | 1.90             |                                     |
|                                                                         | Building and grounds cleaning and maintenance occupations  | 185                      | 2.94             | 199                      | 3.07             |                                     |
|                                                                         | Personal care and service occupations                      | 126                      | 1.39             | 133                      | 1.41             |                                     |
|                                                                         | Sales and related occupations                              | 398                      | 4.33             | 422                      | 4.44             |                                     |
|                                                                         | Office and administrative support occupations              | 414                      | 4.76             | 436                      | 4.82             |                                     |
|                                                                         | Farming, fishing, and forestry occupations                 | 66                       | 1.05             | 72                       | 1.07             |                                     |
|                                                                         | Construction and extraction occupations                    | 451                      | 6.43             | 497                      | 6.72             | yes                                 |
|                                                                         | Installation, maintenance, and repair occupations          | 407                      | 5.25             | 437                      | 5.37             |                                     |
|                                                                         | Production occupations                                     | 555                      | 6.72             | 594                      | 6.92             |                                     |
|                                                                         | Transportation and material moving occupations             | 435                      | 5.05             | 471                      | 5.21             |                                     |
|                                                                         | Military specific occupations                              | 52                       | 0.63             | 57                       | 0.63             |                                     |

See notes at end of table

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                                     | Variable category                                | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|---------------------------------------------------------|--------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                         |                                                  | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Total family income from all sources 2011 (X2FAMINCOME) | Family income less than or equal to \$15,000     | 799                      | 12.12            | 897                      | 12.69            |                                     |
|                                                         | Family income > \$15,000 and <= \$35,000         | 1,403                    | 20.46            | 1,538                    | 20.27            |                                     |
|                                                         | Family income > \$35,000 and <= \$55,000         | 1,295                    | 17.36            | 1,433                    | 17.38            |                                     |
|                                                         | Family income > \$55,000 and <= \$75,000         | 1,089                    | 13.99            | 1,183                    | 13.83            |                                     |
|                                                         | Family income > \$75,000 and <= \$95,000         | 829                      | 10.25            | 910                      | 10.24            |                                     |
|                                                         | Family income > \$95,000 and <= \$115,000        | 703                      | 7.87             | 766                      | 7.82             |                                     |
|                                                         | Family income > \$115,000 and <= \$135,000       | 487                      | 5.30             | 529                      | 5.17             |                                     |
|                                                         | Family income > \$135,000 and <= \$155,000       | 329                      | 3.56             | 364                      | 3.57             |                                     |
|                                                         | Family income > \$155,000 and <= \$175,000       | 180                      | 2.04             | 203                      | 2.05             |                                     |
|                                                         | Family income > \$175,000 and <= \$195,000       | 114                      | 1.36             | 124                      | 1.32             |                                     |
|                                                         | Family income > \$195,000 and <= \$215,000       | 170                      | 1.71             | 189                      | 1.75             |                                     |
|                                                         | Family income > \$215,000 and <= \$235,000       | 73                       | 0.72             | 76                       | 0.70             |                                     |
|                                                         | Family income > \$235,000                        | 376                      | 3.26             | 409                      | 3.21             |                                     |
| Parent 1 and 2 relationship pattern (X2PARPATTERN)      | Two bio/adoptive parents                         | 4,652                    | 53.42            | 4,897                    | 52.90            |                                     |
|                                                         | Bio/adoptive mother and non-bio/adoptive partner | 896                      | 11.45            | 968                      | 11.50            |                                     |
|                                                         | Bio/adoptive mother and non-partner guardian     | 214                      | 2.83             | 218                      | 2.68             | yes                                 |
|                                                         | Bio/adoptive father and non-bio/adoptive partner | 204                      | 2.53             | 218                      | 2.51             |                                     |
|                                                         | Bio/adoptive father and non-partner guardian     | 61                       | 0.66             | 61                       | 0.62             | yes                                 |
|                                                         | Two other guardians                              | 146                      | 1.77             | 165                      | 1.88             |                                     |
|                                                         | Bio/adoptive mother only                         | 1,376                    | 19.95            | 1,496                    | 20.55            |                                     |
|                                                         | Bio/adoptive father only                         | 219                      | 2.67             | 234                      | 2.72             |                                     |
|                                                         | Other female guardian only                       | 66                       | 0.99             | 74                       | 1.01             |                                     |
|                                                         | Other male guardian only                         | 8                        | 0.15             | 10                       | 0.18             |                                     |
|                                                         | Student lives with P1/P2 less than half the time | 268                      | 3.57             | 280                      | 3.45             | yes                                 |

See notes at end of table

**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                           | Variable category                 | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-----------------------------------------------|-----------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                               |                                   | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Number of 2012 household members (X2HHNUMBER) | 1 Household members               | 11                       | 0.16             | 12                       | 0.14             |                                     |
|                                               | 2 Household members               | 587                      | 8.38             | 691                      | 8.91             |                                     |
|                                               | 3 Household members               | 1,837                    | 23.01            | 2,036                    | 22.78            |                                     |
|                                               | 4 Household members               | 2,543                    | 32.58            | 2,815                    | 32.15            |                                     |
|                                               | 5 Household members               | 1,540                    | 20.36            | 1,711                    | 19.91            | yes                                 |
|                                               | 6 Household members               | 698                      | 8.95             | 794                      | 8.98             |                                     |
|                                               | 7 Household members               | 273                      | 3.68             | 319                      | 4.13             | yes                                 |
|                                               | 8 Household members               | 109                      | 1.46             | 131                      | 1.55             |                                     |
|                                               | 9 Household members               | 51                       | 0.85             | 61                       | 0.88             |                                     |
|                                               | 10 Household members              | 21                       | 0.26             | 25                       | 0.25             |                                     |
|                                               | 11 Household members              | 8                        | 0.04             | 11                       | 0.06             |                                     |
|                                               | 12 Household members              | 3                        | 0.06             | 3                        | 0.05             |                                     |
|                                               | 13 Household members              | 2                        | 0.05             | 2                        | 0.04             | yes                                 |
|                                               | 14 Household members              | 1                        | 0.03             | 1                        | 0.02             |                                     |
|                                               | One input variable top-coded at 9 | 9                        | 0.14             | 9                        | 0.12             |                                     |

See notes at end of table



**Table H-8. Weighted distribution of imputed first follow-up parent variables from parent survey subsample before and after imputation—Continued**

| Imputation variable                                                  | Variable category                                                                       | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                                      |                                                                                         | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | Less than high school completion                                                        | 60                       | 0.88             | 64                       | 0.94             |                                     |
|                                                                      | Complete HS diploma/GED/alternative HS credential                                       | 527                      | 7.57             | 582                      | 7.86             |                                     |
|                                                                      | Start, but not complete certificate/diploma from school providing occupational training | 28                       | 0.41             | 32                       | 0.44             |                                     |
|                                                                      | Complete certificate/diploma from school providing occupational training                | 403                      | 5.16             | 432                      | 5.16             |                                     |
|                                                                      | Start, but not complete Associate's degree                                              | 49                       | 0.83             | 53                       | 0.79             |                                     |
|                                                                      | Complete Associate's degree                                                             | 610                      | 7.97             | 645                      | 7.83             |                                     |
|                                                                      | Start, but not complete Bachelor's degree                                               | 91                       | 1.30             | 98                       | 1.30             |                                     |
|                                                                      | Complete Bachelor's degree                                                              | 2,476                    | 29.79            | 2,623                    | 29.74            |                                     |
|                                                                      | Start, but not complete Master's degree                                                 | 47                       | 0.81             | 49                       | 0.77             |                                     |
|                                                                      | Complete Master's degree                                                                | 1,608                    | 17.76            | 1,707                    | 17.46            |                                     |
|                                                                      | Start, but not complete Ph.D./M.D./law degree/high level professional degree            | 69                       | 0.72             | 72                       | 0.75             |                                     |
|                                                                      | Complete Ph.D./M.D./law degree/other high level professional degree                     | 1,253                    | 14.52            | 1,335                    | 14.37            |                                     |
|                                                                      | Don't know                                                                              | 864                      | 12.29            | 929                      | 12.59            |                                     |

<sup>1</sup> Unweighted sample size excludes records with item nonresponse.

<sup>2</sup> Unweighted sample size includes all records with either actual or imputed values.

<sup>3</sup> Rows are flagged where the difference between the before and after estimates is significantly different from zero at the 0.05 significance level.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation**

| Imputation variable                                   | Variable category                    | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------|--------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                       |                                      | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 1 relationship to sample member (X2P1RELATION) | Biological mother                    | 5,958                    | 73.55            | 14,899                   | 73.70            |                                     |
|                                                       | Biological father                    | 1,694                    | 18.84            | 4,179                    | 18.80            |                                     |
|                                                       | Adoptive mother                      | 174                      | 1.75             | 373                      | 1.57             |                                     |
|                                                       | Adoptive father                      | 58                       | 0.51             | 128                      | 0.57             |                                     |
|                                                       | Stepmother                           | 64                       | 0.65             | 166                      | 0.71             |                                     |
|                                                       | Stepfather                           | 68                       | 0.80             | 176                      | 0.95             |                                     |
|                                                       | Foster mother                        | 7                        | 0.10             | 20                       | 0.09             |                                     |
|                                                       | Foster father                        | 3                        | 0.02             | 7                        | 0.02             |                                     |
|                                                       | Female partner of parent or guardian | 6                        | 0.08             | 10                       | 0.05             |                                     |
|                                                       | Male partner of parent or guardian   | 6                        | 0.08             | 15                       | 0.05             |                                     |
|                                                       | Grandmother                          | 127                      | 1.90             | 314                      | 1.76             |                                     |
|                                                       | Grandfather                          | 20                       | 0.25             | 43                       | 0.25             |                                     |
|                                                       | Other female relative                | 37                       | 0.48             | 90                       | 0.51             |                                     |
|                                                       | Other male relative                  | 14                       | 0.26             | 37                       | 0.27             |                                     |
|                                                       | Other female guardian                | 44                       | 0.64             | 112                      | 0.60             |                                     |
|                                                       | Other male guardian                  | 12                       | 0.08             | 25                       | 0.08             |                                     |

See notes at end of table

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                                   | Variable category                                   | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------|-----------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                       |                                                     | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 2 relationship to sample member (X2P2RELATION) | Not Applicable                                      | 1,832                    | 25.44            | 4,556                    | 24.42            |                                     |
|                                                       | Biological mother                                   | 1,273                    | 13.77            | 3,198                    | 14.46            |                                     |
|                                                       | Biological father                                   | 3,475                    | 40.25            | 8,747                    | 41.02            |                                     |
|                                                       | Adoptive mother                                     | 46                       | 0.36             | 98                       | 0.44             |                                     |
|                                                       | Adoptive father                                     | 160                      | 1.49             | 354                      | 1.50             |                                     |
|                                                       | Stepmother                                          | 160                      | 1.97             | 407                      | 1.86             |                                     |
|                                                       | Stepfather                                          | 745                      | 9.47             | 1,948                    | 9.90             |                                     |
|                                                       | Foster mother                                       | 4                        | 0.03             | 13                       | 0.04             |                                     |
|                                                       | Foster father                                       | 5                        | 0.08             | 14                       | 0.06             |                                     |
|                                                       | Female partner of parent or guardian                | 41                       | 0.61             | 93                       | 0.55             |                                     |
|                                                       | Male partner of parent or guardian                  | 139                      | 1.60             | 300                      | 1.45             |                                     |
|                                                       | Grandmother                                         | 137                      | 1.59             | 281                      | 1.26             | yes                                 |
|                                                       | Grandfather                                         | 67                       | 1.03             | 162                      | 0.89             |                                     |
|                                                       | Other female relative                               | 48                       | 0.51             | 102                      | 0.45             |                                     |
|                                                       | Other male relative                                 | 49                       | 0.76             | 102                      | 0.67             |                                     |
|                                                       | Other female guardian                               | 32                       | 0.27             | 57                       | 0.20             |                                     |
|                                                       | Other male guardian                                 | 61                       | 0.77             | 162                      | 0.79             |                                     |
| Parent 1 highest level of education (X2PAR1EDU)       | Less than high school                               | 680                      | 12.01            | 1,689                    | 11.27            |                                     |
|                                                       | High school diploma or GED                          | 2,744                    | 37.11            | 7,534                    | 39.44            | yes                                 |
|                                                       | Associate's degree                                  | 477                      | 6.23             | 916                      | 4.98             | yes                                 |
|                                                       | Bachelor's degree                                   | 1,180                    | 14.29            | 3,178                    | 15.62            | yes                                 |
|                                                       | Master's degree                                     | 1,916                    | 19.99            | 4,702                    | 19.38            |                                     |
|                                                       | Educational Specialist diploma                      | 801                      | 7.96             | 1,882                    | 7.10             | yes                                 |
|                                                       | Ph.D./M.D./law/other high level professional degree | 307                      | 2.41             | 693                      | 2.20             |                                     |

See notes at end of table

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                               | Variable category                                   | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|---------------------------------------------------|-----------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                   |                                                     | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 2 highest level of education (X2PAR2EDU)   | Not applicable                                      | 1,832                    | 26.03            | 4,556                    | 24.42            | yes                                 |
|                                                   | Less than high school                               | 671                      | 10.87            | 1,690                    | 9.92             | yes                                 |
|                                                   | High school diploma or GED                          | 2,470                    | 31.08            | 6,565                    | 33.35            | yes                                 |
|                                                   | Associate's degree                                  | 301                      | 3.76             | 611                      | 3.19             | yes                                 |
|                                                   | Bachelor's degree                                   | 730                      | 8.64             | 1,985                    | 9.32             | yes                                 |
|                                                   | Master's degree                                     | 1,318                    | 12.39            | 3,221                    | 12.64            |                                     |
|                                                   | Educational Specialist diploma                      | 492                      | 4.86             | 1,221                    | 4.82             |                                     |
|                                                   | Ph.D./M.D./law/other high level professional degree | 316                      | 2.37             | 745                      | 2.34             |                                     |
| Highest level of education for Parents (X2PAREDU) | Less than high school                               | 496                      | 9.23             | 1,064                    | 7.26             | yes                                 |
|                                                   | High school diploma or GED                          | 2,335                    | 33.01            | 6,105                    | 33.74            |                                     |
|                                                   | Associate's degree                                  | 491                      | 6.46             | 1,179                    | 6.58             |                                     |
|                                                   | Bachelor's degree                                   | 1,188                    | 14.94            | 3,306                    | 16.56            | yes                                 |
|                                                   | Master's degree                                     | 1,993                    | 21.21            | 5,097                    | 21.56            |                                     |
|                                                   | Educational Specialist diploma                      | 1,039                    | 10.91            | 2,553                    | 10.16            | yes                                 |
|                                                   | Ph.D./M.D./law/other high level professional degree | 532                      | 4.24             | 1,290                    | 4.15             |                                     |
| Parent 1 employment status (X2PAR1EMP)            | P1 has never worked for pay                         | 147                      | 2.38             | 435                      | 2.54             |                                     |
|                                                   | P1 not currently working for pay                    | 1,669                    | 22.88            | 4,564                    | 23.32            |                                     |
|                                                   | P1 currently working PT (<35 hrs/wk)                | 952                      | 12.21            | 2,682                    | 12.69            |                                     |
|                                                   | P1 currently working FT (>=35 hrs/wk)               | 4,799                    | 62.52            | 12,913                   | 61.45            |                                     |
| Parent 2 employment status (X2PAR2EMP)            | Not applicable                                      | 1,832                    | 27.57            | 4,556                    | 24.42            | yes                                 |
|                                                   | P2 has never worked for pay                         | 131                      | 2.15             | 342                      | 1.97             |                                     |
|                                                   | P2 not currently working for pay                    | 913                      | 11.88            | 2,513                    | 12.87            |                                     |
|                                                   | P2 currently working PT (<35 hrs/wk)                | 427                      | 4.92             | 1,120                    | 4.96             |                                     |
|                                                   | P2 currently working FT (>=35 hrs/wk)               | 4,407                    | 53.48            | 12,063                   | 55.78            | yes                                 |

See notes at end of table

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                                                     | Variable category                                          | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------------------------|------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                                         |                                                            | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 1 current/most recent occupation: 2-digit ONET code (X2PAR1OCC2) | Not applicable                                             | 147                      | 2.26             | 435                      | 2.54             |                                     |
|                                                                         | Management occupations                                     | 1,098                    | 12.34            | 2,731                    | 11.71            |                                     |
|                                                                         | Business and financial operations occupations              | 410                      | 4.50             | 1,003                    | 4.48             |                                     |
|                                                                         | Computer and mathematical occupations                      | 148                      | 1.43             | 368                      | 1.52             |                                     |
|                                                                         | Architecture and engineering occupations                   | 133                      | 1.35             | 289                      | 1.33             |                                     |
|                                                                         | Life, physical, and social science occupations             | 93                       | 0.91             | 219                      | 0.83             |                                     |
|                                                                         | Community and social services occupations                  | 214                      | 2.74             | 548                      | 2.73             |                                     |
|                                                                         | Legal occupations                                          | 92                       | 0.90             | 230                      | 0.85             |                                     |
|                                                                         | Education, training, and library occupations               | 756                      | 8.64             | 1,948                    | 8.84             |                                     |
|                                                                         | Arts, design, entertainment, sports, and media occupations | 115                      | 1.32             | 342                      | 1.39             |                                     |
|                                                                         | Healthcare practitioners and technical occupations         | 683                      | 7.16             | 1,697                    | 7.15             |                                     |
|                                                                         | Healthcare support occupations                             | 316                      | 4.46             | 855                      | 4.75             |                                     |
|                                                                         | Protective service occupations                             | 102                      | 1.50             | 285                      | 1.39             |                                     |
|                                                                         | Food preparation and serving related occupations           | 315                      | 4.48             | 824                      | 4.27             |                                     |
|                                                                         | Building and grounds cleaning and maintenance occupations  | 211                      | 3.89             | 619                      | 3.52             |                                     |
|                                                                         | Personal care and service occupations                      | 299                      | 4.25             | 805                      | 4.28             |                                     |
|                                                                         | Sales and related occupations                              | 555                      | 7.36             | 1,458                    | 6.96             |                                     |
|                                                                         | Office and administrative support occupations              | 1,131                    | 14.61            | 2,924                    | 14.71            |                                     |
|                                                                         | Farming, fishing, and forestry occupations                 | 47                       | 0.97             | 173                      | 1.12             |                                     |
|                                                                         | Construction and extraction occupations                    | 134                      | 2.14             | 406                      | 2.19             |                                     |
|                                                                         | Installation, maintenance, and repair occupations          | 160                      | 2.31             | 405                      | 2.08             |                                     |
|                                                                         | Production occupations                                     | 475                      | 6.89             | 1,308                    | 7.34             |                                     |
|                                                                         | Transportation and material moving occupations             | 243                      | 3.29             | 660                      | 3.72             |                                     |
|                                                                         | Military specific occupations                              | 22                       | 0.27             | 62                       | 0.29             |                                     |

See notes at end of table

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                                                     | Variable category                                          | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-------------------------------------------------------------------------|------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                                         |                                                            | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Parent 2 current/most recent occupation: 2-digit ONET code (X2PAR2OCC2) | Not applicable                                             | 1,963                    | 28.78            | 4,898                    | 26.38            | yes                                 |
|                                                                         | Management occupations                                     | 1,029                    | 11.15            | 2,684                    | 11.44            |                                     |
|                                                                         | Business and financial operations occupations              | 245                      | 2.64             | 643                      | 2.68             |                                     |
|                                                                         | Computer and mathematical occupations                      | 171                      | 1.74             | 407                      | 1.77             |                                     |
|                                                                         | Architecture and engineering occupations                   | 219                      | 2.33             | 557                      | 2.56             |                                     |
|                                                                         | Life, physical, and social science occupations             | 69                       | 0.72             | 209                      | 0.88             |                                     |
|                                                                         | Community and social services occupations                  | 82                       | 0.87             | 214                      | 0.92             |                                     |
|                                                                         | Legal occupations                                          | 60                       | 0.56             | 153                      | 0.54             |                                     |
|                                                                         | Education, training, and library occupations               | 273                      | 2.87             | 701                      | 3.16             |                                     |
|                                                                         | Arts, design, entertainment, sports, and media occupations | 87                       | 0.94             | 228                      | 1.03             |                                     |
|                                                                         | Healthcare practitioners and technical occupations         | 369                      | 3.07             | 846                      | 3.34             |                                     |
|                                                                         | Healthcare support occupations                             | 96                       | 1.11             | 253                      | 1.15             |                                     |
|                                                                         | Protective service occupations                             | 144                      | 1.77             | 408                      | 2.20             | yes                                 |
|                                                                         | Food preparation and serving related occupations           | 142                      | 1.78             | 377                      | 1.91             |                                     |
|                                                                         | Building and grounds cleaning and maintenance occupations  | 172                      | 3.19             | 481                      | 2.88             |                                     |
|                                                                         | Personal care and service occupations                      | 122                      | 1.46             | 301                      | 1.35             |                                     |
|                                                                         | Sales and related occupations                              | 385                      | 4.38             | 970                      | 4.35             |                                     |
|                                                                         | Office and administrative support occupations              | 405                      | 4.81             | 1,006                    | 4.73             |                                     |
|                                                                         | Farming, fishing, and forestry occupations                 | 65                       | 1.10             | 222                      | 1.24             |                                     |
|                                                                         | Construction and extraction occupations                    | 436                      | 6.69             | 1,286                    | 7.02             |                                     |
|                                                                         | Installation, maintenance, and repair occupations          | 396                      | 5.45             | 1,073                    | 5.50             |                                     |
|                                                                         | Production occupations                                     | 543                      | 7.03             | 1,483                    | 7.25             |                                     |
|                                                                         | Transportation and material moving occupations             | 420                      | 5.02             | 1,067                    | 5.21             |                                     |
|                                                                         | Military specific occupations                              | 49                       | 0.55             | 127                      | 0.50             |                                     |

See notes at end of table

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                                     | Variable category                                | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|---------------------------------------------------------|--------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                         |                                                  | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Total family income from all sources 2011 (X2FAMINCOME) | Family income less than or equal to \$15,000     | 754                      | 12.34            | 2,043                    | 12.32            |                                     |
|                                                         | Family income > \$15,000 and <= \$35,000         | 1,335                    | 20.58            | 3,557                    | 20.29            |                                     |
|                                                         | Family income > \$35,000 and <= \$55,000         | 1,256                    | 17.30            | 3,540                    | 17.73            |                                     |
|                                                         | Family income > \$55,000 and <= \$75,000         | 1,064                    | 14.29            | 2,940                    | 14.08            |                                     |
|                                                         | Family income > \$75,000 and <= \$95,000         | 810                      | 9.94             | 2,293                    | 10.32            |                                     |
|                                                         | Family income > \$95,000 and <= \$115,000        | 678                      | 7.84             | 1,766                    | 7.95             |                                     |
|                                                         | Family income > \$115,000 and <= \$135,000       | 477                      | 5.22             | 1,286                    | 5.32             |                                     |
|                                                         | Family income > \$135,000 and <= \$155,000       | 313                      | 3.51             | 866                      | 3.55             |                                     |
|                                                         | Family income > \$155,000 and <= \$175,000       | 178                      | 1.99             | 463                      | 1.85             |                                     |
|                                                         | Family income > \$175,000 and <= \$195,000       | 111                      | 1.36             | 328                      | 1.36             |                                     |
|                                                         | Family income > \$195,000 and <= \$215,000       | 167                      | 1.71             | 433                      | 1.73             |                                     |
|                                                         | Family income > \$215,000 and <= \$235,000       | 73                       | 0.71             | 171                      | 0.67             |                                     |
|                                                         | Family income > \$235,000                        | 364                      | 3.20             | 908                      | 2.84             |                                     |
| Parent 1 and 2 relationship pattern (X1PARPATTERN)      | Two bio/adoptive parents                         | 4,534                    | 53.92            | 11,680                   | 54.17            |                                     |
|                                                         | Bio/adoptive mother and non-bio/adoptive partner | 866                      | 11.62            | 2,327                    | 11.82            |                                     |
|                                                         | Bio/adoptive mother and non-partner guardian     | 204                      | 2.80             | 497                      | 2.71             |                                     |
|                                                         | Bio/adoptive father and non-bio/adoptive partner | 198                      | 2.56             | 548                      | 2.53             |                                     |
|                                                         | Bio/adoptive father and non-partner guardian     | 59                       | 0.68             | 134                      | 0.60             |                                     |
|                                                         | Two other guardians                              | 133                      | 1.64             | 365                      | 1.76             |                                     |
|                                                         | Bio/adoptive mother only                         | 1,316                    | 19.64            | 3,614                    | 19.27            |                                     |
|                                                         | Bio/adoptive father only                         | 209                      | 2.58             | 593                      | 2.66             |                                     |
|                                                         | Other female guardian only                       | 62                       | 0.96             | 178                      | 0.97             |                                     |
|                                                         | Other male guardian only                         | 8                        | 0.18             | 35                       | 0.32             |                                     |
|                                                         | Student lives with P1/P2 less than half the time | 240                      | 3.43             | 623                      | 3.19             |                                     |

See notes at end of table

**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                           | Variable category                 | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|-----------------------------------------------|-----------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                               |                                   | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| Number of 2012 household members (X2HHNUMBER) | 1 Household members               | 10                       | 0.17             | 12                       | 0.07             | yes                                 |
|                                               | 2 Household members               | 555                      | 8.24             | 1,587                    | 7.90             |                                     |
|                                               | 3 Household members               | 1,764                    | 22.66            | 5,205                    | 24.93            | yes                                 |
|                                               | 4 Household members               | 2,466                    | 32.25            | 6,315                    | 30.21            | yes                                 |
|                                               | 5 Household members               | 1,494                    | 20.63            | 4,062                    | 19.64            |                                     |
|                                               | 6 Household members               | 674                      | 9.16             | 1,982                    | 9.85             |                                     |
|                                               | 7 Household members               | 264                      | 3.81             | 830                      | 4.47             | yes                                 |
|                                               | 8 Household members               | 107                      | 1.56             | 333                      | 1.60             |                                     |
|                                               | 9 Household members               | 51                       | 0.90             | 152                      | 0.80             |                                     |
|                                               | 10 Household members              | 21                       | 0.26             | 63                       | 0.27             |                                     |
|                                               | 11 Household members              | 8                        | 0.05             | 21                       | 0.08             |                                     |
|                                               | 12 Household members              | 3                        | 0.11             | 8                        | 0.05             |                                     |
|                                               | 13 Household members              | 2                        | 0.04             | 3                        | 0.01             | yes                                 |
|                                               | 14 Household members              | 1                        | 0.03             | 2                        | 0.01             |                                     |
|                                               | One input variable top-coded at 9 | 7                        | 0.14             | 19                       | 0.10             |                                     |

See notes at end of table



**Table H-9. Weighted distribution of imputed first follow-up parent variables for all first follow-up student respondents before and after imputation—Continued**

| Imputation variable                                                  | Variable category                                                                       | Before imputation        |                  | After imputation         |                  | Significant difference <sup>3</sup> |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|------------------|--------------------------|------------------|-------------------------------------|
|                                                                      |                                                                                         | Sample size <sup>1</sup> | Weighted percent | Sample size <sup>2</sup> | Weighted percent |                                     |
| How far parent expects sample member to get in school (X2PAREDEXPCT) | Less than high school completion                                                        | 51                       | 0.81             | 159                      | 1.11             | yes                                 |
|                                                                      | Complete HS diploma/GED/alternative HS credential                                       | 489                      | 7.81             | 1,349                    | 8.04             |                                     |
|                                                                      | Start, but not complete certificate/diploma from school providing occupational training | 26                       | 0.39             | 67                       | 0.41             |                                     |
|                                                                      | Complete certificate/diploma from school providing occupational training                | 388                      | 5.11             | 1,058                    | 5.43             |                                     |
|                                                                      | Start, but not complete Associate's degree                                              | 45                       | 0.85             | 156                      | 0.88             |                                     |
|                                                                      | Complete Associate's degree                                                             | 584                      | 7.86             | 1,536                    | 8.06             |                                     |
|                                                                      | Start, but not complete Bachelor's degree                                               | 86                       | 1.35             | 240                      | 1.37             |                                     |
|                                                                      | Complete Bachelor's degree                                                              | 2,408                    | 29.90            | 6,246                    | 29.28            |                                     |
|                                                                      | Start, but not complete Master's degree                                                 | 43                       | 0.78             | 136                      | 0.66             |                                     |
|                                                                      | Complete Master's degree                                                                | 1,573                    | 17.47            | 3,927                    | 17.32            |                                     |
|                                                                      | Start, but not complete Ph.D./M.D./law degree/high level professional degree            | 68                       | 0.70             | 169                      | 0.67             |                                     |
|                                                                      | Complete Ph.D./M.D./law degree/other high level professional degree                     | 1,224                    | 14.40            | 3,269                    | 14.47            |                                     |
|                                                                      | Don't know                                                                              | 825                      | 12.57            | 2,282                    | 12.29            |                                     |

<sup>1</sup> Unweighted sample size excludes records with item nonresponse.

<sup>2</sup> Unweighted sample size includes all records with either actual or imputed values.

<sup>3</sup> Rows are flagged where the difference between the before and after estimates is significantly different from zero at the 0.05 significance level.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.



## H.2 Multiple Imputation

Single-value imputation (section H.1) was reserved for important *categorical* variables used in standard analyses. By contrast, three continuous variables were identified for a model-based methodology referred to as multiple imputation (MI): (1) the student ability estimate in mathematics (*theta*), (2) the standard error of measurement (*sem*) for *theta*, and (3) socioeconomic status (SES).

### H.2.1 Mathematics Ability Estimates (*theta* and *sem*)

Among the 20,594 students who responded to the questionnaire, 89.9 percent (unweighted) or 18,507 students answered a sufficient number of assessment items to calculate both *theta* and *sem*. The scoring algorithm used to generate *theta* and *sem* is discussed in section 2.3. A set of five imputed values for each variable was generated from a single model for the remaining 2,087 students using SAS® PROC MI. Both *theta* and *sem* were imputed simultaneously within one model to ensure consistency of their values. Highlights of the MI methodology for these variables are provided in section 7.4.1. Table H-10 contains the covariates retained for the *theta/sem* MI model. Only covariates associated either with *theta* and *sem* calculated from the 18,507 student records or with the pattern of item nonresponse exhibited in the data were retained for the final MI model, in keeping with the methodology used for the HSLs:09 base year.

The five imputed values for *theta* and *sem* are contained in the HSLs:09 first follow-up variables X2TXMTH1–X2TXMTH5 and X2TXMSEM1–X2TXMSEM5, respectively. The average of the five values (X2TXMTH and X2TXMSEM) is used along with the analysis weights to estimate the population values with appropriate software. Note that records with calculated scores that did not require imputation will have this value replicated within the five variables. The imputation flag X2TXMATH\_IM distinguishes the imputed from the non-imputed values.

**Table H-10. Covariates include in the *theta* and *sem* multiple imputation model**

| Characteristic group              | Model covariates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Student                           | Sex (X1SEX)<br>Race/ethnicity (X1RACE)<br>Language minority status (X1NATIVELANG)<br>Postsecondary educational aspirations, base year (X1STUEDEXPCT)<br>Postsecondary educational aspirations, first follow-up (X2STUEDEXPCT)<br>Student absent from school 4 or more weeks (S2DROPOUTHS)<br>Student enrolled at base-year school during first follow-up (S2ENROLLBYHS)<br>Spring 2012 high school enrollment status (S2ENROLLHS12)<br>Socioeconomic status quintile, base year (X1SESQ5)<br>Mathematics ability estimate, base year (X1TXMTH)<br>Standard error of measurement for mathematics ability estimate, base year (X1TXSEM) |
| Parent/guardian (base year)       | Highest parent education (X1PAREDU)<br>Parent 1 employment status (X1PAR1EMP)<br>Parent 2 employment status (X1PAR2EMP)<br>Parent 1 occupational prestige score (X1PAR1OCC2)<br>Parent 2 occupational prestige score (X1PAR1OCC2)<br>Categorized family income (X1FAMINCOME)<br>Postsecondary educational aspirations (P1EDUASPIRE)<br>Postsecondary educational expectations (P1EDUEXPECT)<br>Number in household (X1HHNUMBER)                                                                                                                                                                                                       |
| Parent/guardian (first follow-up) | Highest parent education (X2PAREDU)<br>Parent 1 employment status (X2PAR1EMP)<br>Parent 2 employment status (X2PAR2EMP)<br>Parent 1 occupational prestige score (X2PAR1OCC2)<br>Parent 2 occupational prestige score (X2PAR1OCC2)<br>Categorized family income (X2FAMINCOME)<br>Postsecondary educational aspirations (P2EDUASPIRE)<br>Postsecondary educational expectations (P2EDUEXPECT)<br>Number in household (X2HHNUMBER)<br>Student absent from school 4 or more weeks (P2DROPOUTHS)                                                                                                                                           |
| School (sampling)                 | School type (X2CONTROL)<br>Division (X1CENDIV)<br>Locale (X1LOCALE)<br>Augmented-sample state (AUGSMPST)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Note: *theta* = mathematics ability estimate; *sem* = standard error of measurement of *theta*.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSL:09) First Follow-up.

## H.2.2 Socioeconomic Status (SES)

Two definitions of SES were used for the HSLS:09 first follow-up to maintain consistency with the base year. One index (X2SES) was calculated with a formula that is equal to the definition used in other NCES studies. The second index (X2SES\_U), a slight variant, accounts for differences in the target population by the locale of the base-year school (X1LOCALE). Details of the formulae and the MI methodology are given in section 7.4.2. In the discussions below, the term “SES” refers to both definitions.

Among the 20,919 responding students or responding parents, 10,079 students were included in the parent survey subsample. SES was calculated for 83.2 percent (unweighted) or 8,383 parents using information provided in the parent questionnaire. This number included 7,490 records where SES was calculated from respondent data and 893 records with SES computed from responses plus one to three (single-value) imputed variables (see table 68 in section 7.4.2).

As with *theta* and *sem*, a set of five imputed values was generated from a PROC MI model for 12,536 students. This number included 1,696 students in the parent survey subsample (238 students with insufficient parent responses plus 1,458 students with a nonresponding parent or 8.1 percent unweighted) and 10,840 students (51.8 percent unweighted) not selected for the parent survey subsample (see table 68 in section 7.4.2). The SES MI model was similar to the model used for *theta* and *sem* with the addition of the base-year SES value (X1SES); the complete list of model covariates is shown in table H-11.

The five imputed values for X2SES and X2SES\_U are contained in the HSLS:09 first follow-up variables X2SES1– X2SES5 and X2SES1\_U – X2SES5\_U, respectively. Along with the imputed values, the average of the five values (X2SES and X2SES\_U) and the analysis weight is used to estimate the population values with appropriate software. Note that records with calculated scores not requiring MI have this value replicated within the two sets of five variables. The imputation flag (X2SES\_IM) indicates if: (1) no imputed values were used to generate SES (X2SES\_IM=0); (2) SES was calculated with at least one (single-value) imputed variable (X2SES\_IM=2); and (3) SES was multiply imputed (X2SES\_IM=3).

**Table H-11. Covariates included in the socioeconomic status (SES) multiple imputation model**

| Characteristic group             | Model covariates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Student                          | Sex (X2SEX)<br>Race/ethnicity (X2RACE)<br>Hispanic ethnicity indicator (X2HISPANIC)<br>Socioeconomic status, HSLs:09 base year (X1SES)<br>Socioeconomic status quintile, HSLs:09 base year (X1SESQ5)<br>School-motivation scale (X2BEHAVEIN)<br>First follow-up questionnaire-incapable status (X2QI)                                                                                                                                                                                                                                                                            |
| Parent/guardian, first follow-up | Parent 1 education (X2PAR1EDU)<br>Parent 2 education (X2PAR2EDU)<br>Parent 1 occupational prestige score (X2PAR1OCC2)<br>Parent 2 occupational prestige score (X2PAR2OCC2)<br>Mom/female guardian's education (X2MOMEDU)<br>Mom/female guardian's occupational prestige score (X2MOMOCC2)<br>Dad/male guardian's education (X2DADEDU)<br>Dad/male guardian's occupational prestige score (X2MOMOCC2)<br>Categorized family income (X2FAMINCOME)<br>Number in household (X2HHNUMBER)<br>Student absent from school 4 or more weeks (P2DROPOUTHS)<br>Poverty indicator (X2POVERTY) |
| Parent/guardian, base year       | Parent 1 education (X1PAR1EDU)<br>Parent 2 education (X1PAR2EDU)<br>Parent 1 occupational prestige score (X1PAR1OCC2)<br>Parent 2 occupational prestige score (X1PAR2OCC2)<br>Categorized family income (X1FAMINCOME)                                                                                                                                                                                                                                                                                                                                                            |
| School                           | School type (X2CONTROL)<br>Region (X2REGION)<br>Division (X2CENDIV)<br>Locale (X2LOCALE)<br>State (X2STATE)<br>School's percent of students with free lunch (X2FREELUNCH)                                                                                                                                                                                                                                                                                                                                                                                                        |

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009 (HSLs:09) First Follow-up.

## **Appendix I.**

# **Hard Copy Codebooks: Student and School**

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See attached student and school codebook PDFs.

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## **Appendix J. Comparison of Public- and Restricted-use Files**

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**Table J-1. Comparison of Public- and Restricted-use Files**

| Field name   | Field label                                                    | Treatment                                                                                                                                                                                                        |
|--------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X2UNIV2A     | X2 Base year status and how sample member entered F1 sample    | "Base year questionnaire incapable" and "Base year nonrespondent" recoded as "Base year nonparticipant" on the public use file.                                                                                  |
| X2UNIV2B     | X2 Sample member F1 status                                     | "Questionnaire incapable" and "Nonrespondent" recoded as "Nonparticipant" on the public use file.                                                                                                                |
| X2ENROLSTAT  | X2 Student enrollment status                                   | "Deceased" recoded as "Out of scope" on the public use file.                                                                                                                                                     |
| X2ENRSTATSCH | X2 School provided student enrollment status                   | "Deceased" recoded as "Out of scope" and "Early graduate" recoded as "Not in base year school/reason unknown" on the public use file.                                                                            |
| X2ASIAN      | X2 Student is Asian-composite                                  | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2PACISLE    | X2 Student is Native Hawaiian/Pacific Islander-composite       | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2AMINDIAN   | X2 Student is American Indian/Alaska Native-composite          | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2HISPTYPE   | X2 Student's Hispanic/Latino/Latina subgroup-composite         | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2ASIANATYPE | X2 Student's Asian subgroup-composite                          | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2NATIVELANG | X2 Student's native language                                   | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2STDOB      | X2 Student's date of birth (YYYYMM)                            | Dates recoded on the public use file as follows: 1992 or earlier are recoded as 1992MM and 1996 or later are recoded as 1996MM. For dates where the year is bottom or top coded, the month value is left intact. |
| X2PARRESP    | X2 Whether parent questionnaire respondent is Parent 1         | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2P1RELATION | X2 Parent 1: relationship to sample member                     | Non-partner guardian relationships recoded as other guardian on the public use file. ("Other guardian" includes foster parent, partner, grandparent, and other relative, as well as other guardian.)             |
| X2PAR1OCC6   | X2 Parent 1: current/most recent occupation: 6-digit ONET code | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2PAR1RACE   | X2 Parent 1: race/ethnicity                                    | "Amer. Indian/Alaska Native, non-Hispanic" and "Native Hawaiian/Pacific Islander, non-Hispanic" recoded as "Other, non-Hispanic" on the public use file.                                                         |
| X2P2RELATION | X2 Parent 2: spouse's relationship to sample member            | Non-partner guardian relationships recoded as other guardian on the public use file. ("Other guardian" includes foster parent, partner, grandparent, and other relative, as well as other guardian.)             |
| X2PAR2OCC6   | X2 Parent 2: current/most recent occupation: 6-digit ONET code | Variable suppressed with -5 values on the public use file.                                                                                                                                                       |
| X2PAR2RACE   | X2 Parent 2: race/ethnicity                                    | "Amer. Indian/Alaska Native, non-Hispanic" and "Native Hawaiian/Pacific Islander, non-Hispanic" recoded as "Other, non-Hispanic" on the public use file.                                                         |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                               | Treatment                                                                                                                                                |
|---------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| X2MOMOCC6     | X2 Mother/female guardian's current/most recent occupation: 6-digit ONET code            | Variable suppressed with -5 values on the public use file.                                                                                               |
| X2MOMRACE     | X2 Mother's race/ethnicity                                                               | "Amer. Indian/Alaska Native, non-Hispanic" and "Native Hawaiian/Pacific Islander, non-Hispanic" recoded as "Other, non-Hispanic" on the public use file. |
| X2DADOCC6     | X2 Father/male guardian's current/most recent occupation: 6-digit ONET code              | Variable suppressed with -5 values on the public use file.                                                                                               |
| X2DADRACE     | X2 Father's race/ethnicity                                                               | "Amer. Indian/Alaska Native, non-Hispanic" and "Native Hawaiian/Pacific Islander, non-Hispanic" recoded as "Other, non-Hispanic" on the public use file. |
| X2HHNUMBER    | X2 Number of 2009 household members                                                      | Households with more than 11 members recoded as "11+ Household members" and 1 member as "2 or less" on the public use file.                              |
| X2STU30OCC6   | X2 Student occupation at age 30: 6-digit ONET code                                       | Variable suppressed with -5 values on the public use file.                                                                                               |
| X2STU30OCC2   | X2 Student occupation at age 30: 2-digit ONET code                                       | Occupations with low counts set to uncodeable on the public use file.                                                                                    |
| X2S2EARNNOHS  | X2 S2 Earnings without HS diploma standardized by year                                   | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2S2EARNHS    | X2 S2 Earnings with HS diploma standardized by year                                      | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2S2EARNOCC   | X2 S2 Earnings with occupational training diploma standardized by year                   | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2S2EARN2YPUB | X2 S2 Earnings with two year college degree standardized by year                         | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2S2EARN4Y    | X2 S2 Earnings with four year college degree standardized by year                        | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2PEARNNOHS   | X2 Parent questionnaire earnings without HS diploma standardized by year                 | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2PEARNHS     | X2 Parent questionnaire earnings with HS diploma standardized by year                    | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2PEARNOCC    | X2 Parent questionnaire earnings with occupational training diploma standardized by year | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2PEARN2YPUB  | X2 Parent questionnaire earnings with two year college degree standardized by year       | Sparse values recoded to similar values on the public use file.                                                                                          |
| X2PEARN4Y     | X2 Parent questionnaire earnings with four year college degree standardized by year      | Sparse values recoded to similar values on the public use file.                                                                                          |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName    | FieldLabel                                                                        | Treatment                                                                                                  |
|--------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| X2TESTSTAT   | X2 Student mathematics assessment status                                          | Questionnaire Incapable students have been recoded as nonrespondents on the public use file.               |
| X2SQSTAT     | X2 Student questionnaire status                                                   | Questionnaire Incapable students have been recoded as nonrespondents on the public use file.               |
| X2SQINCAPABL | X2 Student questionnaire incapable                                                | Variable suppressed with -5 values on the public use file.                                                 |
| X2PQDATE     | X2 Parent questionnaire date (YYYYMM)                                             | Dates recoded on the public use file as follows: 201211 as 201210.                                         |
| X2CONTROL    | X2 School control                                                                 | “Catholic” and “Other private” recoded as one category “Catholic or other private” on the public use file. |
| X2CENDIV     | X2 School census geographic division                                              | Variable suppressed with -5 values on the public use file.                                                 |
| X2STATE      | X2 State code for school                                                          | Variable suppressed with -5 values on the public use file.                                                 |
| X2FREELUNCH  | X2 Grade 11 percent free lunch-categorical                                        | Variable suppressed with -5 values on the public use file.                                                 |
| X2AQSTAT     | X2 administrator questionnaire status                                             | Variable suppressed with -5 values on the public use file.                                                 |
| X2AQDESIGNEE | X2 administrator questionnaire designee respondent (designee resp v. no designee) | Variable suppressed with -5 values on the public use file.                                                 |
| X2CQSTAT     | X2 counselor questionnaire status                                                 | Variable suppressed with -5 values on the public use file.                                                 |
| S2HSID       | S2 A03D NCESID of spring 2012 high school                                         | Variable suppressed with -5 values on the public use file.                                                 |
| S2CURCONTROL | S2 Currently enrolled transfer school control                                     | Variable suppressed with -5 values on the public use file.                                                 |
| S2CURLOCALE  | S2 Currently enrolled transfer school locale (urbanicity)                         | Variable suppressed with -5 values on the public use file.                                                 |
| S2CURREGION  | S2 Currently enrolled transfer school geographic region                           | Variable suppressed with -5 values on the public use file.                                                 |
| S2CURCENDIV  | S2 Currently enrolled transfer school census geographic division                  | Variable suppressed with -5 values on the public use file.                                                 |
| S2CURSTATE   | S2 Currently enrolled transfer school state code                                  | Variable suppressed with -5 values on the public use file.                                                 |
| S2HSCREDMO   | S2 A06A Month teenager received diploma/GED/alternative credential                | Variable suppressed with -5 values on the public use file.                                                 |
| S2HSCREDYR   | S2 A06B Year teenager received diploma/GED/alternative credential                 | 2009 and 2010 recoded as “2011 and before” on the public use file.                                         |
| S2LASTHSMO   | S2 A07A Month teenager last attended high school                                  | Months recoded into Jan-Mar, Apr-Jun, Jul-Sep, and Oct-Dec categories on the public use file.              |
| S2LASTHSYR   | S2 A07B Year teenager last attended high school                                   | 2009 recoded as “2010 and before” on the public use file.                                                  |
| S2LASTATTEND | S2 A08 Teenager stopped attending high school four or more weeks ago              | Variable suppressed with -5 values on the public use file.                                                 |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                             | Treatment                                                                                                      |
|---------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| S2LASTHS      | S2 A09 Teenager last attended BY school, another school, or homeschool | “Homeschooled” recoded as “Another high school or homeschooled” on the public use file.                        |
| S2LASTHSID    | S2 A10D NCESID of last school teenager attended (other than BY school) | Variable suppressed with -5 values on the public use file.                                                     |
| S2LASTCONTROL | S2 Last transfer school control                                        | Variable suppressed with -5 values on the public use file.                                                     |
| S2LASTLOCALE  | S2 Last transfer school locale (urbanicity)                            | Variable suppressed with -5 values on the public use file.                                                     |
| S2LASTREGION  | S2 Last transfer school geographic region                              | Variable suppressed with -5 values on the public use file.                                                     |
| S2LASTCENDIV  | S2 Last transfer school census geographic division                     | Variable suppressed with -5 values on the public use file.                                                     |
| S2LASTSTATE   | S2 Last transfer school state code                                     | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTHHSID1    | S2 A12DA NCESID of first other high school attended                    | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH1CONTROL | S2 First other transfer school control                                 | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH1LOCALE  | S2 First other transfer school locale (urbanicity)                     | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH1REGION  | S2 First other transfer school geographic region                       | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH1CENDIV  | S2 First other transfer school census geographic division              | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH1STATE   | S2 First other transfer school state code                              | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTHHSID2    | S2 A12DB NCESID of second other high school attended                   | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH2CONTROL | S2 Second other transfer school control                                | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH2LOCALE  | S2 Second other transfer school locale (urbanicity)                    | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH2REGION  | S2 Second other transfer school geographic region                      | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH2CENDIV  | S2 Second other transfer school census geographic division             | Variable suppressed with -5 values on the public use file.                                                     |
| S2OTH2STATE   | S2 Second other transfer school state code                             | Variable suppressed with -5 values on the public use file.                                                     |
| S2GRD1011     | S2 A13 Grade level in 2010-2011 school year                            | “Ungraded program” and “Not attending during 2010-2011 school year” recoded as missing on the public use file. |
| S2GRD1112     | S2 A14 Grade level in spring 2012 or last 2011-2012 attendance         | “Ungraded program” and “Not attending during 2011-2011 school year” recoded as missing on the public use file. |
| S2DISCIPLINE  | S2 A18B Times transferred for discipline in last 6 months of school    | “More than once” recoded as “Once or more” on the public use file.                                             |
| S2EXPELLED    | S2 A18C Times expelled in last 6 months of school                      | “More than once” recoded as “Once or more” on the public use file.                                             |



**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName   | FieldLabel                                                                  | Treatment                                                                                                                     |
|-------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| S2ARRESTED  | S2 A18D Times arrested in last 6 months of school                           | "More than once" recoded as "Once or more" on the public use file.                                                            |
| S2JUVHOME   | S2 A18E Times in juvenile detention in last 6 months of school              | "More than once" recoded as "Once or more" on the public use file.                                                            |
| S2ENROCCTR  | S2 A23A Took course at school providing occupational training               | Variable suppressed with -5 values on the public use file.                                                                    |
| S2ENR2YPUB  | S2 A23B Took course at 2-year community college                             | Variable suppressed with -5 values on the public use file.                                                                    |
| S2ENR4Y     | S2 A23C Took course at 4-year college                                       | Variable suppressed with -5 values on the public use file.                                                                    |
| S2HISPANIC  | S2 B02 Teenager is Hispanic/Latino/Latina                                   | Variable suppressed with -5 values on the public use file.                                                                    |
| S2HISPOR    | S2 B03 Teenager's Hispanic/Latino/Latina origin                             | Variable suppressed with -5 values on the public use file.                                                                    |
| S2WHITE     | S2 B04A Teenager is White                                                   | Variable suppressed with -5 values on the public use file.                                                                    |
| S2BLACK     | S2 B04B Teenager is Black/African American                                  | Variable suppressed with -5 values on the public use file.                                                                    |
| S2ASIAN     | S2 B04C Teenager is Asian                                                   | Variable suppressed with -5 values on the public use file.                                                                    |
| S2PACISLE   | S2 B04D Teenager is Native Hawaiian/Pacific Islander                        | Variable suppressed with -5 values on the public use file.                                                                    |
| S2AMINDIAN  | S2 B04E Teenager is American Indian or Alaska Native                        | Variable suppressed with -5 values on the public use file.                                                                    |
| S2ASIANOR   | S2 B05 Teenager's Asian origin                                              | Variable suppressed with -5 values on the public use file.                                                                    |
| S2BIRTHYR   | S2 B06C Teenager's year of birth                                            | Years earlier than 1992 recoded to 1992 or earlier and years later than 1996 recoded to 1996 or later on the public use file. |
| S2LANG1STOS | S2 B08 Non-English language teenager first learned to speak as a child      | Variable suppressed with -5 values on the public use file.                                                                    |
| S2LANGMOM   | S2 B09 How often teenager speaks first language with mother/female guardian | "No mother/female guardian in household" recoded as "Missing" on the public use file.                                         |
| S2PARREL1   | S2 B11 Teenager's relationship to 1st parent in parent question series      | Variable suppressed with -5 values on the public use file.                                                                    |
| S2JOBBDV1   | S2 B16B Teenager's 1st parent's job duties - verbatim                       | Variable suppressed with -5 values on the public use file.                                                                    |
| S2JOBTV1    | S2 B16A Teenager's 1st parent's job title - verbatim                        | Variable suppressed with -5 values on the public use file.                                                                    |
| S2JOB2ONET1 | S2 B16C Teenager's 1st parent's job: 2-digit ONET code                      | Variable suppressed with -5 values on the public use file.                                                                    |
| S2JOB6ONET1 | S2 B16D Teenager's 1st parent's job: 6-digit ONET code                      | Variable suppressed with -5 values on the public use file.                                                                    |
| S2PARREL2   | S2 B18 Teenager's relationship to 2nd parent in parent question series      | Variable suppressed with -5 values on the public use file.                                                                    |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                       | Treatment                                                                                                                                                                       |
|---------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S2STARTDEG2   | S2 B20 Teenager's 2nd parent has started but not completed more advanced degree  | "Ph.D./M.D./law degree/other high level professional degree" recoded as "Master's degree or Ph.D./M.D./law degree/other high level professional degree" on the public use file. |
| S2JOBDEV2     | S2 B23B Teenager's 2nd parent's job duties - verbatim                            | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2JOBTV2      | S2 B23A Teenager's 2nd parent's job title - verbatim                             | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2JOB2ONET2   | S2 B23C Teenager's 2nd parent's job: 2-digit ONET code                           | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2JOB6ONET2   | S2 B23D Teenager's 2nd parent's job: 6-digit ONET code                           | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2LIKELYCLGID | S2 C22 IPEDS ID of teen's most likely college/school to attend in 2013           | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2CHOICECLGID | S2 C25 IPEDS ID of teen's first choice college/school not considering cost       | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2COST2YPUB   | S2 C27 Cost of tuition/mandatory fees at public in-state 2-year college          | Sparse values recoded to similar values on the public use file.                                                                                                                 |
| S2COST4YPUB   | S2 C28 Cost of tuition/mandatory fees at public in-state 4-year college          | Sparse values recoded to similar values on the public use file.                                                                                                                 |
| S2COST4YPRV   | S2 C29 Cost of tuition/mandatory fees at typical private 4-year college          | Sparse values recoded to similar values on the public use file.                                                                                                                 |
| S2EARNNOHS    | S2 C40AA Expected earnings if left HS without a diploma                          | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2EARNNOHSUN  | S2 C40AB Unit for expected earnings if left HS without a diploma                 | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2EARNHHS     | S2 C40BA Expected earnings if completed a HS diploma                             | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2EARNHSUN    | S2 C40BB Unit for expected earnings if completed a HS diploma                    | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2EARNOCC     | S2 C40CA Expected earnings if completed certificate from school for occ training | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2EARNOCCUN   | S2 C40CB Unit for expected earnings-certificate from school for occ training     | Variable suppressed with -5 values on the public use file.                                                                                                                      |
| S2EARN2YPUB   | S2 C40DA Expected earnings if completed 2-year community college degree          | Variable suppressed with -5 values on the public use file.                                                                                                                      |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                         | Treatment                                                                                                                                                                 |
|---------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S2EARN2YPUBUN | S2 C40DB Unit for expected earnings if completed 2-year community college degree   | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2EARN4Y      | S2 C40EA Expected earnings if completed 4-year college degree                      | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2EARN4YUN    | S2 C40EB Unit for expected earnings if completed 4-year college degree             | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2OCC30       | S2 C41 Occupation teenager expects to have at age 30                               | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2OCC30EARN   | S2 C44 Expected earnings for choice of occupation at age 30                        | Sparse values recoded to similar values on the public use file.                                                                                                           |
| S2ALG1WHEN    | S2 D02 Grade teenager was in when he/she took algebra I                            | "12th grade" recoded as "11th or 12th grade" on the public use file.                                                                                                      |
| S2IBMATHSTD12 | S2 D15P Taking IB mathematics standard level spring 2012                           | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2IBMATHHI12  | S2 D15Q Taking IB mathematics higher level spring 2012                             | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2OTHM12      | S2 D15S Taking other math course spring 2012                                       | "Liberal Arts Math" and "Math Topics" recoded as "Other Math" on the public use file.                                                                                     |
| S2OTHM12SP    | S2 D15T Specific other math course spring 2012                                     | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2HIMATH12    | S2 D16 Most challenging math course spring 2012                                    | "IB mathematics higher level" recoded as "IB mathematics standard or higher level" on the public use file.                                                                |
| S2IBENV12     | S2 D22N Taking IB Environmental Systems and Societies spring 2012                  | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2TECHS12     | S2 D22U Taking principles of technology spring 2012                                | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2IBTECH12    | S2 D22CC Taking IB Design Technology spring 2012                                   | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2OTHS12      | S2 D22FF Taking other science, computer science, or engineering course spring 2012 | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2OTHS12SP    | S2 D22GG Specific other science course spring 2012                                 | Variable suppressed with -5 values on the public use file.                                                                                                                |
| S2HISCIENCE12 | S2 D23 Most challenging science course spring 2012                                 | "IB Environmental Systems and Societies" and "Principles of Technology" recoded as "Other science/technology/engineering/computer science course" on the public use file. |
| S2HSJOBHR     | S2 F09 Hours per week working spring 2012/most recent school year job              | Sparse values recoded to similar values on the public use file.                                                                                                           |
| S21STJOBMO    | S2 F12A Month dropout/early grad started working 1st job since leaving HS          | Months recoded into Jan-Mar, Apr-Jun, Jul-Sep, and Oct-Dec categories on the public use file.                                                                             |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                 | Treatment                                                                                      |
|---------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| S21STJOBYR    | S2 F12B Year dropout/early grad started working 1st job since leaving HS   | "2008" recoded as "2009 or earlier" on the public use file.                                    |
| S2JOBMO       | S2 F15A Month dropout/early grad started current/most recent job           | Variable suppressed with -5 values on the public use file.                                     |
| S2JOBYR       | S2 F15B Year dropout/early grad started current/most recent job            | "2008", "2009", "2010" recoded as "2011 or earlier" on the public use file.                    |
| S2JOBHR       | S2 F16 Hours per week dropout/early grad worked on current/most recent job | Sparse values recoded to similar values on the public use file.                                |
| S2JOBearn     | S2 F17A Dropout/early grad's current/most recent earnings since leaving HS | Variable suppressed with -5 values on the public use file.                                     |
| S2JOBUNIT     | S2 F17B Unit for dropout/early grad's current/most recent earnings         | Variable suppressed with -5 values on the public use file.                                     |
| S2JOBLEFTRSN  | S2 F19 How dropout/early grad's most recent job since leaving HS ended     | Variable suppressed with -5 values on the public use file.                                     |
| S2NUMCHILD    | S2 F20 How many children dropout/early grad has                            | "More than one" child recoded as "One or more" children on the public use file.                |
| S2CHILDBORNMO | S2 F21A Month dropout/early grad's first child was born                    | Variable suppressed with -5 values on the public use file.                                     |
| S2CHILDBORNYR | S2 F21B Year dropout/early grad's first child was born                     | 2004 through 2009 recoded as "2010 or earlier" on the public use file.                         |
| S2LIVECHILD   | S2 F22 Dropout/early grad's child(ren) live with him/her                   | Variable suppressed with -5 values on the public use file.                                     |
| S2LIVESPOUSE  | S2 F23C Dropout/early grad lives with spouse                               | Variable suppressed with -5 values on the public use file.                                     |
| S2LIVEALONE   | S2 F23F Dropout/early grad lives by himself/herself                        | Variable suppressed with -5 values on the public use file.                                     |
| P2RELSHP      | P2 A03 Respondent's relationship to teenager                               | Variable suppressed with -5 values on the public use file.                                     |
| P2HHPARENT    | P2 A05 Teen has parent(s) living in household                              | "One parent in household" recoded as "One or two parents in household" on the public use file. |
| P2HHPARREL1   | P2 A06A First resident parent's relationship to teenager                   | Variable suppressed with -5 values on the public use file.                                     |
| P2HHPARREL2   | P2 A06B Second resident parent's relationship to teenager                  | Variable suppressed with -5 values on the public use file.                                     |
| P2SPSREL      | P2 A09 Respondent's spouse/partner's relationship to teenager              | Variable suppressed with -5 values on the public use file.                                     |
| P2OTHREL      | P2 A12 Other parental adult's relationship to teenager                     | Variable suppressed with -5 values on the public use file.                                     |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                       | Treatment                                                                                                                                                                                      |
|---------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P2HHLT18      | P2 A14A Number of household residents less than 18 years of age                  | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2HHGE18      | P2 A14B Number of household residents 18 years or older                          | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPGK      | P2 B02A Teenager skipped kindergarten                                            | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG1      | P2 B02B Teenager skipped 1st grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG2      | P2 B02C Teenager skipped 2nd grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG3      | P2 B02D Teenager skipped 3rd grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG4      | P2 B02E Teenager skipped 4th grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG5      | P2 B02F Teenager skipped 5th grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG6      | P2 B02G Teenager skipped 6th grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG7      | P2 B02H Teenager skipped 7th grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG8      | P2 B02I Teenager skipped 8th grade                                               | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG10     | P2 B02K Teenager skipped 10th grade                                              | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2SKIPG11     | P2 B02L Teenager skipped 11th grade                                              | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2HSDIPGED    | P2 B04 Teenager has earned a high school credential                              | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2EDUASP      | P2 C04 How far in school would like teenager to go                               | "Less than high school completion" recoded as "Less than HS completion or complete HS diploma/GED/alternative HS credential" on the public use file.                                           |
| P2EDUEXP      | P2 C05 How far in school teenager will go                                        | "Start certificate/diploma from school providing occupational training" recoded as "Start or complete certificate/diploma from school providing occupational training" on the public use file. |
| P2LIKELYCLGID | P2 C13F IPEDS ID of postsecondary institution teen most likely to attend in 2013 | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2CHOICECLGID | P2 C16F IPEDS ID of parent's first choice postsecondary institution              | Variable suppressed with -5 values on the public use file.                                                                                                                                     |
| P2COST2YPUB   | P2 C19 Cost of tuition/required fees at public in-state 2-year college           | Sparse values recoded to similar values on the public use file.                                                                                                                                |
| P2COST4YPUB   | P2 C21 Cost of tuition/required fees at public in-state 4-year college           | Sparse values recoded to similar values on the public use file.                                                                                                                                |
| P2COST4YPRV   | P2 C23 Cost of tuition/required fees at typical private 4-year college           | Sparse values recoded to similar values on the public use file.                                                                                                                                |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                       | Treatment                                                        |
|---------------|----------------------------------------------------------------------------------|------------------------------------------------------------------|
| P2EARNNOHS    | P2 C41AA Expected earnings if left HS without a diploma                          | Variable suppressed with -5 values on the public use file.       |
| P2EARNNOHSUN  | P2 C41AB Unit for expected earnings if left HS without a diploma                 | Variable suppressed with -5 values on the public use file.       |
| P2EARNHS      | P2 C41BA Expected earnings if completed a HS diploma                             | Variable suppressed with -5 values on the public use file.       |
| P2EARNHSUN    | P2 C41BB Unit for expected earnings if completed a HS diploma                    | Variable suppressed with -5 values on the public use file.       |
| P2EARNOCC     | P2 C41CA Expected earnings if completed certificate from school for occ training | Variable suppressed with -5 values on the public use file.       |
| P2EARNOCCUN   | P2 C41CB Unit for expected earnings-certificate from school for occ training     | Variable suppressed with -5 values on the public use file.       |
| P2EARN2YPUB   | P2 C41DA Expected earnings if completed 2-year community college degree          | Variable suppressed with -5 values on the public use file.       |
| P2EARN2YPUBUN | P2 C41DB Unit for expected earnings if completed 2-year community college degree | Variable suppressed with -5 values on the public use file.       |
| P2EARN4Y      | P2 C41EA Expected earnings if completed 4-year college degree                    | Variable suppressed with -5 values on the public use file.       |
| P2EARN4YUN    | P2 C41EB Unit for expected earnings if completed 4-year college degree           | Variable suppressed with -5 values on the public use file.       |
| P2HIMAJV1     | P2 D02A Parent 1's major for highest level of education-verbatim                 | Variable suppressed with -5 values on the public use file.       |
| P2HIMAJ21     | P2 D02B Parent 1's major for highest level of education 2-digit CIP code         | Majors with low counts set to uncodeable on the public use file. |
| P2HIMAJ61     | P2 D02C Parent 1's major for highest level of education 6-digit CIP code         | Variable suppressed with -5 values on the public use file.       |
| P2JOBV1       | P2 D07A Parent 1's job duties-verbatim                                           | Variable suppressed with -5 values on the public use file.       |
| P2JOBT1       | P2 D07B Parent 1's job title-verbatim                                            | Variable suppressed with -5 values on the public use file.       |
| P2JOB2ONET1   | P2 D07C Parent 1's current/most recent occupation: 2-digit ONET code             | Variable suppressed with -5 values on the public use file.       |
| P2JOB6ONET1   | P2 D07D Parent 1's current/most recent occupation: 6-digit ONET code             | Variable suppressed with -5 values on the public use file.       |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName   | FieldLabel                                                                     | Treatment                                                                                                                                                          |
|-------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P2HOURS1    | P2 D08 Hours parent 1 works/<br>worked per week                                | Sparse values recoded to similar values on the public use file.                                                                                                    |
| P2HIMAJV2   | P2 D10A Parent 2's major for<br>highest level of education-<br>verbatim        | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2HIMAJ22   | P2 D10B Parent 2's major for<br>highest level of education 2-digit<br>CIP code | Majors with low counts set to uncodeable on the public use file.                                                                                                   |
| P2HIMAJ62   | P2 D10C Parent 2's major for<br>highest level of education 6-digit<br>CIP code | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2JOB2V2    | P2 D15B Parent 2's job duties-<br>verbatim                                     | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2JOBTV2    | P2 D15A Parent 2's job title-<br>verbatim                                      | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2JOB2ONET2 | P2 D15C Parent 2's current/most<br>recent occupation: 2-digit ONET<br>code     | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2JOB6ONET2 | P2 D15D Parent 2's current/most<br>recent occupation: 6-digit ONET<br>code     | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2HOURS2    | P2 D16 Hours Parent 2 works/<br>worked per week                                | Sparse values recoded to similar values on the public use file.                                                                                                    |
| P2INCOME    | P2 D17 Household income in 2011-<br>continuous form                            | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2INCOMECAT | P2 D18 Household income in 2011-<br>categorical form                           | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2HISP1     | P2 E01 Parent 1 is Hispanic/Latino/<br>Latina                                  | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2HISPOR1   | P2 E02 Parent 1's Hispanic/Latino/<br>Latina origin                            | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2WHITE1    | P2 E03A Parent 1 is White                                                      | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2BLACK1    | P2 E03B Parent 1 is Black/African<br>American                                  | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2ASIAN1    | P2 E03C Parent 1 is Asian                                                      | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2PACISLE1  | P2 E03D Parent 1 is Native<br>Hawaiian/Pacific Islander                        | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2AMINDIAN1 | P2 E03E Parent 1 is American<br>Indian/Alaska Native                           | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2ASIANOR1  | P2 E04 Parent 1's Asian origin                                                 | Variable suppressed with -5 values on the public use file.                                                                                                         |
| P2YRBORN1   | P2 E05 Parent 1's birth year                                                   | Years before 1944 recoded as 1944 and years after 1981 recoded<br>as 1981 on the public use file.                                                                  |
| P2USYR1     | P2 E07 Year Parent 1 came to U.S.<br>to stay                                   | Years before 1973 recoded as 1973, years after 2009 recoded as<br>2009, and sparse years between 1973 and 2009 recoded to<br>similar years on the public use file. |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName   | FieldLabel                                                            | Treatment                                                                                                                                                    |
|-------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P2HISP2     | P2 E08 Parent 2 is Hispanic/Latino/Latina                             | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2HISPOR2   | P2 E09 Parent 2's Hispanic/Latino/Latina origin                       | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2WHITE2    | P2 E10A Parent 2 is White                                             | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2BLACK2    | P2 E10B Parent 2 is Black/African American                            | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2ASIAN2    | P2 E10C Parent 2 is Asian                                             | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2PACISLE2  | P2 E10D Parent 2 is Native Hawaiian/Pacific Islander                  | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2AMINDIAN2 | P2 E10E Parent 2 is American Indian or Alaska Native                  | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2ASIANOR2  | P2 E11 Parent 2's Asian origin                                        | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2YRBORN2   | P2 E12 Parent 2's birth year                                          | Years before 1944 recoded as 1944 and years after 1981 recoded as 1981 on the public use file.                                                               |
| P2USYR2     | P2 E14 Year Parent 2 came to U.S. to stay                             | Years before 1973 recoded as 1973, years after 2009 recoded as 2009, and sparse years between 1973 and 2009 recoded to similar years on the public use file. |
| P2USBORNT   | P2 E15 Whether teenager was born in the U.S.                          | "Puerto Rico or another U.S. territory" recoded as "United States, Puerto Rico or another U.S. territory" on the public use file.                            |
| P2COUNTRYT  | P2 E16 Country in which teenager was born                             | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2USYRT     | P2 E17 Year teenager came to the U.S. to stay                         | Years before 1995 recoded as 1995, 2003 recoded as 2002, and years after 2008 recoded as 2008 on the public use file.                                        |
| P2USGRADE   | P2 E18 Grade level teenager was placed in when started school in U.S. | "8th grade" recoded as "7th or 8th grade" on the public use file.                                                                                            |
| P2SPANISH   | P2 E20A Spanish is regularly spoken in home                           | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2EUROLANG  | P2 E20B Other European language is regularly spoken in home           | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2CHINESE   | P2 E20C Chinese language regularly spoken in home                     | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2FILIPINO  | P2 E20D Filipino language regularly spoken in home                    | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2SEASIAN   | P2 E20E Southeast Asian language regularly spoken in home             | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2SASIAN    | P2 E20F South Asian language regularly spoken in home                 | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2OTHRASIAN | P2 E20G Other Asian language regularly spoken in home                 | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2MIDEAST   | P2 E20H Middle Eastern language regularly spoken in home              | Variable suppressed with -5 values on the public use file.                                                                                                   |
| P2OTHLANG   | P2 E20I Other language regularly spoken in home                       | Variable suppressed with -5 values on the public use file.                                                                                                   |



**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName    | FieldLabel                                                                       | Treatment                                                       |
|--------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------|
| P2RSPLANG    | P2 E22 Language respondent usually speaks to teenager in home                    | Variable suppressed with -5 values on the public use file.      |
| P2LANGTEEN   | P2 E23 Language teenager usually speaks to respondent in home                    | Variable suppressed with -5 values on the public use file.      |
| P2QHELP3     | P2 F02C Respondent's friend helped respondent complete questionnaire             | Variable suppressed with -5 values on the public use file.      |
| A2SCHTYPE    | A2 A01 School type                                                               | Variable suppressed with -5 values on the public use file.      |
| A2MAGNET     | A2 A02 School has a schoolwide magnet program or program only for some students  | Variable suppressed with -5 values on the public use file.      |
| A2STEMFOCUS  | A2 A03 School's magnet program/ special focus is STEM or something else          | Variable suppressed with -5 values on the public use file.      |
| A2CHOICEIN   | A2 A06A School's students can enroll in another school within district           | Variable suppressed with -5 values on the public use file.      |
| A2CHOICEOUT  | A2 A06B School's students can enroll in a school in another district at no cost  | Variable suppressed with -5 values on the public use file.      |
| A2CHOICESCH  | A2 A06C Students from other districts can enroll in school at no tuition cost    | Variable suppressed with -5 values on the public use file.      |
| A2CHOICEPRIV | A2 A06D School's students can enroll in private school using state/district fund | Variable suppressed with -5 values on the public use file.      |
| A2YRROUND    | A2 A07 Whether school is a year round school                                     | Variable suppressed with -5 values on the public use file.      |
| A2CALENDAR   | A2 A08 Academic calendar type                                                    | Variable suppressed with -5 values on the public use file.      |
| A2CLASSHRS   | A2 A09A Average instruction hours per day                                        | Variable suppressed with -5 values on the public use file.      |
| A2HRSINSMIN  | A2 A09B WILL BE FOLDED INTO A2CLASSHRS - minutes of instruction per day          | Variable suppressed with -5 values on the public use file.      |
| A2SCHEDULE   | A2 A10 Course schedule type                                                      | Variable suppressed with -5 values on the public use file.      |
| A2CTESHSCH   | A2 A11 % of HS students who attend shared-time area career-technical school      | Sparse values recoded to similar values on the public use file. |
| A2HSSIZE     | A2 B01 High school enrollment                                                    | Sparse values recoded to similar values on the public use file. |
| A2CAPACITY   | A2 B02 Percent capacity to which school is filled                                | Variable suppressed with -5 values on the public use file.      |
| A2FREELUNCH  | A2 B03A % of HS students receiving free or reduced-price lunch                   | Variable suppressed with -5 values on the public use file.      |
| A2ELL        | A2 B03B % of HS students who are limited English proficient                      | Variable suppressed with -5 values on the public use file.      |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                      | Treatment                                                         |
|---------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------|
| A2SPECIALED   | A2 B03C % of HS students receiving special education services for disabilities  | Variable suppressed with -5 values on the public use file.        |
| A2ADA9        | A2 B04A Average daily attendance for 9th graders in terms of a percentage       | Sparse values recoded to similar values on the public use file.   |
| A2ADA10       | A2 B04B Average daily attendance for 10th graders in terms of a percentage      | Sparse values recoded to similar values on the public use file.   |
| A2ADA11       | A2 B04C Average daily attendance for 11th graders in terms of a percentage      | Sparse values recoded to similar values on the public use file.   |
| A2ADA12       | A2 B04D Average daily attendance for 12th graders in terms of a percentage      | Sparse values recoded to similar values on the public use file.   |
| A2REPEATG11   | A2 B08 % of 2010-2011 11th graders not academically promoted to 12th grade      | Sparse values recoded to similar values on the public use file.   |
| A2PCTRECOVERY | A2 B11 % of 11th/12th graders participated in credit recovery program           | 50% or more recoded as 25% or more on the public use file.        |
| A2RETURN11    | A2 B12 % of Sept 2010 11th graders returned in Sept 2011                        | Sparse values recoded to similar values on the public use file.   |
| A2TRANSFRALT  | A2 B13 % of 2010-2011 students transferred out to an alternative program/school | Variable suppressed with -5 values on the public use file.        |
| A2PCTDOPRVON  | A2 B15A % of HS students enrolled in dropout prevention program on-site         | Sparse values recoded to similar values on the public use file.   |
| A2PCTDOPRVOFF | A2 B15B % of HS students enrolled in dropout prevention program off-site        | Values greater than 6 coded as 6 on the public use file.          |
| A2ENGREQHS    | A2 B17A Years of English coursework required for hs graduation 2012             | Less than 4 years grouped as one category on the public use file. |
| A2MTHREQHS    | A2 B17B Years of Mathematics coursework required for hs graduation 2012         | Less than 3 years grouped as one category on the public use file. |
| A2HISTREQHS   | A2 B17D Years of History/Social Studies required for hs graduation 2012         | Less than 3 years grouped as one category on the public use file. |
| A2LANGREQHS   | A2 B17E Years of Foreign Language required for hs graduation 2012               | 3 or more years grouped as one category on the public use file.   |
| A2HIGHERED    | A2 B19A % of 2010-2011 seniors entered higher education programs                | Sparse values recoded to similar values on the public use file.   |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                       | Treatment                                                       |
|---------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------|
| A2WORK        | A2 B19B % of 2010-2011 seniors entered labor market                              | Sparse values recoded to similar values on the public use file. |
| A2MILITARY    | A2 B19C % of 2010-2011 seniors joined military                                   | Sparse values recoded to similar values on the public use file. |
| A2FTTCHRS     | A2 C01A Total number of full-time high school teachers                           | Variable suppressed with -5 values on the public use file.      |
| A2PTTCHRS     | A2 C01B Total number of part-time high school teachers                           | Variable suppressed with -5 values on the public use file.      |
| A2FTMTCHRS    | A2 C02A Number of full-time high school math teachers                            | Variable suppressed with -5 values on the public use file.      |
| A2PTMTCHRS    | A2 C02B Number of part-time high school math teachers                            | Variable suppressed with -5 values on the public use file.      |
| A2FTSTCHRS    | A2 C02C Number of full-time high school science teachers                         | Variable suppressed with -5 values on the public use file.      |
| A2PTSTCHRS    | A2 C02D Number of part-time high school science teachers                         | Values greater than 5 recoded as 5 on the public use file.      |
| A2FTOTHTCHRS  | A2 C02E Number of full-time high school teachers of all other subject areas      | Variable suppressed with -5 values on the public use file.      |
| A2PTOTHTCHRS  | A2 C02F Number of part-time high school teachers of all other subject areas      | Variable suppressed with -5 values on the public use file.      |
| A2PTALLTCHRS  | A2 C02G Total number of part-time teachers - sum of math, science, other         | Values greater than 13 recoded as 13 on the public use file.    |
| A2FTALLTCHRS  | A2 C02H Total number of full-time teachers - sum of math, science, other         | Sparse values recoded to similar values on the public use file. |
| A2PENSION     | A2 C03 Number of teachers collecting pension/drawing from 401(k) or 403(b)       | Variable suppressed with -5 values on the public use file.      |
| A2MTNORETURN  | A2 C04 # of 2010-2011 FT math teachers who did not return in 2011-2012           | Variable suppressed with -5 values on the public use file.      |
| A2STNORETURN  | A2 C05 # of 2010-2011 FT science teachers who did not return in 2011-2012        | Variable suppressed with -5 values on the public use file.      |
| A2ABSENTTCHR  | A2 C06 % of high school's teachers absent on an average day                      | Variable suppressed with -5 values on the public use file.      |
| A2MSINDUCTION | A2 C07A Formal new teacher induction program for new hs math/science teachers    | "Don't know" recoded with "Missing" on the public use file.     |
| A2MSREDUCETCH | A2 C07B Reduced teaching schedule/# preparations for new hs math/science teacher | "Don't know" recoded with "Missing" on the public use file.     |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                       | Treatment                                                                                 |
|---------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| A2MSPLANNING  | A2 C07C Planning time w/other math/science teachers for new hs math/sci teachers | "Don't know" recoded with "Missing" on the public use file.                               |
| A2MSRELEASE   | A2 C07D Release for professional dev/observation for new math/science teachers   | "Don't know" recoded with "Missing" on the public use file.                               |
| A2MSSEMINAR   | A2 C07E Seminars/classes for beginning teachers for new hs math/science teachers | "Don't know" recoded with "Missing" on the public use file.                               |
| A2MSMENTORMS  | A2 C07F Guidance from same subject mentor for new hs math/science teachers       | "Don't know" recoded with "Missing" on the public use file.                               |
| A2MSPROFDEVMS | A2 C07H Subject-specific professional dev for new hs math/science teachers       | "Don't know" recoded with "Missing" on the public use file.                               |
| A2FILLMTH     | A2 D04 Ease of filling high school mathematics teaching vacancies                | "Could not fill math department" recoded with "Very difficult" on the public use file.    |
| A2FILLSCI     | A2 D05 Ease of filling high school science teaching vacancies                    | "Could not fill science department" recoded with "Very difficult" on the public use file. |
| A2STUABSENT   | A2 D07B Student absenteeism is a problem at this school                          | Variable suppressed with -5 values on the public use file.                                |
| A2CUT         | A2 D07C Student class cutting is a problem at this school                        | Variable suppressed with -5 values on the public use file.                                |
| A2DROPOUT     | A2 D07D Students dropping out is a problem at this school                        | Variable suppressed with -5 values on the public use file.                                |
| A2HEALTH      | A2 D07H Poor student health is a problem at this school                          | "Serious problem" recoded as "Moderate to serious problem" on the public use file.        |
| A2CONFLICT    | A2 D08A Frequency of physical conflicts among students at this school            | Variable suppressed with -5 values on the public use file.                                |
| A2ROBBERY     | A2 D08B Frequency of robbery or theft at this school                             | Variable suppressed with -5 values on the public use file.                                |
| A2VANDALISM   | A2 D08C Frequency of vandalism at this school                                    | Variable suppressed with -5 values on the public use file.                                |
| A2DRUGUSE     | A2 D08D Frequency of student illegal drug use at this school                     | Variable suppressed with -5 values on the public use file.                                |
| A2ALCOHOL     | A2 D08E Frequency of students use of alcohol while at school                     | Variable suppressed with -5 values on the public use file.                                |
| A2DRUGSALE    | A2 D08F Frequency of drug sales on the way to/from school or on school grounds   | Variable suppressed with -5 values on the public use file.                                |
| A2WEAPONS     | A2 D09A Frequency of student possession of weapons at this school                | Variable suppressed with -5 values on the public use file.                                |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName    | FieldLabel                                                                  | Treatment                                                  |
|--------------|-----------------------------------------------------------------------------|------------------------------------------------------------|
| A2PHYSABUSE  | A2 D09B Frequency of physical abuse of teachers at this school              | Variable suppressed with -5 values on the public use file. |
| A2TENSION    | A2 D09C Frequency of student racial tensions at this school                 | Variable suppressed with -5 values on the public use file. |
| A2VERBAL     | A2 D09F Frequency of student verbal abuse of teachers at this school        | Variable suppressed with -5 values on the public use file. |
| A2MISBEHAVE  | A2 D09G Frequency of student in-class misbehavior at this school            | Variable suppressed with -5 values on the public use file. |
| A2DISRESPECT | A2 D09H Frequency of student acts of disrespect for teachers at this school | Variable suppressed with -5 values on the public use file. |
| A2GANG       | A2 D09I Frequency of student gang activities at this school                 | Variable suppressed with -5 values on the public use file. |
| A2SEX        | A2 D10 Principal's sex                                                      | Variable suppressed with -5 values on the public use file. |
| A2HISP       | A2 D11 Principal is of Hispanic/Latino/Latina origin                        | Variable suppressed with -5 values on the public use file. |
| A2WHITE      | A2 D12A Principal is White                                                  | Variable suppressed with -5 values on the public use file. |
| A2BLACK      | A2 D12B Principal is Black or African American                              | Variable suppressed with -5 values on the public use file. |
| A2ASIAN      | A2 D12C Principal is Asian                                                  | Variable suppressed with -5 values on the public use file. |
| A2PACISLE    | A2 D12D Principal is Native Hawaiian/Pacific Islander                       | Variable suppressed with -5 values on the public use file. |
| A2AMINDIAN   | A2 D12E Principal is American Indian/Alaska Native                          | Variable suppressed with -5 values on the public use file. |
| A2HIDEG      | A2 D13 Principal's highest degree earned                                    | Variable suppressed with -5 values on the public use file. |
| A2HIMAJV     | A2 D14A Principal's major for highest level of education-verbatim           | Variable suppressed with -5 values on the public use file. |
| A2HIMAJ6     | A2 D14B Principal's major for highest level of education 6-digit CIP code   | Variable suppressed with -5 values on the public use file. |
| A2HIMAJ2     | A2 D14C Principal's major for highest level of education 2-digit CIP code   | Variable suppressed with -5 values on the public use file. |
| A2BAMAJV     | A2 D15A Principal's major for Bachelor's degree-verbatim                    | Variable suppressed with -5 values on the public use file. |
| A2BAMAJ6     | A2 D15B Principal's major for Bachelor's degree 6-digit CIP code            | Variable suppressed with -5 values on the public use file. |
| A2BAMAJ2     | A2 D15C Principal's major for Bachelor's degree 2-digit CIP code            | Variable suppressed with -5 values on the public use file. |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                      | Treatment                                                                                   |
|---------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| A2MANAGEMENT  | A2 D16 Prior management experience outside of the field of education            | Variable suppressed with -5 values on the public use file.                                  |
| A2INSTLDRS    | A2 D17F Amount of training principal has received in instructional leadership   | "No training" recoded with "Missing" on the public use file.                                |
| A2ALTPREP     | A2 D18 Whether became a principal through alternative prep program              | Variable suppressed with -5 values on the public use file.                                  |
| A2CERTIFIED   | A2 D19 Principal is certified as a principal in this state                      | Variable suppressed with -5 values on the public use file.                                  |
| A2YRSADMIN    | A2 D20 Years served as principal of any school                                  | Recoded 13 and 15 as 14, 16 and 18 as 17, and greater than 19 as 19 on the public use file. |
| A2YRSHSLSSCH  | A2 D21 Years served as principal of this school                                 | Variable suppressed with -5 values on the public use file.                                  |
| A2TEACHING    | A2 D22 Principal is currently teaching in this school                           | Variable suppressed with -5 values on the public use file.                                  |
| A2YRSMSTCHR   | A2 D23A Principal's years of middle school teaching experience                  | Variable suppressed with -5 values on the public use file.                                  |
| A2YRSHSTCHR   | A2 D23B Principal's years of high school teaching experience                    | Variable suppressed with -5 values on the public use file.                                  |
| A2TCHSUBJO    | A2 D24B Other subject taught                                                    | Variable suppressed with -5 values on the public use file.                                  |
| C2FTCNLS      | C2 A01A Number of full-time high school counselors                              | Variable suppressed with -5 values on the public use file.                                  |
| C2PTCNLS      | C2 A01B Number of part-time high school counselors                              | Variable suppressed with -5 values on the public use file.                                  |
| C2CASELOAD    | C2 A02 Average caseload for school's counselors                                 | Sparse values recoded to similar values on the public use file.                             |
| C2HRSJOBKLL   | C2 A04G % hours counseling staff spent on job placement/job skill development   | More than 50% recoded as More than 20% on the public use file.                              |
| C2HRNONCNLS   | C2 A04J % hours counseling staff spent on non-counseling activities             | More than 50% recoded as More than 20% on the public use file.                              |
| C2REVIEWPLAN  | C2 B05 How often students meet with adult in school to review/revise plan       | "Never" recoded with "Less than once each school year" on the public use file.              |
| C2DUALCLGCRED | C2 B07A Students can earn college credit in dual enrollment program             | Variable suppressed with -5 values on the public use file.                                  |
| C2DUALENRACA  | C2 B08A Enrollment in dual enrollment courses with academic focus               | Variable suppressed with -5 values on the public use file.                                  |
| C2DUALENRCTE  | C2 B08B Enrollment in dual enrollment courses with career/tech/vocational focus | Variable suppressed with -5 values on the public use file.                                  |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName     | FieldLabel                                                                      | Treatment                                                                                                                    |
|---------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| C2DUALGRAD    | C2 B09 Number of graduates with dual enrollment designation on diploma          | Variable suppressed with -5 values on the public use file.                                                                   |
| C2GETAHEAD    | C2 B11A Summer enrichment courses that allow students to progress academically  | Variable suppressed with -5 values on the public use file.                                                                   |
| C2UPBOUND     | C2 B13D School offers college prep program - Upward Bound/GEAR UP/AVID/MESA     | Variable suppressed with -5 values on the public use file.                                                                   |
| C2INDSTD      | C2 B15A % students taking independent study course                              | "More than 5%" grouped as one category on the public use file.                                                               |
| C2DISTANCE    | C2 B15B % students taking online/ distance learning course                      | 50-100% grouped as one category on the public use file.                                                                      |
| C2OTHHS       | C2 B15C % students taking course at another traditional high school in district | 11-100% grouped as one category on the public use file.                                                                      |
| C2TECHSC      | C2 B15D % students taking course at local career or technical school            | 25-100% grouped as one category on the public use file.                                                                      |
| C2COMCOL      | C2 B15E % students taking courses at community college                          | 50-100% grouped as one category on the public use file.                                                                      |
| C24YRCOL      | C2 B15F % students taking course at 4-year college                              | 25-100% grouped as one category on the public use file.                                                                      |
| C2CLGEXAMINFO | C2 B21A School provides information on date/location of college entrance exams  | Variable suppressed with -5 values on the public use file.                                                                   |
| C2CLGINFO     | C2 B23D School provides access to information on colleges                       | Variable suppressed with -5 values on the public use file.                                                                   |
| C2PERSISTYR1  | C2 B27 % of high school's college enrollees persisted past 1st year             | Less than 25% grouped as one category on the public use file.                                                                |
| C2UPMGRD      | C2 C02A Importance of prior grades for 10th-12th grade math placement           | "Not applicable" recoded with "Missing" and "Not at all important" recoded with "Somewhat important" on the public use file. |
| C2UPMTEACHER  | C2 C02E Importance of teacher's recommendation for 10-12th math placement       | "Not applicable" recoded with "Missing" and "Not at all important" recoded with "Somewhat important" on the public use file. |
| C2UPMGRADREQ  | C2 C02I Importance of graduation requirements for 10-12th math placement        | "Not applicable" recoded with "Missing" and "Not at all important" recoded with "Somewhat important" on the public use file. |
| C2UPMCLGREQ   | C2 C02J Importance of college entry requirements for 10-12th math placement     | "Not applicable" recoded with "Missing" on the public use file.                                                              |
| C2UPSGRD      | C2 C04A Importance of prior grades for 10th-12th grade science placement        | "Not applicable" recoded with "Missing" and "Not at all important" recoded with "Somewhat important" on the public use file. |

**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName    | FieldLabel                                                                  | Treatment                                                                                                                    |
|--------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| C2UPSGRADREQ | C2 C04I Importance of graduation requirements for 10-12th science placement | “Not applicable” recoded with “Missing” and “Not at all important” recoded with “Somewhat important” on the public use file. |
| C2PCTCALC    | C2 C06A % 12th graders who have taken calculus                              | Sparse values recoded to similar values on the public use file.                                                              |
| C2PCTPHYS    | C2 C06B % 12th graders who have taken physics                               | Sparse values recoded to similar values on the public use file.                                                              |
| C2NUMAP      | C2 C07 Number of AP courses offered                                         | Values of 0 recoded as 1 and values greater than 23 recoded as 23 on the public use file.                                    |
| C2NUMAPSCI   | C2 C08A Number of AP science courses offered                                | Values greater than 6 recoded as 6 on the public use file.                                                                   |
| C2NUMAPMATH  | C2 C08B Number of AP math courses offered                                   | Values greater than 4 recoded as 4 on the public use file.                                                                   |
| C2NUMAPCOMP  | C2 C08C Number of AP computer science courses offered                       | Values greater than 2 recoded as 2 on the public use file.                                                                   |
| C2PCTAP      | C2 C09 % 12th graders who have taken in AP course(s)                        | Sparse values recoded to similar values on the public use file.                                                              |
| C2NUMAPEXAM  | C2 C10 Number of AP exams taken by 9th-12th graders                         | Variable suppressed with -5 values on the public use file.                                                                   |
| C2NUMAP3PLUS | C2 C11 Number of AP exam scores that were 3 or higher                       | Variable suppressed with -5 values on the public use file.                                                                   |
| C2PCTEQUITY  | C2 C12A Equity and Excellence percentage                                    | Sparse values recoded to similar values on the public use file.                                                              |
| C2NUMIB      | C2 C13 Number of higher level IB courses offered                            | Sparse values recoded to similar values on the public use file.                                                              |
| C2NUMIBSCI   | C2 C14A Number of higher level IB science courses offered                   | Values greater than 6 recoded as 6 on the public use file.                                                                   |
| C2NUMIBMATH  | C2 C14B Number of higher level IB math courses offered                      | Values greater than 3 recoded as 3 on the public use file.                                                                   |
| C2PCTIB      | C2 C15 % 12th graders in IB program                                         | Sparse values recoded to similar values on the public use file.                                                              |
| C2NUMIBEXAM  | C2 C16 Number of IB exams taken by 9th-12th graders                         | Variable suppressed with -5 values on the public use file.                                                                   |
| C2NUMIB4PLUS | C2 C17 Number of IB exam scores that were 4 or higher                       | Variable suppressed with -5 values on the public use file.                                                                   |
| C2NUMAPANDIB | C2 C18 Number of 9th-12th graders who have taken AP and IB exam             | Variable suppressed with -5 values on the public use file.                                                                   |
| C2NUMGRADS   | C2 C19 Number of seniors graduated, 2010-2011                               | Sparse values recoded to similar values on the public use file.                                                              |
| C2AVGSATREAD | C2 C20A Average SAT critical reading score                                  | Sparse values recoded to similar values on the public use file.                                                              |
| C2AVGSATMATH | C2 C20B Average SAT mathematics score                                       | Sparse values recoded to similar values on the public use file.                                                              |
| C2AVGSATWRIT | C2 C20C Average SAT writing score                                           | Sparse values recoded to similar values on the public use file.                                                              |



**Table J-1. Comparison of Public- and Restricted-use Files—Continued**

| FieldName    | FieldLabel                            | Treatment                                                                                          |
|--------------|---------------------------------------|----------------------------------------------------------------------------------------------------|
| C2AVGACTENG  | C2 C21A Average ACT English score     | Values less than 15 recoded as 15 and values greater than 27 recoded as 27 on the public use file. |
| C2AVGACTMATH | C2 C21B Average ACT mathematics score | Values less than 16 recoded as 16 and values greater than 27 recoded as 27 on the public use file. |
| C2AVGACTREAD | C2 C21C Average ACT reading score     | Values less than 16 recoded as 16 and values greater than 26 recoded as 26 on the public use file. |
| C2AVGACTSCI  | C2 C21D Average ACT science score     | Values less than 16 recoded as 16 and values greater than 26 recoded as 26 on the public use file. |
| C2AVGACTCOMP | C2 C21E Average ACT composite score   | Values less than 16 recoded as 16 and values greater than 28 recoded as 28 on the public use file. |

\*Note on “Sparse values recoded to similar values on the public use file.” As in the base year and as on the ECB, this notation means that sparse values were re-coded to values that had counts that were close to it, e.g. changed to similar near-neighbors.

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