

# 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17)

Data File Documentation

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# Executive Summary

The 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17), conducted by the National Center for Education Statistics (NCES) at the U.S. Department of Education, is the second follow-up of students who began postsecondary education in the 2011–12 academic year. BPS:12/17 draws from the 2011–12 National Postsecondary Student Aid Study (NPSAS:12) to create a nationally representative sample of first-time beginning (FTB) undergraduate students. The data collected in this second follow-up are intended to provide researchers and policymakers with key information on persistence and attainment in the sixth academic year after students' initial enrollment in postsecondary education.

## Sample Design

The target population for the BPS:12/17 full-scale collection consisted of all students who began their postsecondary education for the first time during the 2011–12 academic year at any postsecondary institution in the United States that was eligible for inclusion in NPSAS:12. The participating institutions and several administrative data sources provided data to aid in identifying potential FTB students within the NPSAS:12 sampling frame. NPSAS:12 purposefully oversampled these potential FTB students in order to provide a sufficient pool of study members from which to draw the BPS:12 cohort.

The sample for the first follow-up of these students (BPS:12/14) consisted of three groups according to their base-year response status: NPSAS:12 study members who completed the student interview and were found to be FTB students, a subsample of potential FTB students who were NPSAS:12 study members but student-interview nonrespondents, and a subsample of potential FTB students who were not NPSAS:12 study members. The BPS:12/17 sample was a subset of the BPS:12/14 sample, with the main source of change being the exclusion of BPS:12/14 sample members who were determined in the first follow-up not to be FTB students and were therefore ineligible for BPS. The final sample comprised approximately 35,540 students.

## Student-Interview Design and Data Collection

As part of a longitudinal study, the BPS:12/17 student survey included many long-standing BPS data elements such as postsecondary enrollment history, financial aid and borrowing, employment, and career expectations. The purpose of BPS is to contribute to a better understanding of how these factors relate to three key postsecondary outcomes: persistence, degree attainment, and employment. The BPS:12/17 survey was broken down into six key content areas—enrollment, education experiences, financial aid, employment, income and expenses, and background.

Data collection for the BPS:12/17 survey consisted of an early-response phase and the production phase. Throughout the entire data collection, sample members could complete the survey via telephone or web (nonmobile and mobile); the two were identical. Quality control procedures used during data collection included frequent monitoring of recorded interviews, a help desk to assist sample members, quality circle meetings to facilitate communication among staff members, and debriefing meetings.

BPS:12/17 employed a technique known as responsive design to increase response rates and reduce nonresponse bias during data collection. A randomized control-treatment experiment was implemented to examine the degree to which the responsive design targeted interventions increased response rates and reduced nonresponse. A comparison of the control and treatment groups suggests that the responsive design increased response rates overall and reduced remaining nonresponse bias after nonresponse adjustments. In addition, approximately 10 percent of BPS:12/17 sample members were randomly selected to form a calibration sample to identify optimal monetary incentives, with the remaining students forming the main sample. Both the calibration and main samples were subject to the same data-collection activities. Staff embedded two experiments in the data collection of the calibration sample to inform decisions about incentives in subsequent data collection for the main sample. These calibration experiments determined that a prepaid incentive was not necessary for this cohort and also informed the optimal incentive strategy for the hard-to-convert group of sample members who were nonrespondents in both the NPSAS:12 and BPS:12/14 student surveys.

Of the total sample (both calibration and main sample members), 29,070 students were located and 22,530 (67 percent of the eligible sample) completed a full, abbreviated, or partial survey. About 10,450 (46 percent) of the surveys were completed by web on a nonmobile device; 9,160 (41 percent) were completed by web on a mobile device; and 2,920 (13 percent) were completed by telephone.

## Administrative Data Sources

In addition to the student interview, a portion of the student data for BPS:12/17 came from administrative databases. The BPS:12 cohort was matched to the Central Processing System (CPS) and the National Student Loan Data System (NSLDS). Additional data sources included the National Student Clearinghouse (NSC) and the Veterans Benefits Administration. CPS offers information collected on students' Free Application for Federal Student Aid form; this information was available for 36 percent of the sample in the 2014–15 financial aid year, 29 percent of the sample in the 2015–16 financial aid year, 21 percent of the sample in the 2016–17 financial aid year, and 16 percent of the sample in the 2017–18 financial aid year. Through NSLDS, BPS staff obtained student-level data on the nature and amount of Pell Grants and federal student loans. Seventy percent of the sample were identified as having borrowed a federal student loan, and 69 percent were identified as having received a Pell Grant. The NSC StudentTracker<sup>®</sup> service provided information on postsecondary enrollment, degrees, and certificates on behalf of participating postsecondary institutions. Information was identified from at least one institution between the 2014–15 and 2017–18 academic years for 85 percent of the sample.

## Data File Processing and Preparation

Staff processed the BPS:12/17 data using procedures developed and implemented for previous studies sponsored by NCES, including the base-year study. Following data collection, staff subjected the data collected in the student instrument to various quality control check procedures. For example, staff confirmed that the data reflected appropriate skip patterns. These procedures also involved examination of all variables with missing data and substitution of specific values to indicate the reason for the missing data.

To protect the confidentiality of study member information and to minimize disclosure risks, BPS:12/17 data were subject to data swapping, a perturbation procedure approved by the Institute of Education Sciences Disclosure Review Board. All respondents were eligible for swapping. Perturbation was carried out using specific, targeted, but undisclosed, swap rates. An extensive data-quality check was carried out to assess and limit the impact of swapping.

After swapping, staff imputed missing data for all variables included in the restricted-use derived file and in the public-use data available through the NCES online application PowerStats.<sup>1</sup> After filling in missing data for cases where values could be

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<sup>1</sup> PowerStats can be accessed at <https://nces.ed.gov/datalab/>.

deduced with certainty based upon logical or mathematical relationships among observed variables, the weighted sequential hot deck method was used to replace missing data by imputing plausible values from statistically selected donor cases (Cox 1980; Iannacchione 1982). Staff examined the data and resolved apparent anomalies as needed.

Analysts then created the main study derived variables by examining the data available from the various data sources, prioritizing the data sources on an item-by-item basis, and reconciling discrepancies within and between sources. Details about the creation of each variable appear in the variable descriptions contained in the PowerStats documentation and codebooks for the restricted files.

## Weighting and Variance Estimation

Because the BPS:12/17 sample members are a subset of the NPSAS:12 sample, statisticians derived the weights for analyzing the BPS:12/17 data from the NPSAS:12 student design weights. The NPSAS:12 student design weights for BPS:12/17 sample members were adjusted to account for subsampling, unknown student eligibility, and nonresponse. They were also calibrated to weighted estimates obtained from NPSAS:12 and population estimates obtained from the 2010–11 Integrated Postsecondary Education Data System (IPEDS:2010–11) Fall Enrollment file (EF2011A) and the IPEDS:2011–12 Student Financial Aid and Net Price file (SFA1112).

The BPS:12/17 sample was a subset of the BPS:12/14 first follow-up sample in which individuals who were deceased or determined not to be FTB students were excluded. Because some BPS:12/17 respondents did not respond in BPS:12/14, two analysis weights were constructed for BPS:12/17. The first weight, the cross-sectional weight, was created for all BPS:12/17 survey respondents regardless of their NPSAS:12 or BPS:12/14 response status. The second weight, referred to as the panel weight, was created for all BPS:12/17 respondents who also responded in BPS:12/14.

The overall BPS:12/17 response rate is an estimate of the proportion of the study population directly represented by the respondents. Because the BPS:12/17 study includes a subsample of NPSAS:12 nonrespondents, the overall BPS:12/17 response rate is the product of the NPSAS:12 institution-level response rate times the BPS:12/17 student-level survey response rate. Therefore, the overall BPS:12/17 response rates can only be estimated directly for defined institutional characteristics. Only the weighted response rates can be interpreted as estimates of the proportion

of the BPS:12/17 population that is directly represented by the respondents. Using the cross-sectional weight, across all sectors, survey respondents made up 67 percent of the eligible BPS:12/17 sample. The unweighted rate varied from 53 percent to 79 percent by sector.



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# Chapter 1. Overview of BPS:12/17

This report describes the design, methods, and results of the 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) and serves as a resource for users of the study's data file. Chapter 1 describes the background and purpose, study design, and schedule and products of BPS:12/17. Chapter 2 presents the sampling details of the BPS:12 cohort and related 2011–12 National Postsecondary Student Aid Study (NPSAS:12) sampling procedures. Chapter 3 focuses on the student survey, providing descriptions of the development process, details of the data collection and outcomes, and results of student survey data-quality evaluations. Chapter 4 focuses on administrative data for the BPS:12/17 cohort, including description of matching to administrative databases such as the Central Processing System (CPS) and the National Student Loan Data System (NSLDS). Chapter 5 summarizes the data file processing and preparation procedures such as post-collection data processing, perturbation, imputation, and derived variables. Chapter 6 provides information pertaining to the weighting procedures, including a description of the analysis weights, variance estimation procedures, overall response rates, and the accuracy of the estimates. Appendix A provides a list of acronyms and abbreviations used throughout the report.

BPS:12/17 is a nationally representative study of first-time beginning (FTB) postsecondary students conducted by the National Center for Education Statistics (NCES) at the U.S. Department of Education. BPS is designed to cover topics pertaining to student persistence and attainment in postsecondary education, and transition into the workforce. The study includes student surveys as well as the collection of administrative data from institutions where the students were enrolled and from other relevant data sources, including U.S. Department of Education records on student financial aid.

The BPS:12 cohort was sampled from the NPSAS:12 sampling frame, and the NPSAS:12 student survey included items to collect base-year data for the BPS study.<sup>1</sup> The 2012/14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14, documented in Hill et al. 2016) was the first follow-up data collection with this cohort. BPS:12/17 is the second follow-up.

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<sup>1</sup> Detailed information about NPSAS:12 is available in the study's Data File Documentation (Wine, Bryan, and Siegel 2014).

Tables and figures throughout this report present relevant analyses from the full-scale collection. Due to rounding, row and column entries in tables may not sum to their respective totals, and reported percentages may differ somewhat from those that would result from the rounded numbers. Rounding is used to ensure the confidentiality of study respondents.

## 1.1 Background and Purpose of BPS

BPS is one of several NCES studies developed to address the need for nationally representative data on important postsecondary education issues. BPS cohorts include FTB undergraduate students in postsecondary institutions. Follow-up data collections capture the academic progress and persistence in postsecondary education of a BPS cohort after its initial entry into a postsecondary institution.

BPS data are collected from student surveys and administrative data sources that include postsecondary institutions, federal agencies, and other data providers. Examples of postsecondary institution administrative data include academic transcripts and financial aid records. Examples of federal administrative data include data on financial aid applications and student loans, and examples of other data providers include the National Student Clearinghouse (NSC) and College Board. The student survey instrument includes items grouped by six key content areas: enrollment, education experiences, financial aid, employment, income and expenses, and background. With these data, researchers, policymakers, practitioners, and other users can address topics such as persistence and attainment, employment during enrollment, financial aid and borrowing, education and career expectations, and employment outcomes after leaving postsecondary education. For more detailed information on the specific contents of the BPS:12/17 student survey and on administrative data sources, see chapter 3, section 3.1, and chapter 4, respectively.

BPS FTB students are surveyed at three points in time: in the base year (through items that were included in the NPSAS student survey instrument) and at two subsequent intervals. The BPS:90 cohort was followed up 3 and 5 years after the NPSAS:90 student survey. The BPS:96 cohort established a pattern that has continued, following up with the students 3 and 6 years after the NPSAS:96 student survey.

Previous cycles of NPSAS, as well as BPS, are authorized by the following legislation:

- the Higher Education Opportunity Act of 2008, 20 U.S.C. § 1015(A)(k); and
- the Education Sciences Reform Act of 2002, 20 U.S.C. § 9543.

Table 1 shows the timeline for the base year and subsequent follow-ups for each BPS cohort.

**Table 1. Chronology of BPS: 1990–2017**

<b>BPS cohort</b>	<b>Base-year study</b>	<b>First follow-up</b>	<b>Second follow-up<sup>1</sup></b>
BPS:90	NPSAS:90	BPS:90/92	BPS:90/94
BPS:96	NPSAS:96	BPS:96/98	BPS:96/01
BPS:04	NPSAS:04	BPS:04/06	BPS:04/09
BPS:12	NPSAS:12	BPS:12/14	BPS:12/17

<sup>1</sup> The second follow-up for the BPS:90 cohort was conducted 5 years after postsecondary enrollment. Second follow-ups of all subsequent cohorts were conducted after 6 years.

NOTE: BPS = Beginning Postsecondary Students Longitudinal Study; NPSAS = National Postsecondary Student Aid Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 1.2 Overview of BPS:12/17 Design and Data Collection

The target population for BPS:12/17 consisted of all students who began their postsecondary education for the first time during the 2011–12 academic year at any Title IV eligible postsecondary institution in the United States,<sup>2</sup> and the BPS:12 cohort was sampled from the NPSAS:12 sampling frame. BPS:12/17 included both a student survey and collection of administrative data. The student survey instrument was tested in the BPS:12/17 pilot test before its design was finalized.<sup>3</sup>

The BPS:12/17 student survey included core data elements used in previous BPS surveys, including elements identified through a redesign that used a research framework, the human capital model. These elements addressed the costs and benefits associated with enrolling and persisting in higher education, a key principle of the human capital framework (Becker 1975). Like the BPS:12/14 student survey, the BPS:12/17 student survey included an expanded employment section that provided additional data on students' labor market experiences and outcomes. In particular, new questions (first used in NPSAS:12) focused on respondents' choice of a major or field of study, nonmonetary benefits of education, and future expected earnings and occupation.

Programmers developed the BPS:12/17 survey using proprietary software that provided specifications, programming, and testing interfaces for the student survey instrument. All information relating to the survey (including details about the study, what to expect, and confidentiality) was stored in a structured query language (SQL)

<sup>2</sup> A Title IV eligible institution is an institution that has a written agreement (program participation agreement) with the U.S. Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs other than the State Student Incentive Grant and the National Early Intervention Scholarship and Partnership programs.

<sup>3</sup> For a detailed report of pilot test procedures, see appendix C. A summary of modifications to the study design as a result of the pilot test can be found in section 4 of appendix C.

server database and was made accessible to the BPS:12/17 sample members through web browser interfaces.

The BPS:12/17 student survey incorporated a responsive-design data-collection plan similar to the one used in BPS:12/14, in which the web-based survey was administered in two separate substudies: a calibration study and the main study. The calibration study, initiated first, evaluated the use of a prepaid incentive to boost response rates. About 10 percent of the BPS:12/17 full-scale sample members were randomly selected to be included in the calibration study, with data collection beginning in early March 2017. The main study started approximately 7 weeks later and collected data from the remaining sample members in several phases which, for previous nonrespondents, involved targeted incentive boosts, targeted early offers of an abbreviated survey, and transfer of all remaining nonrespondents to an abbreviated survey. The most significant differences from the BPS:12/14 data collection were the addition of a special protocol for sample members who had not responded to either of the prior student surveys (neither NPSAS:12 nor BPS:12/14) and the addition of a randomized control-treatment experiment to measure the impact of the responsive-design targeted interventions on nonresponse bias.<sup>4</sup>

To supplement the student surveys, BPS staff obtained additional information from a variety of administrative data sources. Staff matched and downloaded student financial aid data from CPS, which houses and processes data contained in the Free Application for Federal Student Aid (FAFSA) forms. Staff also obtained data from NSLDS, which contains Title IV loan and grant data, and NSC, which contains enrollment and degree-attainment information provided by participating institutions.

Data-collection procedures were similar to those used in BPS:12/14. A multistep process (described in section 3.2.3), was used to locate, trace, and contact sample members. This process included a panel-maintenance mailing and e-mail, batch and intensive tracing, and a mailing and e-mail inviting sample members to complete the survey. During data collection, a study website and help desk provided information and support to sample members. Sample members could complete the survey independently on the Web, or interviewers trained in computer-assisted telephone interviewing (CATI) methods were available to help sample members complete the survey over the telephone. Quality control procedures used in student survey data collection included frequent monitoring of recorded interviews, a help desk to assist sample members who had questions about the study or completion of the web

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<sup>4</sup> The special protocol for sample members who had not responded to either of the prior student surveys involved use of higher incentives. The impact of responsive-design targeted interventions on nonresponse bias is described in section 3.3.11.

survey, quality circle meetings to facilitate communication among staff members, and debriefing meetings to identify areas of success and for improvement.

Throughout the data-collection period, BPS staff processed and examined the data for quality. After the conclusion of data collection, BPS staff imputed missing data for selected variables included in the restricted-use research file and in the public-use data available through the NCES online application PowerStats. Analysts created the analytic variables by examining the data for each student from all available data sources, prioritizing the data sources on a variable-by-variable basis, and reconciling discrepancies within and between sources. Following imputation, BPS statisticians conducted weighting procedures to adjust for nonresponse and poststratification.

## 1.3 Schedule and Products

Table 2 summarizes the schedule for the major BPS:12/17 data-collection activities. Products include electronically documented restricted-use data files (with associated codebooks) and the NCES online application PowerStats,<sup>5</sup> which are available for use by researchers. Chapter 5 contains a description of the restricted-use research files and the datasets that they include.

In addition to the restricted-use files and documentation, BPS:12/17 has produced a First Look report that provides descriptive information for the BPS:12 cohort, special tabulations on issues of interest to the higher education community, and descriptive reports of significant findings for dissemination to a broad range of audiences. A list of these publications is available at

<https://nces.ed.gov/surveys/bps/>.

**Table 2. Schedule of major data-collection activities for BPS:12/17: 2016–19**

<b>BPS:12/17 data-collection activity</b>	<b>Start date</b>	<b>End date</b>
Finalize student sample	4/26/2016	2/22/2017
Conduct self-administered web-based data collection	3/1/2017	1/8/2018
Conduct telephone interviews with students	3/21/2017	1/8/2018
Conduct matching to administrative data sources	9/4/2017	1/19/2018
Process data, construct data files	3/2/2017	5/9/2019

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

<sup>5</sup> PowerStats can be accessed at <https://nces.ed.gov/datalab/>.





## Chapter 2. Sampling

This chapter describes the student universe and sampling methods used to produce a nationally representative sample of FTB students for BPS:12/17. It also discusses the sampling methods for the prior data collections with this BPS cohort, including the two-stage sampling design used for the first (base-year) data collection, NPSAS:12, which produced this BPS cohort. That design began with the selection of postsecondary institutions, followed by selection of students from these institutions. Pertinent to this sampling design was the definition of a base-year study member and the identification of FTB students. The discussion also outlines the sampling methods used in the first follow-up data collection, BPS:12/14.

### 2.1 Student Universe

The student universe for BPS:12/17 consisted of all students who began their postsecondary education for the first time during the 2011–12 academic year at any postsecondary institution in the United States that was eligible for inclusion in NPSAS:12. The BPS:12 cohort, or the BPS:12/14 sample, was created from the set of confirmed and potential FTB students identified in NPSAS:12. In turn, the BPS:12/17 sample was created from the BPS:12/14 sample, using additional data obtained during the BPS:12/14 data collection.

The NPSAS:12 institution and student universes are defined in greater detail in the subsections that follow.

#### 2.1.1 *Institution Universe for NPSAS:12*

To be eligible for NPSAS:12, students must have been enrolled in eligible institutions, which were required during the 2011–12 academic year to meet the following requirements:

- offer an educational program designed for persons who have completed secondary education;
- offer at least one academic, occupational, or vocational program of study lasting at least 3 months or 300 clock hours;

- offer courses that were open to more than the employees or members of the company or group (e.g., union) that administers the institution;
- be located in one of the 50 states or the District of Columbia;
- not be a U.S. service academy institution; and
- have signed the Title IV participation agreement with the U.S. Department of Education.<sup>6</sup>

NPSAS excluded institutions providing only avocational, recreational, or remedial courses, or only in-house courses for their own employees or members. U.S. service academies (the U.S. Air Force Academy, the U.S. Coast Guard Academy, the U.S. Military Academy, the U.S. Merchant Marine Academy, and the U.S. Naval Academy) were also excluded because of the academies' unique funding base.

The institution eligibility conditions across NPSAS cohorts have been relatively consistent, with a few notable exceptions. The NPSAS:12 cohort includes three such exceptions. First, beginning with NPSAS:2000 and continuing through NPSAS:12, an institution had to be eligible to distribute federal Title IV aid to be included. Next, institutions that offered only correspondence courses were first included in NPSAS:04 and continued to be included through NPSAS:12. Last, the NPSAS:12 sample did not include institutions and students located in Puerto Rico; this omission is exclusive to NPSAS:87 and NPSAS:12.

## 2.1.2 *Student Universe for NPSAS:12*

The NPSAS:12 student universe consisted of all eligible students who were enrolled at any time between July 1, 2011, and June 30, 2012, at eligible postsecondary institutions in the United States and who were

- enrolled in either: (1) an academic program; (2) at least one course for credit that could be applied toward fulfilling the requirements for an academic degree; (3) exclusively noncredit remedial coursework but determined by the institution to be eligible for Title IV aid; or (4) an occupational or vocational program that required at least 3 months or 300 clock hours of instruction to receive a degree, certificate, or other type of formal award;
- not currently enrolled in high school; and
- not solely enrolled in a high school completion program.

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<sup>6</sup> A Title IV eligible institution is an institution that has a written agreement (program participation agreement) with the U.S. Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs other than the State Student Incentive Grant and the National Early Intervention Scholarship and Partnership programs.

## 2.2 Institution and Student Samples for NPSAS:12

NPSAS:12 used a two-stage sampling design. The first stage involved the selection of institutions from a sampling frame that included 6,670 postsecondary institutions in the United States. In the second stage, students were selected from sampled institutions, with special emphasis placed on identifying FTB students. NPSAS:12 staff also created a study member definition by identifying key data elements across data sources that were necessary to support the analytic objectives of the study. Study members were students in the NPSAS:12 sample for whom a minimum number of these key data elements were collected.

### 2.2.1 Institution Sample for NPSAS:12

NPSAS project staff constructed the NPSAS:12 institution sampling frame of 6,670 institutions from the 2008–09 Integrated Postsecondary Education Data System (IPEDS:2008–09) Institutional Characteristics (IC), Fall Enrollment (EF), 12-month Enrollment (E12), and Completions (C) files. For the small number of institutions in the frame that had missing enrollment information, NPSAS statisticians imputed the data following IPEDS imputation procedures (see Ginder, Kelly-Reid, and Mann, 2016) so that all data derived from IPEDS were consistent.

NPSAS statisticians selected institutions for the initial sample using sequential probability minimum replacement (PMR) sampling (Chromy 1979), which resembles stratified systematic sampling with probabilities proportional to a composite measure of size (Folsom, Potter, and Williams 1987). This is the same methodology that has been used since NPSAS:96. To prevent PMR from allowing institutions to be selected multiple times, all institutions with a probability of being selected more than once were included in the sample one time with certainty.

NPSAS statisticians determined institution measures of size using enrollment data from the most recent IPEDS EF and E12 components. This helped to ensure that NPSAS achieved target sample sizes within institution and student sampling strata, while also achieving approximately equal student weights across institutions.

The initial sample consisted of 1,970 institutions within 10 institutional strata. NPSAS staff divided the strata into the following categories based on institution control, level, and highest level of offering:<sup>7</sup>

- public less-than-2-year;

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<sup>7</sup> The institution strata can be aggregated by control or level of the institution for the purposes of reporting institution counts.

- public 2-year;
- public 4-year, non-doctorate-granting;
- public 4-year, doctorate-granting;
- private nonprofit less-than-4-year;
- private nonprofit 4-year, non-doctorate-granting;
- private nonprofit 4-year, doctorate-granting;
- private for-profit less-than-2-year;
- private for-profit 2-year; and
- private for-profit 4-year.

Although prior NPSAS administrations aggregated private for-profit 2-year and 4-year institutions into one sampling stratum, NPSAS:12 split the two into separate strata to reflect the recent growth in enrollment in the private for-profit sector.

Within each institution stratum, NPSAS statisticians accomplished additional implicit stratification by sorting the sampling frame within strata by the following classifications:<sup>8</sup> (1) Historically Black Colleges and Universities status; (2) Hispanic-Serving Institutions (HSIs) status;<sup>9</sup> (3) Carnegie classifications of degree-granting postsecondary institutions;<sup>10</sup> (4) 2-digit Classification of Instructional Programs code of the largest program for less-than-2-year institutions; (5) the Office of Business Economics Region from the IPEDS IC file (Bureau of Economic Analysis of the U.S. Department of Commerce Region); (6) state and system for states with large systems, e.g., the SUNY and CUNY systems in New York, the state and technical colleges in Georgia, and the California State University and University of California systems in California; and (7) the institution measure of size. The objective of this implicit stratification was to approximate proportional representation of institutions on these measures.

From the initial sample of 1,970 institutions, 300 were selected for the field test using simple random sampling within strata. The remaining 1,670 were assigned to the full-scale sample. NPSAS statisticians freshened the institution sample using IPEDS:2009–10 IC, EF, E12, and C files when available. This freshening process identified 390 new and newly eligible institutions to produce a frame that more

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<sup>8</sup> *Implicit stratification* is the process in which strata are created during the sampling process by sorting the data, rather than creating the strata prior to sampling and selecting an independent sample from each stratum.

<sup>9</sup> The HSI indicator no longer exists in IPEDS. An HSI proxy was created using IPEDS Hispanic enrollment data.

<sup>10</sup> NPSAS collapsed some Carnegie categories for the purposes of implicit stratification.

closely represented institutions eligible for NPSAS:12 in the 2011–12 academic year. NPSAS statisticians then determined the freshened sample size such that the additional institutions would have similar probabilities of selection to the originally sampled institutions within strata in order to minimize unequal weights and subsequent variances. Twenty institutions were added to the full-scale sample, resulting in a total of 1,690 sampled institutions. Table 3 shows size of universe, institution sampling rate, and the number of institutions sampled, by institution stratum.

**Table 3. Size of universe, institution sampling rate, and number of institutions sampled, by institution stratum: 2011–12**

Institution stratum <sup>1</sup>	Size of universe <sup>2</sup>	Sampling rate	Sample size
<b>Total</b>	<b>7,050</b>	<b>24.0</b>	<b>1,690</b>
Public			
Less-than-2-year	270	8.1	20
2-year	1,110	34.4	380
4-year, non-doctorate-granting	360	36.5	130
4-year, doctorate-granting	310	74.4	230
Private nonprofit			
Less-than-4-year	260	7.6	20
4-year, non-doctorate-granting	1,030	25.2	260
4-year, doctorate-granting	560	39.8	220
Private for-profit			
Less-than-2-year	1,510	3.6	60
2-year	1,030	11.2	120
4-year	620	41.7	260

<sup>1</sup> Institution stratum reflects institutional categorization as determined from the 2008–09 and 2009–10 Integrated Postsecondary Education Data System (IPEDS) files; some changes in this classification were identified when institutions were contacted.

<sup>2</sup> Based on IPEDS:2008–09 and IPEDS:2009–10 data.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Table 4 shows the counts of sampled, eligible, and participating institutions, as well as the weighted and unweighted participation rates, by control and level of institution. Almost all of the 1,690 sampled institutions met the eligibility requirements.<sup>11</sup> Of those eligible institutions, 88 percent provided enrollment lists, which is similar to rates obtained in previous rounds of NPSAS.

<sup>11</sup> Eligibility requirements for institutions are described above in section 2.1.1.

**Table 4. Numbers of sampled and eligible institutions, number providing enrollment lists, and participation rates, by control and level of institution: 2011–12**

Control and level of institution <sup>1</sup>	Sampled institutions	Eligible institutions	Institutions providing lists		
			Number	Unweighted percent	Weighted percent <sup>2</sup>
<b>All institutions</b>	<b>1,690</b>	<b>1,690</b>	<b>1,480</b>	<b>87.8</b>	<b>87.0</b>
Control of institution					
Public	760	760	670	88.5	87.3
Private nonprofit	500	500	440	88.4	86.7
Private for-profit	430	430	370	85.9	85.6
Level of institution					
Less-than-2-year	80	80	70	79.5	79.8
2-year	510	510	430	83.9	83.6
4-year, non-doctorate-granting	630	630	570	90.5	90.5
4-year, doctorate-granting	470	470	420	89.9	89.2
Control, level, and degree offering of first institution with degree-granting status					
Public					
Less-than-2-year	20	20	20	77.3	78.8
2-year	380	380	320	85.3	84.1
4-year, non-doctorate-granting	130	130	120	93.8	92.3
4-year, doctorate-granting	230	230	210	91.7	90.5
Private nonprofit					
Less-than-4-year	20	20	20	75.0	77.7
4-year, non-doctorate-granting	260	260	230	88.8	87.6
4-year, doctorate-granting	220	220	200	89.1	86.4
Private for-profit					
Less-than-2-year	60	50	40	81.5	80.3
2-year	120	120	90	80.0	77.5
4-year	260	260	230	89.5	89.5

<sup>1</sup> Control and level of institution are based on data from the sampling frame formed from 2008–09 Integrated Postsecondary Education Data System (IPEDS:2008–09) data and freshened from IPEDS:2009–10.

<sup>2</sup> The weight used for this column is a base weight.

NOTE: Percentages are based on the unrounded count of eligible institutions within the row under consideration. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

## 2.2.2 Student Sample for NPSAS:12

Once NPSAS staff verified a sampled institution as NPSAS eligible, they asked for identifying, classifying, and locating information for each student enrolled between July 1, 2011, and April 30, 2012,<sup>12</sup> in order to create the student sampling frame. The following data were requested:

<sup>12</sup> The NPSAS:12 sampling frame consisted of all eligible students enrolled at any time between July 1, 2011, and June 30, 2012. However, most institutions provided enrollment lists that covered the period of July 1, 2011, through April 30, 2012. The date of April 30 was selected to include virtually all students enrolled prior to the summer term without delaying data collection. Weighting procedures are designed to represent any students not represented due to this undercoverage using poststratification control totals, as described in section 6.1.4.

- student's name;
- Social Security number (SSN);
- student ID number (if different from SSN);
- student level (undergraduate, master's, doctoral-research/scholarship/other, doctoral-professional practice, other graduate);
- FTB indicator;
- class level of undergraduates (first year, second year, etc.);
- date of birth;
- Classification of Instructional Program code or major;
- undergraduate degree program;
- high school graduation date (month and year); and
- contact information (local street address and telephone number, permanent street address and telephone number, and school and home e-mail address).

Because locating data were included in enrollment lists, web-based student record collection and interviewing could begin almost immediately after sample selection. For institutions unwilling to provide locating data for the entire list of students, NPSAS statisticians selected the student sample from the identifying and classifying student data. They then requested locating data for only sampled students immediately afterward. Chapter 3, section 3.2.3, contains details about the locating process.

Statisticians sampled students by means of stratified systematic sampling with predetermined sampling rates that varied by student stratum, as described in appendix B of the NPSAS:12 data file documentation (Wine, Bryan, and Siegel 2014). Following are the 11 student sampling strata:

1. FTB undergraduate students enrolled in certificate programs;
2. other FTB undergraduate students;
3. other undergraduate students;<sup>13</sup>
4. master's degree students in science, technology, engineering, and mathematics (STEM) programs;
5. master's degree students in education and business programs;

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<sup>13</sup> *Other undergraduate students* are defined as any undergraduate students not classified as first-time beginning students.

6. master's degree students in other programs;
7. doctoral-research/scholarship/other students in STEM programs;
8. doctoral-research/scholarship/other students in education and business programs;
9. doctoral-research/scholarship/other students in other programs;
10. doctoral-professional practice students; and
11. other graduate students.<sup>14</sup>

To eliminate cross-institution duplication of students, statisticians compared SSNs of sample members across institutions. Multiplicity adjustments in the sample weighting accounted for the fact that any students who attended more than one institution during the NPSAS year had more than one opportunity for selection, as described in section 6.3.3 of the NPSAS:12 data file documentation (Wine, Bryan, and Siegel 2014).

NPSAS statisticians calculated initial student sampling rates for each sample institution, using sampling rates designed to generate approximately equal probabilities of selection within the ultimate institution-by-student sampling strata. However, they sometimes modified these rates as follows:

- NPSAS statisticians increased student sampling rates so that the sample size for each sampled institution was at least 10 students (if possible) to ensure sufficient yield for variance estimation.
- NPSAS statisticians decreased student sampling rates if the sample size was greater than 300, so that no institution would have more than 300 sample members.
- To ensure that the desired student sample sizes were achieved, statisticians monitored sample yield throughout enrollment list collection and adjusted student sampling rates periodically for institutions for which sample selection had not yet been performed.

The full-scale sample achieved a size of about 128,120 students—approximately 59,740 were potential FTB students, 51,050 were other undergraduate students, and 17,330 were graduate students (table 5). The achieved sample size was higher than originally targeted because institution participation rates were higher than estimated,

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<sup>14</sup> *Other graduate students* are those who are not enrolled in a degree program, such as students just taking graduate courses.



sampling continued longer than scheduled, and a higher sample size was desired to help meet survey yield targets.

**Table 5. Initial classification of NPSAS:12 student sample, by student type and control and level of institution: 2011–12**

Control and level of institution	Total sample <sup>2</sup>		Student type <sup>1</sup>					
			Potential FTB student		Other undergraduate		Graduate	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Total</b>	<b>128,120</b>	<b>100.0</b>	<b>59,740</b>	<b>100.0</b>	<b>51,050</b>	<b>100.0</b>	<b>17,330</b>	<b>100.0</b>
Control of institution								
Public	66,500	51.9	25,930	43.4	33,270	65.2	7,300	42.1
Private nonprofit	19,680	15.4	7,200	12.1	4,660	9.1	7,820	45.1
Private for-profit	41,940	32.7	26,610	44.5	13,130	25.7	2,210	12.7
Level of Institution								
Less-than-2-year	6,380	5.0	3,920	6.6	2,450	4.8	10	#
2-year	48,040	37.5	25,670	43.0	22,320	43.7	50	0.3
4-year, non-doctorate-granting	37,530	29.3	20,260	33.9	13,130	25.7	4,150	23.9
4-year, doctorate-granting	36,170	28.2	9,890	16.6	13,160	25.8	13,130	75.7
Control and level of Institution								
Public								
Less-than-2-year	790	0.6	510	0.9	280	0.5	#	#
2-year	37,000	28.9	18,570	31.1	18,380	36.0	50	0.3
4-year, non-doctorate-granting	8,180	6.4	2,560	4.3	4,320	8.5	1,310	7.6
4-year, doctorate-granting	20,530	16.0	4,290	7.2	10,300	20.2	5,940	34.3
Private nonprofit								
2-year or less	1,090	0.8	630	1.1	450	0.9	#	#
4-year, non-doctorate-granting	8,520	6.7	3,130	5.2	2,930	5.7	2,460	14.2
4-year, doctorate-granting	10,070	7.9	3,440	5.8	1,280	2.5	5,360	30.9
Private for-profit								
Less-than-2-year	5,270	4.1	3,150	5.3	2,120	4.2	10	#
2-year	10,280	8.0	6,730	11.3	3,540	6.9	#	#
4-year	26,390	20.6	16,730	28.0	7,470	14.6	2,200	12.7

# Rounds to zero.

<sup>1</sup> The two FTB student strata have been combined; and the three master's, four doctoral, and other graduate strata have been combined.

<sup>2</sup> The student sample was drawn from 1,480 eligible institutions that provided enrollment lists.

NOTE: FTB = first-time beginning. The counts presented in this table are based on the sampling frame classification; student type was subject to change based on subsequent collection of administrative or student survey data. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

## 2.2.3 Study Membership in NPSAS:12

Consistent with NPSAS:04 and NPSAS:08, NPSAS:12 staff identified key variables across the various data sources—student records; student surveys; and federal and private administrative databases such as CPS, NSLDS, NSC, ACT files, and SAT files—to define a minimum set of required student-level data elements necessary to support the analytic objectives of the study. Staff classified sample members as *study*

*members* when a minimum number of variables were available. These study members were the NPSAS:12 unit of analysis. Specifically, a study member was any sample member who NPSAS staff determined to be eligible for the study, per the criteria delineated in section 2.1.2, and who had, at a minimum, valid data from any combination of sources for the following variables:

- student type (undergraduate or graduate);
- date of birth (or age);
- sex; and
- at least 8 of the following 15 variables:
  - dependency status,
  - marital status,
  - any dependents,
  - income,
  - expected family contribution,
  - degree program,
  - class level,
  - FTB status,
  - months enrolled,
  - tuition,
  - received federal aid,
  - received nonfederal aid,
  - student budget,
  - race, and
  - parent education.

The final sample numbered 128,120 students. Of the final sample, 96 percent ( $n = 123,600$ ) were eligible for NPSAS based on the institution and student universe requirements defined in sections 2.1.1 and 2.1.2, respectively. On completion of data collection, NPSAS staff determined that 90 percent of the unweighted eligible sample and 91 percent of the weighted eligible sample had sufficient data to meet the definition of a study member.

#### **2.2.4 Identification of FTB Students in NPSAS:12**

To be included in the BPS:12 cohort sampling frame, students in the NPSAS:12 sample must have begun their postsecondary education for the first time, after

completing high school, between July 1, 2011, and April 30, 2012.<sup>15</sup> Previous BPS cohorts did not require that the NPSAS institution be the first institution a student attended after completing high school in order for the student to be included in the study. Therefore, the first institution a respondent attended was not necessarily the NPSAS institution. For the BPS:12 cohort, students who reported in the NPSAS:12 student survey enrollment section that the NPSAS institution was not the first postsecondary institution they attended after completing high school (22 percent) were excluded from the BPS:12 cohort sampling frame. This change—requiring that the NPSAS institution be the first postsecondary institution attended—increased data coverage for the first school, which is of analytical value for questions related to student persistence and attainment.

NPSAS survey staff prioritized the accurate identification of FTB students in NPSAS:12 to avoid misclassification, which can result in excessive cohort loss, costs to replenish the sample, and an inefficient sample design (excessive oversampling of potential FTB students) to compensate for anticipated misclassification error. In past NPSAS studies, institutions have not always been able to identify FTB students accurately. Specifically, some institutions had difficulty differentiating students who were simply new to the institution from true FTB students; that is, students enrolling in postsecondary education for the first time after completing high school.

The participating institutions and several administrative data sources provided data to aid in properly classifying FTB students within the NPSAS:12 sampling frame. Key data the institutions provided included an FTB student indicator, high school graduation date, and date of birth. Administrative data sources, including the NSLDS, CPS, and NSC, provided data that were of particular use in identifying prior enrollment by students who had been identified as potential FTB students (false positives).

The administrative databases were used in a presample matching process. NPSAS statisticians combined the FTB status indicator along with institutional data such as student's class and student levels detailed in section 2.2.2. These were used to identify and exclude misclassified FTB students in their third year or higher, as well as those who were not undergraduates. Statisticians combined date of birth with FTB status to identify students older than age 18 to send for presampling matching to one of the administrative databases. Because this administrative presampling

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<sup>15</sup> The NPSAS:12 sampling frame consisted of all eligible students enrolled at any time between July 1, 2011, and June 30, 2012. However, most institutions provided enrollment lists that covered the period of July 1, 2011, through April 30, 2012. The date of April 30 was selected to include virtually all students enrolled prior to the summer term without delaying data collection. Weighting procedures are designed to represent any students not represented due to this undercoverage using poststratification control totals as described in section 6.1.4.

matching was new to NPSAS:12, statisticians oversampled potential FTB students to ensure that NPSAS surveys would identify a sufficient number of confirmed FTB students. In addition, NPSAS statisticians set FTB student selection rates taking into account the error rates observed in NPSAS:04 and BPS:04/06 within each institutional stratum. Additional information on NPSAS:04 methodology is available in the study methodology report (Cominole et al. 2006) and the BPS:04/06 methodology report (Cominole et al. 2007). NPSAS statisticians adjusted these rates to reflect the expected improvement in the accuracy of the frame from the NSLDS, CPS, and NSC record matching. Statisticians used institutional strata-level FTB student error rates from the field test to help determine the rates necessary for full-scale student sampling.

Prior to sampling, NPSAS statisticians matched all students listed as potential FTB students within the NPSAS:12 sampling frame to NSLDS and CPS records, simultaneously, to determine if they had a federal financial aid history predating the NPSAS year (earlier than July 1, 2011). Because NSLDS maintains current records of all Title IV federal grant and loan funding, statisticians could reliably exclude any student with data showing student loan disbursements in a prior year from the sampling frame of FTB students. The CPS file contains an indicator of student type, including a status for FTB students. The limitation of both administrative data sources is that neither can identify false positives among students who were enrolled before July 1, 2011, but did not obtain federal financial aid. However, about 60 percent of FTB students receive some form of Title IV aid in their first year, and the matching process improved the accuracy of the list prior to sampling, yielding fewer false positives.

After the NSLDS and CPS matching, another matching process was performed with NSC data. Due to the expense of sending all cases to NSC, statisticians used information from BPS:04/06 to identify institutional strata that had high false-positive rates in this previous BPS cohort. BPS:04/06 was the first BPS cohort that had a detailed investigation of the false-positive rates and was the previous BPS cohort, so it served as the best proxy for how the current BPS cohort would likely behave. As a result, statisticians limited the NSC matching to potential FTB students who were over the age of 18 and attending public 2-year and private for-profit institutions.

When institutions did not provide an FTB indicator, NPSAS statisticians sampled a student as an FTB student if he or she was 18 years of age or younger and did not appear to be dually enrolled in high school. Conversely, if a student without an FTB indicator was over the age of 18 and not enrolled in high school, then NPSAS statisticians sampled that student as an “other undergraduate.” The “other

undergraduate” students would only be included in the BPS:12 cohort if they identified themselves as FTB students during the student survey.

Matching to NSLDS identified 20 percent of cases as false positives, and matching to CPS identified 17 percent as false positives (table 6). CPS also identified many of the false positives identified by NSLDS. Public less-than-2-year and private nonprofit less-than-4-year institutions had a high percentage of false positives but represented a small percentage of the total sample. Of the cases sent to NSC for matching, 7 percent were false positives. The NSC matching appeared most effective among public 2-year and private for-profit 2-year institutions. Overall, matching to all sources identified 27 percent of cases listed as FTB students as false positives.

**Table 6. Potential first-time beginning students' false-positive rates, by source and control and level of institution: 2011–12**

Control and level of institution	Total			Source								
				NSLDS			CPS			NSC		
	Sent for matching	False positives	Percent false positive	Sent for matching	False positives	Percent false positive	Sent for matching	False positives	Percent false positive	Sent for matching	False positives	Percent false positive
<b>Total</b>	<b>2,103,620</b>	<b>571,130</b>	<b>27.1</b>	<b>2,103,620</b>	<b>417,910</b>	<b>19.9</b>	<b>2,103,620</b>	<b>364,350</b>	<b>17.3</b>	<b>719,450</b>	<b>48,220</b>	<b>6.7</b>
Public												
Less-than-2-year	3,690	2,030	54.9	3,690	1,720	46.5	3,690	1,520	41.2	†	†	†
2-year	816,150	276,500	33.9	816,150	188,630	23.1	816,150	153,150	18.8	584,950	45,300	7.7
4-year, non-doctorate-granting	194,600	26,500	13.6	194,600	17,180	8.8	194,600	18,010	9.3	†	†	†
4-year, doctorate-granting	517,380	53,870	10.4	517,380	28,000	5.4	517,380	42,840	8.3	†	†	†
Private nonprofit												
Less-than-4-year	2,570	1,020	39.6	2,570	750	29.0	2,570	640	24.8	†	†	†
4-year, non-doctorate-granting	106,800	18,860	17.7	106,800	13,880	13.0	106,800	15,830	14.8	†	†	†
4-year, doctorate-granting	152,450	13,940	9.1	152,450	8,680	5.7	152,450	11,850	7.8	†	†	†
Private for-profit												
Less-than-2-year	16,800	9,820	58.4	16,800	8,800	52.4	16,800	4,940	29.4	7,110	130	1.8
2-year	69,070	42,980	62.2	69,070	37,920	54.9	69,070	29,730	43.0	26,770	680	2.5
4-year	224,110	125,610	56.0	224,110	112,370	50.1	224,110	85,850	38.3	100,620	2,120	2.1

† Not applicable.

NOTE: NSLDS = National Student Loan Data System; CPS = Central Processing System; NSC = National Student Clearinghouse. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

Of the 36,620 survey respondents sampled as potential FTB students, NPSAS staff confirmed by their survey responses that 78 percent were FTB students. Conversely, of the 48,380 survey respondents whom staff sampled as non-FTB other undergraduate or graduate students, 5 percent were determined to be FTB students (table 7). With the help of the presampling matching, NPSAS:12 reduced the observed false positives to 22 percent from the rate of over 50 percent observed in NPSAS:04.

**Table 7. First-time beginning (FTB) student confirmation, by sampled student type: 2011–12**

Sampled student type	Students surveyed <sup>1</sup>	Confirmed FTB student	
		Number	Unweighted percent
<b>Total</b>	<b>85,000</b>	<b>30,140</b>	<b>35.5</b>
Total undergraduate	71,000	30,140	42.4
Total FTB	36,620	28,550	78.0
FTB in certificate program	10,900	7,670	70.3
Other FTB	25,720	20,880	81.2
Other undergraduate	34,380	1,580	4.6
Graduate	14,000	10	#

# Rounds to zero.

<sup>1</sup> Includes all eligible sample members who completed the survey.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12).

## 2.3 First Follow-up Sampling (BPS:12/14)

NPSAS:12 purposefully oversampled potential FTB students in order to provide a sufficient pool of study members from which to draw the BPS:12 cohort. BPS:12/14 was the first follow-up data collection with this cohort of FTB students who began their postsecondary education for the first time, after completing high school, between July 1, 2011, and April 30, 2012.

The cohort consisted of three groups according to their NPSAS:12 response status:

1. NPSAS:12 study members who completed the student survey and were found, through their survey responses, to be FTB students;
2. a subsample of potential FTB students for whom enough administrative data were available to classify them as NPSAS:12 study members, but who were student survey nonrespondents; and
3. a subsample of potential FTB students who were not NPSAS:12 study members and were not student survey respondents.

All students in group 1 were included in the BPS:12/14 sample because their FTB student status had been confirmed. For students in groups 2 and 3, multiple data

sources were used to provide information regarding a student's F<sup>T</sup>B status, as described in section 2.2.4. The data elements used to estimate a student's likelihood of being an F<sup>T</sup>B student and to construct the frame for the BPS:12 cohort included the following:

- indicator of F<sup>T</sup>B status from the institution enrollment lists used for NPSAS:12 student sampling;
- indicator of F<sup>T</sup>B status from CPS;
- indicator of F<sup>T</sup>B status from student-level data obtained from institution records;
- student reports (obtained during the NPSAS:12 survey) indicating that they were F<sup>T</sup>B students during the 2011–12 academic year;
- year of high school graduation;
- receipt of Stafford Loan (date loan was first received and number of years loan was received);
- receipt of Pell Grant (date grant was first received and number of years grant was received); and
- undergraduate class level.

Using these data elements, cases were identified that would be included or excluded from the BPS:12 cohort. Stratified simple random sampling was used to select the group 2 and 3 subsamples.

Eligible sample members within each group were stratified by institution characteristics, and simple random samples were selected within each stratum.

Table 8 summarizes the distribution of the sample from all three groups.

**Table 8. Distribution of BPS:12/14 full-scale sample, by base-year response status: 2012–14**

Base-year response status	Number of cases	Sampled
<b>Total</b>	<b>50,660</b>	<b>37,170</b>
Group 1		
Base-year study member student survey respondents who were classified as F <sup>T</sup> B students	30,080	30,080
Group 2		
Base-year study member student survey nonrespondents	14,560	4,610
Group 3		
Base-year nonstudy members	6,010	2,480

NOTE: F<sup>T</sup>B = first-time beginning. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.  
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14).



Table 9 summarizes the BPS:12/14 sampled, eligible, and responding individuals by control and level of institution.

**Table 9. Counts of BPS:12/14 sampled and eligible students and response rates, by institution control and level: 2012–14**

Control and level of institution <sup>2</sup>	Sampled students	Eligible students <sup>3</sup>	Respondents	Survey respondents <sup>1</sup>	
				Unweighted response rate	Weighted response rate <sup>4</sup>
<b>All institutions</b>	<b>37,170</b>	<b>35,540</b>	<b>24,770</b>	<b>69.7</b>	<b>67.6</b>
Control of institution					
Public	17,120	16,490	11,710	71.0	67.2
Private nonprofit	5,520	5,410	4,340	80.1	77.6
Private for-profit	14,530	13,640	8,720	63.9	54.4
Level of institution					
Less-than-2-year	1,990	1,830	1,060	57.9	49.1
2-year	15,220	14,460	9,650	66.7	61.2
4-year, non-doctorate-granting	12,530	11,990	8,320	69.3	69.5
4-year, doctorate-granting	7,430	7,270	5,750	79.1	76.6
Control, level, and degree offering of first institution with degree-granting status					
Public					
Less-than-2-year	250	230	150	64.4	54.0
2-year	11,430	10,930	7,380	67.5	61.8
4-year, non-doctorate-granting	1,930	1,890	1,410	74.8	67.8
4-year, doctorate-granting	3,520	3,450	2,780	80.6	76.3
Private nonprofit					
Less-than-4-year	380	350	240	67.7	61.8
4-year, non-doctorate-granting	2,430	2,380	1,860	78.1	75.5
4-year, doctorate-granting	2,720	2,680	2,240	83.5	80.3
Private for-profit					
Less-than-2-year	1,630	1,500	860	57.1	48.8
2-year	3,530	3,280	2,090	63.8	54.3
4-year	9,370	8,860	5,770	65.1	58.4

<sup>1</sup> An eligible sample member who either completed a full survey, completed an abbreviated survey, or completed at least the enrollment section.

<sup>2</sup> Control and level of institution are based on data from the 2011–12 National Postsecondary Student Aid Study sampling frame.

<sup>3</sup> Sample member eligibility was determined during the student survey or from institution records in the absence of a student survey.

<sup>4</sup> The weight used for this column is a base weight.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on the unrounded count of eligible students within the row under consideration. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14).

## 2.4 Second Follow-up Sampling (BPS:12/17)

BPS:12/17 was the second follow-up data collection, conducted 3 years after BPS:12/14. Additional data collected during the administration of BPS:12/14 were available for use in preparing the sample for BPS:12/17, which was a subset of the BPS:12/14 sample. The main source of change from the BPS:12/14 sample to the

BPS:12/17 sample was the exclusion of BPS:12/14 sample members who were determined to not be FTB students and were therefore ineligible for BPS. Deceased individuals were also excluded from the BPS:12/17 sample. Table 10 shows the distribution of the 35,540 sample members determined to be eligible at the start of BPS:12/17 data collection, by study member status and survey response status, and identifies groups that were fielded (included in data-collection activities with an objective of obtaining a complete survey) in BPS:12/17. These 35,540 sample members are the same individuals identified as eligible students in table 9 (section 2.3), which details the BPS:12/14 sample.

**Table 10. BPS:12/17 sample member disposition, by NPSAS:12 and BPS:12/14 response status: 2012–17**

Study member status and survey response status	Number of eligible cases	Fielded in BPS:12/17
<b>Total</b>	<b>35,540</b>	<b>33,730</b>
NPSAS:12 study member		
NPSAS:12 survey respondent		
1. BPS:12/14 respondent	23,610	Yes
2. BPS:12/14 nonrespondent	5,710	Yes
NPSAS:12 survey nonrespondent		
3. BPS:12/14 respondent	800	Yes
4. BPS:12/14 nonrespondent	3,270	Yes
NPSAS:12 nonstudy member		
NPSAS:12 survey respondent		
5. BPS:12/14 respondent	20	Yes
6. BPS:12/14 nonrespondent	#	No
NPSAS:12 survey nonrespondent		
7. BPS:12/14 respondent	320	Yes
8. BPS:12/14 nonrespondent	1,780	No
9. Office of Foreign Assets Control flagged	30	No

# Rounds to zero.

NOTE: NPSAS:12 = 2012 National Postsecondary Student Aid Study. The total does not include 1,630 cases determined to be study ineligible or deceased at the start of data collection for BPS:12/17. Nonstudy members are those NPSAS:12 sample members who, across all data sources, did not have sufficient data to support the analytic objectives of the study. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Although BPS:12/17 sample members who did not respond to the BPS:12/14 survey and lacked sufficient information to be classified as NPSAS:12 study members were eligible for BPS:12/17, these sample members (groups 6 and 8 in table 10) were not fielded. This resulted in a little over 1,780 BPS:12/17 sample members not being fielded and asked to complete the student survey.

In addition, early in data collection, the names of 30 sample members were matched to names on the Specially Designated Nationals and Blocked Persons List published by the U.S. Department of the Treasury, Office of Foreign Assets Control. The

matched individuals were excluded from data-collection activities (group 9). Instead, they were treated as study nonrespondents for purposes of response rate calculation and were accounted for with weight adjustments.

Table 11 summarizes the BPS:12/17 sampled, eligible, and responding individuals by control, level, and degree-granting status of institution.

**Table 11. Counts of BPS:12/17 sampled and eligible students and response rates, by control and level of institution: 2012–17**

Control and level of institution <sup>2</sup>	Sampled students	Eligible students <sup>3</sup>	Respondents	Survey respondents <sup>1</sup>	
				Unweighted response rate	Weighted response rate <sup>4</sup>
<b>All institutions</b>	<b>35,540</b>	<b>35,170</b>	<b>22,530</b>	<b>64.1</b>	<b>66.6</b>
Control of institution					
Public	16,490	16,380	10,840	66.2	66.2
Private nonprofit	5,410	5,400	4,080	75.6	74.2
Private for-profit	13,640	13,390	7,620	56.9	54.7
Level of institution					
Less-than-2-year	1,830	1,770	940	53.0	51.0
2-year	14,460	14,300	8,680	60.7	60.8
4-year, non-doctorate-granting	11,990	11,870	7,480	63.0	68.7
4-year, doctorate-granting	7,270	7,230	5,430	75.2	73.6
Control, level, and degree offering of first institution with degree-granting status					
Public					
Less-than-2-year	230	220	120	55.2	54.7
2-year	10,930	10,830	6,700	61.9	61.2
4-year, non-doctorate-granting	1,890	1,880	1,360	72.3	68.2
4-year, doctorate-granting	3,450	3,450	2,660	77.1	73.6
Private nonprofit					
Less-than-4-year	350	350	210	59.7	58.7
4-year, non-doctorate-granting	2,380	2,370	1,750	74.0	73.3
4-year, doctorate-granting	2,680	2,680	2,120	79.1	75.7
Private for-profit					
Less-than-2-year	1,500	1,450	770	53.0	50.7
2-year	3,280	3,220	1,820	56.5	55.3
4-year	8,860	8,720	5,030	57.7	56.8

<sup>1</sup> An eligible sample member who either completed a full survey, completed an abbreviated survey, or completed at least the enrollment section.

<sup>2</sup> Control and level of institution are based on data from the NPSAS:12 sampling frame.

<sup>3</sup> Sample member eligibility was determined during the student survey or from institution records in the absence of a student survey.

<sup>4</sup> The weight used for this column is a base weight adjusted for unknown eligibility.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



## Chapter 3. Student Survey Design, Data Collection, Quality Control, and Evaluation

This chapter describes the BPS:12/17 student survey design, including the key content areas that form the survey and the systems used for survey instrumentation and data collection. It also describes the methods used to survey sample members and the outcomes of data-collection activities, including the number of sample members located and surveyed, time required to complete the survey, time spent contacting and interviewing sample members, number of calls to sample members, and rate of conversion for survey refusals. Finally, the chapter describes the quality control procedures used in student survey data collection<sup>16</sup> and the results of evaluations of data quality and response patterns. These evaluations included recoding and upcoding of data collected by survey coders and review of help-text access rates, conversion text success rates, and item nonresponse rates.

### 3.1 Student Survey Design and Systems

As part of a longitudinal study, the BPS:12/17 student survey was developed using core data elements from previous BPS:12 data collections. This section describes the six key content areas that form the survey and the various systems used to support the instrument development process and data collection.

The BPS:12/17 student survey, administered between March 2017 and January 2018, included many long-standing BPS data elements such as postsecondary enrollment history, financial aid and borrowing, employment, and career expectations. The primary purpose of the BPS study is to contribute to a better understanding of how these factors relate to three key postsecondary outcomes: persistence, degree attainment, and employment. Input from the study's expert Technical Review Panel (TRP), cognitive and usability testing (used to refine the survey questions, maximize the quality of data collected, and provide information on issues with important implications for the survey design), and findings from the BPS:12/17 pilot test helped finalize the full-scale data elements. For a complete list of TRP members, see

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<sup>16</sup> For a description of quality control features incorporated by the student survey instrument, see section 3.3. Quality control procedures used in construction of the data file are described in chapter 5.

appendix B. For a summary of findings from the BPS:12/17 pilot test, see appendix C.

The BPS:12/17 student survey included items grouped by six key content areas: enrollment, education experiences, financial aid, employment, income and expenses, and background. The principal topics of each content area are summarized below. For a complete list of data elements, see appendix D. For the complete BPS:12/17 student interview, see appendix E.

**Enrollment** items included questions to determine study eligibility for sample members who were nonrespondents in both NPSAS:12 and BPS:12/14 (double nonrespondents). The section also captured high school completion information and information on postsecondary enrollment at the NPSAS institution and other postsecondary institutions attended between July 2011/2014 and June 2017 (depending on prior-round response status). Respondents were asked about the expected date of completion for their current enrollment and the highest degree they ever expected to complete. This content area also collected date of birth and marital status, which affected routing throughout the remainder of the survey.

**Education Experiences** items collected information on respondents' remedial coursework since high school and their estimated grade point average and online course-taking at their primary institution. The primary institution was the current or most recent institution the respondent attended between July 2014 and June 2017. If the respondent attended more than one institution at the same time, the primary institution was the institution where they were completing the highest degree or certificate program.

**Financial Aid** items collected information about sources of aid for undergraduate education in the 2016–17 academic year, such as private loans, employer-provided scholarships or tuition reimbursement, scholarships from a private organization, and veterans benefits. Respondents were also asked to report the amount of private loans they took out for their entire undergraduate education as well as monthly payment amounts, if in repayment.

**Employment** items captured employment during the 2011–12 academic year and information about all employers who paid the respondent between July 2014 and June 2017, such as employer names and dates of employment. The employment section also collected more detailed information about the current or most recent employer, such as zip code and type of occupation, and asked whether the individual had looked for work while not employed.

**Income and Expenses** collected financial information such as respondents’ annual income, monthly rent or mortgage amount, and monthly car loan or lease amount. Additional items included information about the number of children and other dependents. The section concluded with a series of “discount rate” questions (i.e., the extent to which the individual prefers current over future rewards) to capture financial traits reflective of the human capital framework implemented for the BPS:12 cohort.

**Background** obtained information about respondent demographics such as zip code of primary residence when they last attended school, military status, disability status, and voting behavior. This section concluded with a series of financial literacy questions.

### 3.1.1 *Survey Mode Administration*

For BPS:12/17, a single survey instrument was administered in two user modes: web (nonmobile and mobile) and telephone. The web survey was designed with device-optimized pages based on HTML5 web standards that ensured the instrument formatting would scale properly for all screen sizes. Screen-size optimization allowed respondents to complete the survey on a desktop or laptop computer while providing a mobile-friendly design for respondents who wished to complete the survey on a tablet or smartphone.

For the telephone survey, a data-collection interviewer (DCI) accessed the web instrument through a CATI case management system (CMS), which assigned cases and provided the appropriate screens and scripts for the DCI to use. On-screen instructions gave DCIs guidance on administering each question (e.g., whether the DCI should read response options aloud, or when to probe). To minimize mode effects, the BPS web survey incorporated the following features to provide web respondents with assistance similar to that provided by a trained DCI:

- a help-text button on every form (or web screen) to define key terms and clarify question intent;
- prompts to correct out-of-range or incorrectly formatted responses;
- conversion text to encourage responses to unanswered critical items; and
- prompts to encourage response if a sample member left three consecutive questions unanswered.

### 3.1.2 Coding Systems

Assisted coding systems (coders) within the BPS:12/17 survey standardized the collection and coding of several pieces of information. Coders simplified data entry for four survey items with potentially complex text strings for answers: other postsecondary institution attended between July 2014 and June 2017, major or field of study at NPSAS institution or at other postsecondary institution attended, occupation, and zip codes of current/most recent employer and primary residence.

Most coders used a predictive search format, first employed in the BPS:12/17 pilot test, that began returning a list of possible matches as soon as the respondent or DCI started typing. As the individual typed additional characters, the predictive coder updated the possible matches in real time. The individual was able to select an option based on a partial response as soon as it appeared rather than waiting to finish typing the response. The occupation coder was the only coder in the BPS:12/17 full-scale survey that did not use a predictive search format. This coder required the respondent or DCI to type a complete text string, click search, wait for the coder to return a list of possible matches, and then select an option from the list.

The following are descriptions of the individual coding systems and sources:

- The **Postsecondary Institution coder** linked to the complete list of postsecondary institutions contained in IPEDS:2015–16, developed by NCES (<https://nces.ed.gov/ipeds/>). This coder covered any postsecondary institutions the respondent attended, other than the NPSAS institution, between July 2014 and June 2017. For any institutions not listed in the database, follow-up questions asked respondents to provide the control (e.g., public or private) and level (e.g., 4-year or 2-year) of the institution, as well as the city and state in which the institution was located.
- The **Major coder** used the 2010 Classification of Instructional Programs (CIP) taxonomy, also developed by NCES (<https://nces.ed.gov/ipeds/cipcode>). For any majors or fields of study not found in the CIP database, respondents selected a general major area and a specific discipline.
- The **Occupation coder** linked to the 2015 Occupational Information Network Online (O\*NET OnLine) database, version 20.1 (<https://onetonline.org>). For any occupations not found in the database, the respondents were given drop-downs where they could provide a general occupational area, specific occupational area, and a detailed classification area for the occupation.



- The **Zip coder** linked to the 2017 ZIPList5 Max database (<https://zipinfo.com/products/z5max/z5max.htm>). The coder predictively searched the database using the numeric (i.e., zip code) or text (i.e., city and state) string entered by the respondent or DCI. A checkbox option was provided for locations not in the United States or a U.S. territory.

Text strings that were entered but not matched to a code were reviewed by expert coders to determine if a code could be assigned to the string. This process, upcoding, is described in section 3.4.1.

### 3.1.3 Survey Design System

Instrument developers used a proprietary web-based system to create the BPS:12/17 survey instrument, conduct internal and external review and testing, and make subsequent modifications in the survey instrument. Staff stored all information relating to the instrument in a SQL server database made accessible through a web interface. Section 3.1.2 of the BPS:12/14 data file documentation (Hill et al. 2016) contains a more detailed description of the survey design system.

## 3.2 Student Survey Data Collection

The BPS:12/17 survey data collection employed a study website and help desk to provide information and support to sample members. Staff used a variety of methods to locate sample members. Sample members could complete the survey independently on the Web or over the telephone with DCIs trained in telephone interviewing methods.

### 3.2.1 Study Website and Help Desk

Communications with BPS:12/17 sample members included a link to the BPS:12/17 website, which provided general information about the study. This information included details about the study sponsor, how the data would be used, answers to frequently asked questions (FAQs), confidentiality assurances, and selected findings from BPS:12/14. The website also included contact information for the study help desk and project staff at RTI, as well as links to the main BPS website at NCES. Sample members could log in to the secure portion of the website to provide updated contact information and to complete the survey. Figure 1 shows the home page for the BPS:12/17 website.

**Figure 1. Home page for BPS:12/17 website: 2017**

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Designed according to NCES policies, the BPS:12/17 website used a three-tier security approach to protect all data collected. The first tier included secure log-ins, with a unique study ID and strong password provided to sample members prior to the start of data collection. The second tier protected any data entered on the website with Secure Sockets Layer (SSL) technology, allowing only encrypted data to be transmitted over the Internet. The third tier stored all collected data in a secured SQL server database located on an NCES server that was physically separate from the web server.

In addition to the study information available on the website, BPS:12/17 staff implemented a help desk to assist sample members with matters ranging from general inquiries, to survey completion assistance, to incentive status updates. Staff responded to sample members' questions via the project help-desk number, and provided support for technical issues related to completion of the web survey. For each call, staff confirmed the sample member's contact information for security purposes and, if necessary, recorded a description of the problem and the resolution in the CATI-CMS. If technical difficulties prevented sample members from completing the web survey, DCIs were available to help sample members complete a telephone interview.

Two common types of help-desk incidents were requests to retrieve log-in credentials and requests to complete an interview over the telephone. For the convenience of sample members, the BPS:12/17 website included a “Forgot Password?” feature. After sample members entered a few pieces of identifying information, their log-in credentials were automatically provided to them via e-mail.

### 3.2.2 Training of Interview Data-Collection Staff

The BPS:12/17 interview data-collection team included DCIs, quality experts (QEs), performance team leaders (PTLs), and intensive-tracing staff, all of whom participated in a comprehensive training program before beginning work on the study. Prior to study-specific training, all DCIs completed a general training program that included an overview of the CATI-CMS, confidentiality procedures and sample member rights, and proper interviewing techniques, such as proper enunciation and pace of speech.

The training schedule and the number of data-collection staff members trained for each role are presented in table 12.

**Table 12. Training schedule of data-collection staff: 2017**

Staff trained	Time period	Number of staff trained
Quality experts (QEs) and performance team leaders (PTLs)	February 21–23, 2017	5
Data collection interviewers (DCIs)	May 16–18, 2017	30
	August 1–3, 2017	30
Intensive-tracing staff	April 17, June 12, July 10, and November 28, 2017	24

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Data collection interviewers (DCIs).** DCIs were the primary point of contact with sample members. Their responsibilities included conducting telephone interviews, responding to sample members’ concerns, providing technical assistance for logging in to the web survey, gaining cooperation, and averting or converting refusals. DCIs were also trained as help-desk staff.

The 12-hour DCI training included an overview of BPS:12/17 and its purpose, confidentiality procedures, case management procedures, FAQs, and hands-on activities designed to maximize active trainee participation. The training sessions incorporated a review of the survey instrument, security procedures, training and practice specific to each coder, hands-on mock interviews, guidance on providing technical support to sample members, and instruction on conversational interviewing

techniques. Training materials included an interviewing manual, materials addressing conversational interviewing, and FAQs. (See appendix F for DCI training materials.) Project staff certified DCIs after they conducted a mock interview and provided appropriate and accurate responses to an FAQ certification, a security certification, and a coder certification.

**Quality experts (QEs).** QEs monitored live and recorded interviews and provided constructive feedback and coaching to DCIs. QEs attended DCI training to learn survey basics and interviewing conventions. Additionally, they were trained for general monitoring responsibilities. Project staff provided QEs with an interviewing manual and a file of all screens and text in the CATI-CMS and interview, including help text.

**Performance team leaders (PTLs).** PTLs supervised DCI performance and production, provided guidance to DCIs, and helped troubleshoot problems. The PTL training included the content covered in the DCI training plus additional training in case review, problem resolution, project-specific reports, and other procedures specific to BPS:12/17 responsibilities. Project staff provided PTLs with a project manual and additional handouts on specific topics, such as coder administration and help-desk activities.

**Intensive-tracing staff.** Intensive-tracing staff completed a 16-hour program on tracing procedures led by tracing managers in RTT's Research Operations Center. Tracing staff then received two additional hours of project-specific training, including an overview of BPS:12/17, FAQs, and tracing techniques most appropriate for BPS:12/17 sample members.

### 3.2.3 *Locating Sample Members*

BPS:12/17 project staff used several methods to locate fielded sample members in order to contact them and invite them to complete the student survey. Methods included a panel-maintenance activity before data collection, mailings to parents and sample members before data collection, batch and intensive tracing, and collection of information during unsuccessful telephone contacting attempts. Sample members were considered located if (1) the sample member started or completed the survey; (2) a project staff member spoke directly to the sample member or someone who knew the sample member's whereabouts; or (3) there was some indication that we had reached the sample member; e.g., a project staff member reached a voice mail announcement that mentioned the sample member's name and left a message.

Locating rates ranged from a high 95 percent for students enrolled at private nonprofit 4-year, doctorate-granting institutions to a low of 77 percent for students enrolled at private for-profit less-than-2-year institutions (table 13). Survey staff located BPS:12/14 respondents (93 percent) at a significantly higher rate than BPS:12/14 nonrespondents (68 percent) ( $\chi^2(1, n = 29,070) = 3346.7, p < .001$ ).

**Table 13. Number and percentage of fielded sample members located and surveyed, by prior-round response status and control and level of institution: 2017**

Prior-round response status and control and level of institution	Total fielded sample	Eligible sample <sup>3</sup>	Located <sup>1</sup>		Surveyed <sup>2</sup>		
			Number	Percent of total	Number	Percent of located	Percent of eligible
<b>Total</b>	<b>33,760</b>	<b>33,460</b>	<b>29,070</b>	<b>86.1</b>	<b>22,530</b>	<b>77.5</b>	<b>67.3</b>
Prior-round response status							
BPS:12/14 respondent	24,770	24,770	22,950	92.7	19,840	86.4	80.1
NPSAS:12 respondent	23,650	23,650	22,030	93.2	19,220	87.2	81.3
NPSAS:12 nonrespondent	1,110	1,110	920	82.4	620	67.2	55.4
BPS:12/14 nonrespondent	8,990	8,690	6,120	68.1	2,700	44.0	31.0
NPSAS:12 respondent	5,720	5,720	4,060	71.1	2,100	51.8	36.8
NPSAS:12 nonrespondent	3,280	2,980	2,060	62.9	590	28.7	19.9
Control and level of institution							
Public less-than-2-year	210	200	160	80.0	120	75.0	60.6
Public 2-year	10,150	10,080	8,770	86.4	6,700	76.4	66.5
Public 4-year, non-doctorate-granting	1,830	1,830	1,670	91.3	1,360	81.3	74.4
Public 4-year, doctorate-granting	3,400	3,400	3,170	93.1	2,660	83.9	78.2
Private nonprofit 2-year or less	330	330	280	82.6	210	75.0	62.9
Private nonprofit 4-year, non-doctorate-granting	2,280	2,280	2,130	93.1	1,750	82.5	77.0
Private nonprofit 4-year, doctorate-granting	2,600	2,600	2,470	94.9	2,120	85.7	81.4
Private for-profit less-than-2-year	1,470	1,420	1,130	77.1	770	68.1	54.1
Private for-profit 2-year	3,140	3,090	2,500	79.6	1,820	72.6	58.8
Private for-profit 4-year	8,350	8,230	6,800	81.5	5,030	74.0	61.1

<sup>1</sup> Sample members are counted as located if they were ever located at some point during data collection.

<sup>2</sup> Surveyed count includes eligible sample members who met the criteria for qualification as a survey respondent, which required completing at least a partial survey. A partial survey results when a respondent completes at least the enrollment section before breaking off.

<sup>3</sup> During data collection, 70 sample members were found to be deceased. The deceased cases have been excluded from the final eligible sample (33,390) but are included in this analysis of data-collection results.

NOTES: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Panel maintenance.** In November 2016, several months before the start of data collection, project staff sent a panel-maintenance mailing and e-mail to sample members. The mailing requested that sample members update their contact information through the study website. By the start of data collection, 3,150 sample members, about 9 percent of the sample, updated their information in response to the panel-maintenance request.

**Initial contact mailings to sample members and parents.** An initial contact mailing reminded sample members about their inclusion in the study, alerted them to the forthcoming data-collection announcement, and notified them of the incentive they were eligible to receive for completing the survey. These letters were sent to calibration sample members in February 2017 and to the main sample in April 2017. Parents of sample members under the age of 27 were sent a lead letter and study brochure, as well as a form and business return envelope. Parents were encouraged to fill out the form with updated contact information for the sample member and mail it back to the project team.

**Batch tracing.** A few weeks prior to the start of data collection, project staff used several batch-tracing databases to update or confirm students' contact information. Batch tracing, which was completed prior to data collection for all cases, included the following steps.

**Step 1:** Staff sent cases with a valid SSN to CPS for record matching. CPS contains information on students who have applied for financial aid using the FAFSA. Staff then compared records obtained from CPS to existing contact data, updating locating information when necessary.

**Step 2:** Next, staff sent cases with at least one valid address to LexisNexis (formerly FirstData) for matching with the U.S. Postal Service (USPS) National Change of Address (NCOA) database. Project staff updated records with new or updated address information based on the match.

As part of this step, staff sent sample member information to LexisNexis's PhoneAppend telephone number lookup service to obtain updated telephone information. LexisNexis includes approximately 718.8 million current and historical phone numbers. LexisNexis's PhoneAppend returns a single telephone number based on a search by name, street address, and zip code.

**Step 3:** Before the first mailing, staff sent cases to LexisNexis's Single Best Address search. While NCOA only provides information for people who registered a change of address with the USPS, Single Best Address can provide new addresses, including those not registered with NCOA. Single Best Address uses a name and SSN to search multiple data sources, using progressive search logic to return the most current address available.

Before cases went to intensive tracing, project staff used LexisNexis's Premium Phone batch tracing to inexpensively obtain new telephone information. Premium Phone is a residential telephone number lookup service that uses combinations of name and address information to match phone numbers to sample members. If

Premium Phone provided new telephone information, DCIs resumed telephone contacting; otherwise, tracing staff conducted intensive tracing.

**Batch-tracing results.** The match rates for BPS:12/17 sample members by method of tracing are shown in table 14. Matching the BPS:12/17 sample with the CPS database resulted in updated or confirmed contact information for 21 percent of the cases submitted for batch tracing. All existing and updated contact information received from CPS was then submitted to NCOA. Of the 33,610 cases sent to NCOA, NCOA returned an address for 9,450 (28 percent).

Sample member information submitted to PhoneAppend for telephone number updates returned new or confirmed telephone numbers for 15,320 (46 percent) of the 33,540 cases sent. A small group of cases was submitted to Premium Phone after all other leads were exhausted. Of the 2,660 cases submitted, Premium Phone returned 1,060 (40 percent) with new telephone information. Of the 29,380 cases sent to LexisNexis's Single Best Address, 29,020 (99 percent) were returned with new or confirmed addresses.

**Table 14. Batch processing record match rates, by method of tracing: 2017**

Method of tracing	Number of records sent	Number of records matched	Percent matched <sup>1</sup>
CPS	32,630	6,970	21.4
NCOA	33,610	9,450	28.1
PhoneAppend	33,540	15,320	45.7
Premium Phone	2,660	1,060	40.0
NSLDS	33,750	28,960	85.8
Single Best Address	29,380	29,020	98.8
Single Best Phone	7,500	5,510	73.5
Email Search	730	550	75.4
Experian True Trace	5,010	4,980	99.3

<sup>1</sup> Percentage is based on the number of records sent for batch tracing. Because records were sent to multiple tracing sources, multiple record matches were possible. Match rate includes instances when sample member contact information was confirmed and when new information was provided.

NOTE: CPS = Central Processing System; NCOA = National Change of Address; NSLDS = National Student Loan Data System. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Intensive tracing.** Staff assigned cases that could not be located by prior methods to intensive tracing. Intensive tracing used a two-stage process, accessing both public-domain and proprietary databases.

The first stage of intensive tracing identified sample members in consumer databases (e.g., LexisNexis, Experian, and Accurant) by SSN. If intensive-tracing staff found a new telephone lead, they sent the case back to the telephone interview queue for follow-up by DCIs. If the search resulted in a new address only, directory-assistance searches were conducted to obtain a telephone number for the contact. This

approach minimized the effort required to locate cases and the time that cases were unavailable for data-collection efforts.

Cases that could not be located during initial tracing efforts went to the second tier of intensive tracing. Tracing staff conducted a manual review of each case and determined the appropriate next steps based on the leads developed from prior tracing and contacting activities. On a case-by-case basis, tracing staff performed the following activities to obtain current contact information:

- Accurant database searches for sample members, parents, and other contacts;
- LexisNexis database searches including LexisNexis reverse phone, SSN search, address search, and name search;
- Experian SSN search;
- running matches with public records (e.g., driver's license searches through state departments of motor vehicles);
- searching institution websites for campus/alumni directories and class or personal web pages; and
- other ad hoc methods, such as calling individuals with the same unusual surname in small towns or rural areas to see if they were relations of, or knew, the sample member.

After exhausting all possible leads for locating sample members, staff ceased telephone contacting efforts. Project staff continued to send e-mails and mailings; however, if the sample member did not complete a survey by the end of data collection, that sample member was classified as a nonrespondent.

**Intensive-tracing results.** Overall, 2,720 cases, or 8 percent of the total fielded sample, required intensive tracing (table 15). By type of institution, the percentage requiring intensive tracing ranged from a high of 12 percent of students at private for-profit less-than-2-year institutions to 3 percent of students at private nonprofit 4-year, doctorate-granting institutions. Of BPS:12/14 respondents in the BPS:12/17 sample, 4 percent (1,010) required intensive tracing, while 19 percent of BPS:12/14 nonrespondents (1,700) required intensive tracing.



**Table 15. Cases requiring intensive tracing, by prior-round response status and control and level of institution: 2017**

Prior-round response status and control and level of institution	Total fielded sample	Cases requiring intensive tracing <sup>1</sup>	
		Number	Percent
<b>Total</b>	<b>33,760</b>	<b>2,720</b>	<b>8.0</b>
Prior-round response status			
BPS:12/14 respondent	24,770	1,010	4.1
NPSAS:12 respondent	23,650	930	3.9
NPSAS:12 nonrespondent	1,110	90	7.7
BPS:12/14 nonrespondent	8,990	1,700	18.9
NPSAS:12 respondent	5,720	870	15.3
NPSAS:12 nonrespondent	3,280	830	25.2
Control and level of institution			
Public less-than-2-year	210	20	8.3
Public 2-year	10,150	910	9.0
Public 4-year, non-doctorate-granting	1,830	90	5.0
Public 4-year, doctorate-granting	3,400	120	3.4
Private nonprofit 2-year or less	330	40	11.7
Private nonprofit 4-year, non-doctorate-granting	2,280	80	3.6
Private nonprofit 4-year, doctorate-granting	2,600	80	2.9
Private for-profit less-than-2-year	1,470	170	11.9
Private for-profit 2-year	3,140	330	10.4
Private for-profit 4-year	8,350	880	10.6

<sup>1</sup> Excludes cases initiated to intensive tracing that were not traced, but includes cases for which intensive-tracing work began but was stopped.

NOTE: NPSAS = National Postsecondary Student Aid Study. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Of the 2,720 cases requiring intensive tracing, 88 percent were successfully located.  
Of the total located, 500 sample members (21 percent of those located) completed surveys (table 16).

**Table 16. Located and surveyed rates of cases requiring intensive-tracing procedures, by intensive-tracing round: 2017–18**

Intensive-tracing round	Located in tracing operations			Surveyed <sup>1</sup>	
	Total cases <sup>2</sup>	Number	Percent of total cases	Number	Percent of located in tracing operations
<b>Total</b>	<b>2,720</b>	<b>2,380</b>	<b>87.6</b>	<b>500</b>	<b>21.2</b>
Tracing operations—stage 1	2,720	2,270	83.8	490	21.4
Tracing operations—stage 2	1,150	1,040	90.3	210	19.7

<sup>1</sup> Includes eligible students who met the criteria for qualification as a survey respondent, which required completing at least a partial survey.

<sup>2</sup> Excludes cases initiated to intensive tracing that were not traced. Tracing operations—stage 2 cases are a subset of tracing operations—stage 1 cases that required additional intensive-tracing efforts; therefore, total cases is not the sum of the two totals.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**CATI locating.** During outbound calling to sample members, described in section 3.2.5, if the sample member was not reached, the DCI interviewer attempted to gather locating information if another individual answered the call. If new contact information was gathered from someone answering the call, this was added to the list of contacting information available for the sample member.

### 3.2.4 Calibration Sample

A calibration sample was used to conduct two experiments in order to calibrate interventions before using them for the main fielded sample. The first experiment tested interventions for double nonrespondents (sample members who were nonrespondents in both NPSAS:12 and BPS:12/14), and the second focused on prior-round respondents. About 10 percent of BPS:12/17 sample members were randomly selected to participate in the calibration sample. The main sample comprised the remaining 90 percent of cases.

The experiment for double nonrespondents tested the effectiveness of offering an abbreviated survey with a \$30 incentive versus a full survey with a \$75 incentive. The \$75 incentive for a full interview was more effective. Therefore, this approach was used for double nonrespondents in the larger noncalibration, or main, sample.

The second experiment for prior-round respondents tested the effectiveness of a \$10 prepaid incentive. Half of the prior-round respondents in the calibration sample were offered a \$10 prepaid incentive at the start of data collection and received the remaining \$20 incentive upon completion of the survey. The other half of prior-round respondents were only offered a \$30 incentive upon completion of the survey. The \$30 incentive was more effective; therefore, none of the main sample members were offered the \$10 prepaid incentive. For more information on the responsive-design experiments, see section 3.3.11.

### 3.2.5 Student Survey Data-Collection Phases and Contacting Methods

Student survey data collection was conducted in two phases: an early-response phase and a production phase. Data collection for both the calibration and main samples was conducted using this phased approach. During the final 3 months of data collection, an abbreviated survey was offered. Contacting methods during these phases included mail, e-mail, text, and telephone.

Early-response phases lasted 4 weeks. During the first 2 weeks, no outbound calls were made to sample members. After 2 weeks, outbound calling began for sample members who were BPS:12/14 nonrespondents. During the entire early-response

phase, telephone interviewers were available to conduct the survey by telephone if sample members called the study help desk.

The production phase began 4 weeks after the start of the early-response phase. During the production phase, outbound calls were made to all sample members with telephone numbers on file. DCIs called sample members to encourage survey completion immediately by telephone, but the web survey was also offered.

The early-response phase with the calibration sample began on March 1, 2017. The early-response phase for the main sample and for any calibration sample members who had not yet completed a survey began on May 3, 2017. Survey data collection for all sample members ended on January 8, 2018.

**Data-collection mailings, e-mails, and text messages.** At the beginning of data collection and throughout both the early-response and production phases, staff sent mail and e-mail to fielded sample members inviting them to complete the survey. These messages announced the availability of the web survey and included the survey URL and the sample members' log-in credentials. E-mails also contained a direct link to the survey. The web survey was available 24 hours a day, 7 days a week throughout the entire data-collection period. Text messages were sent to sample members who had previously given permission to be texted. See appendix G for examples of mail, e-mail, and text messages sent to sample members.

**Telephone contacting.** Outbound calling was scheduled based on factors such as prior contact status (e.g., cases that were recently contacted or had never been contacted), refusal status, and appointments set during a prior contact attempt. For sample members with multiple telephone numbers on file, calls were prioritized and reprioritized during data collection, as new numbers were continuously added from contact attempts; batch and intensive-tracing efforts; and updates received through mailings, e-mails, and help-desk calls. Upon successfully reaching sample members, DCIs encouraged them to complete the survey immediately via telephone. Alternatively, a DCI could e-mail secure credentials for the web survey to sample members who preferred to complete the survey later.

**Abbreviated survey.** In October 2017, the abbreviated version of the survey was made available to all nonresponding sample members. The total number of eligible sample members offered the abbreviated survey was about 15,370 (table 17). Of those who were offered the abbreviated survey, almost 29 percent ultimately completed it. The abbreviated survey included fewer questions and therefore required less time—an average of about 10 minutes—than the full survey to

complete. (In comparison, the full survey took an average of about 24 minutes to complete.)

**Table 17. Abbreviated survey offer, by prior-round response status and control and level of institution: 2017**

Prior-round response status and control and level of institution	Number of cases <sup>2</sup>	Offered abbreviated survey		Abbreviated survey respondent <sup>1</sup>	
		Number	Percent of cases	Number	Percent of cases offered abbreviated survey
<b>Total</b>	<b>33,460</b>	<b>15,370</b>	<b>45.9</b>	<b>4,420</b>	<b>28.7</b>
Prior-round response status					
BPS:12/14 respondent	24,770	8,190	33.1	3,240	39.6
NPSAS:12 respondent	23,650	7,540	31.9	3,090	41.0
NPSAS:12 nonrespondent	1,110	650	58.3	150	22.6
BPS:12/14 nonrespondent	8,690	7,180	82.6	1,180	16.4
NPSAS:12 respondent	5,720	4,400	77.0	780	17.7
NPSAS:12 nonrespondent	2,980	2,780	93.4	400	14.3
Control and level of institution					
Public less-than-2-year	200	110	53.2	30	25.9
Public 2-year	10,080	4,790	47.5	1,390	29.1
Public 4-year, non-doctorate-granting	1,830	710	38.7	240	33.5
Public 4-year, doctorate-granting	3,400	1,140	33.4	390	34.4
Private nonprofit 2-year or less	330	170	52.3	50	29.1
Private nonprofit 4-year, non-doctorate-granting	2,280	780	34.1	250	31.9
Private nonprofit 4-year, doctorate-granting	2,600	790	30.5	310	38.4
Private for-profit less-than-2-year	1,420	840	58.9	190	22.3
Private for-profit 2-year	3,090	1,710	55.4	450	26.0
Private for-profit 4-year	8,230	4,340	52.7	1,130	26.1

<sup>1</sup> Survey count includes eligible sample members who met the criteria for qualification as a survey respondent, which required completing at least a partial survey.

<sup>2</sup> During data collection, 70 sample members were found to be deceased. The deceased cases have been excluded from the final eligible sample (33,390) but are included in this analysis of data-collection results.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

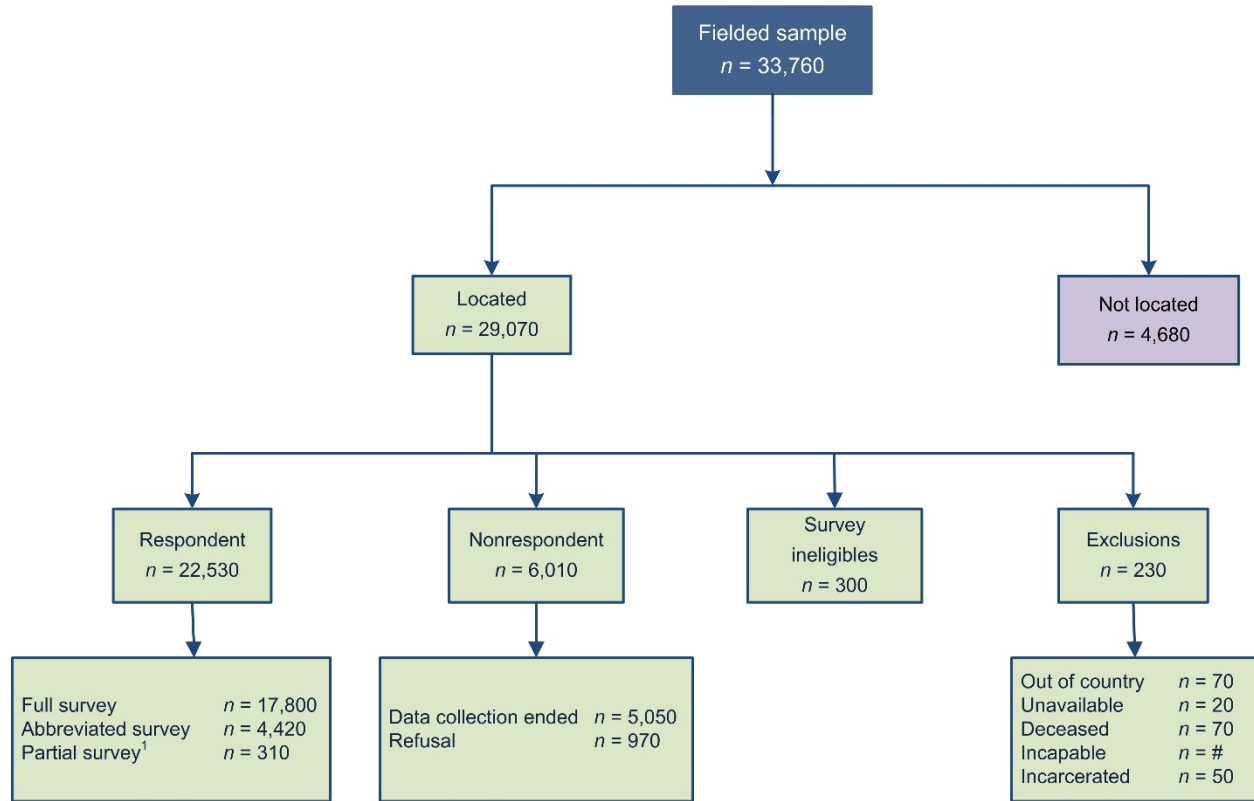
### 3.2.6 Student Survey Data-Collection Results

As shown in figure 2, of the 29,070 located sample members, 22,530 completed a full, abbreviated, or partial survey.<sup>17</sup> Three hundred sample members were deemed ineligible based on survey results, leaving 33,460 eligible sample members, with

<sup>17</sup> A partial survey occurs when a respondent completes at least the enrollment section before breaking off.

22,530 (67 percent) of the eligible sample completing a full, abbreviated, or partial survey.

**Figure 2. BPS:12/17 overall locating and interviewing results: 2017**



# Rounds to zero.

¹ A partial survey occurs when a respondent completes at least the enrollment section before breaking off.

NOTE: Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Response rates were examined by prior-round response status and survey type, data-collection phase, and mode.

**Completion by prior-round (BPS:12/14) response status and survey type.** As shown in table 18, nearly 83 percent and 53 percent of BPS:12/14 respondents and nonrespondents, respectively, completed a full BPS:12/17 survey. Over 16 percent of BPS:12/14 survey respondents completed an abbreviated BPS:12/17 survey, while 44 percent of BPS:12/14 nonrespondents completed an abbreviated BPS:12/17 survey. One percent of BPS:12/14 respondents and 4 percent of nonrespondents concluded data collection with a partial BPS:12/17 survey.

**Table 18. Interview completeness, by BPS:12/14 response status and interview type: 2017**

Survey type	BPS:12/14 response status				
	Total	Respondents		Nonrespondents	
		Number	Percent	Number	Percent
<b>Total</b>	<b>22,530</b>	<b>19,840</b>	<b>100.0</b>	<b>2,700</b>	<b>100.0</b>
Full survey	17,800	16,380	82.6	1,420	52.7
Abbreviated survey	4,420	3,240	16.3	1,180	43.6
Partial survey <sup>1</sup>	310	210	1.1	100	3.6

<sup>1</sup> A partial survey occurs when a respondent completes at least the enrollment section before breaking off.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding. Response rates are unweighted.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Completion by data-collection phase.** As described in section 3.2.5, the BPS:12/17 data-collection design consisted of two operational phases: an early-response phase and a production phase. The early-response phase of data collection yielded a 29 percent response rate, with 9,700 completed surveys out of 33,460 cases. The next phase of data collection, the production phase, yielded a 38 percent response rate, with 12,830 completed surveys out of the remaining 23,760 cases. As shown in table 19, 43 percent of BPS:12/17 surveys were completed during the early-response phase, and the remaining 57 percent were completed during the production phase.

**Table 19. Survey completeness, by data-collection phase: 2017**

Data-collection phase	Eligible <sup>1</sup>	Survey respondents		
		Number of surveys	Percent of eligible	Percent of surveys
<b>Total</b>	<b>33,460</b>	<b>22,530</b>	<b>67.3</b>	<b>100.0</b>
Early-response phase	33,460	9,700	29.0	43.0
Production phase	23,760	12,830	38.4	57.0

<sup>1</sup> The deceased cases (70) were excluded from the final eligible sample (33,390) but are included in this analysis of data-collection results.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding. Response rates are unweighted.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Completion by mode.** As described in section 3.2.4, BPS:12/17 surveys could be completed by web (mobile or nonmobile) or by telephone. Almost half of the surveys—about 10,450 (46 percent)—were completed by web nonmobile. Mobile device completion, a subset of web completion, was also popular among sample members, with about 9,160 (41 percent) surveys completed on a mobile device. About 2,920 (13 percent) surveys were completed by telephone (table 20).

**Table 20. Distribution of survey respondents, by mode of administration: 2017**

Mode of administration	Number	Percent
<b>Total</b>	<b>22,530</b>	<b>100.0</b>
Web surveys	19,610	87.0
Web nonmobile	10,450	46.4
Web mobile	9,160	40.7
Telephone surveys	2,920	13.0

NOTE: Interviewed count includes eligible sample members who met the criteria for qualification as an interview respondent, which required completing at least a partial interview. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding. Response rates are unweighted.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 3.3 Student Survey Quality Control

As described in section 3.1.1, the student survey instrument incorporated a variety of features to ensure data quality (e.g., help text, range checks, and conversion text). In addition, strict quality control procedures were established for telephone interview data collection and data file construction. Quality control procedures used in telephone interview data collection, discussed below, included frequent monitoring of recorded interviews, quality circle meetings to facilitate communication among staff members, and debriefing meetings to identify areas for potential improvement. Quality control procedures used in construction of the data file are described in chapter 5.

### 3.3.1 Interview Monitoring

Project and call-center staff monitored and evaluated DCI performance in 7 percent of all telephone interviews on all shifts using the quality evaluation system. Regular monitoring was employed to meet a series of data-quality objectives:

- identification of items in the interview that posed problems for DCIs and/or respondents;
- reduction in the number of DCI errors;
- improvement in DCI performance through reinforcement of effective strategies; and
- assessment of data quality.

QEs recorded feedback on standardized monitoring forms, evaluating DCIs on their professionalism, question administration, conversational interviewing, and familiarity with the instrument. DCIs received regular feedback from monitoring sessions, and quality circle meetings frequently incorporated issues identified during monitoring to

improve the overall quality of telephone interviews. Supervisory staff used segments of recorded interviews as training aids during project trainings and meetings.

### **3.3.2 Quality Circle Meetings**

Project staff regularly met with QEs and DCIs for quality circle meetings designed to facilitate communication among project staff members. Frequently covered topics included the following:

- clarification of questions and item responses from the survey instrument;
- reinforcement of successful interviewing and refusal conversion techniques;
- guidelines for providing detailed case comments;
- strategies for gaining cooperation from sample members and other contacts;
- data security protocols; and
- study progress.

Project staff summarized meeting discussions and provided summaries for DCIs to review and to serve as an ongoing resource for the duration of data collection.

At the conclusion of data collection, project staff held debriefing sessions with DCIs, PTLs, and QEs to learn more about their experiences. Project staff also administered an anonymous survey to these staff members. Comments and discussion identified areas of success during training and data collection, and also areas for improvement in future studies. DCIs generally reported positive experiences with the BPS:12/17 data collection.

DCIs provided feedback in the following broad areas: training, systems for locating and contacting sample members, methods for gaining sample member cooperation, student survey administration, and quality circle meetings. Their suggestions will be used to plan for future studies.

### **3.3.3 Survey Timing Burden**

To assess the burden associated with participating in BPS:12/17, the instrument recorded the elapsed time that respondents took to complete each form or web screen. These values were summed to calculate the amount of time spent for each section and for the total survey.



Of special interest was the average time it took respondents to complete the survey based on mode of administration,<sup>18</sup> prior-round respondent status, and survey type (i.e., full or abbreviated survey).

The following cases were excluded from the survey time burden analysis: partially completed surveys, total time outliers, and cases that required imputation of the time spent for more than two forms due to multiple survey sessions.<sup>19</sup> To detect total time outliers, BPS:12/17 staff grouped cases by survey type (i.e., full and abbreviated) and mode of administration. Before outliers were determined, the distribution of survey times required that the data be normalized using a Box-Cox power transformation (Box and Cox 1964). Cases with total time values smaller than the 25th percentile minus 1.5 times the interquartile range or larger than the 75th percentile plus 1.5 times the interquartile range were deemed outliers and excluded from the subsequent analyses (Tukey 1977). Overall, the outlier detection method led to the exclusion of 4,010 interview cases, representing 18 percent of all completed full and abbreviated surveys as well as partial surveys. Given the parameters for including and excluding cases, approximately 18,530 of the 22,530 total surveys (82 percent) were included in the timing analysis. Table 21 shows the number of cases included and excluded in the timing analysis.

**Table 21. Number and percentage of surveys included and excluded in the timing analysis, by survey type: 2017**

Survey type	Number of cases	Percent
<b>Total</b>	<b>22,530</b>	<b>100.0</b>
Total surveys included in timing analysis	18,530	82.2
Completed full survey	15,520	68.9
Completed abbreviated survey	3,010	13.4
Surveys excluded from timing analysis	4,010	17.8
Partial surveys	310	1.4
Total survey time outlier	1,620	7.2
Completed in more than one session	2,070	9.2

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

<sup>18</sup> Mode of administration typically affects the time to complete a survey; for example, telephone mode tends to take longer than self-administered web surveys because, in telephone mode, each question must be read aloud.

<sup>19</sup> Surveys completed in more than one session were included in the timing analysis when possible. This required imputing the time spent on the first form the respondent saw when he or she began a new session to continue the survey. The median time other respondents spent on the same form was used for imputation. To avoid introducing excessive imputation and uncertainty into the timing estimates, cases that required more than two form imputations per respondent were excluded.

### 3.3.4 Overall Survey Timing

On average, the BPS:12/17 full survey took 23.9 minutes to complete. Each survey was completed in either telephone or a self-administered web mode. For analysis, BPS:12/17 staff separated the self-administered web completion mode into those who completed on a mobile device (e.g., smartphone or tablet), referred to hereafter as web mobile mode, and those who completed on a nonmobile device (e.g., desktop or laptop computer), referred to hereafter as web nonmobile mode.

Completion times for the full survey were analyzed by mode of administration. Web nonmobile mode took 23.2 minutes on average to complete, significantly more time than web mobile mode, which took 22.1 minutes on average to complete ( $t(13,005) = 6.64, p < .0001$ ).<sup>20</sup> Telephone mode, which took 32.3 minutes on average to complete, took significantly more time than web nonmobile mode ( $t(2,987.3) = 35.7, p < .0001$ ). Telephone mode also took significantly longer than web mobile mode, which took 22.1 minutes on average to complete ( $t(3,141.2) = 39.6, p < .0001$ ). The longer time needed to complete the telephone mode survey was expected because the survey questions in this mode were read aloud to respondents.

The abbreviated survey was a version of the full survey that consisted of select enrollment, employment, and background questions and had three loops (a series of questions about a selected topic in which a sample member might have had multiple experiences): additional enrollment at the sample member's NPSAS institution, additional enrollment at any other institution, and information on employment between July 2014 and June 2017. On average, the BPS:12/17 full-scale abbreviated survey took 10.4 minutes to complete. Similar to the full survey, each abbreviated survey was administered by telephone, web nonmobile mode, or web mobile mode.

Completion times for the abbreviated survey were analyzed by mode of administration. Web nonmobile mode took 9.7 minutes on average to complete, significantly less time than telephone mode, which took 13.3 minutes on average to complete ( $t(1,592.3) = 14.1, p < .0001$ ). Telephone mode was also significantly longer than web mobile mode which took 9.2 minutes on average to complete ( $t(1,531.6) = 16.4, p < .0001$ ). There was no significant difference between average completion times for web nonmobile and web mobile mode. Table 22 provides the average time to complete the full and abbreviated surveys by mode of administration.

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<sup>20</sup> Satterthwaite (1946) approximation was used in tests with unequal variances.

**Table 22. Average time in minutes to complete the full and abbreviated surveys, by mode of administration: 2017**

Completed surveys	Mode of administration							
	All respondents		Web nonmobile		Web mobile		Telephone	
	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time
Total	18,530	21.7	9,020	21.7	6,970	19.9	2,530	27.0
Full	15,520	23.9	7,940	23.2	5,760	22.1	1,820	32.3
Abbreviated	3,010	10.4	1,080	9.7	1,210	9.2	710	13.3

NOTE: Analysis included only completed cases that had two or fewer forms of imputed timing data; partial surveys and outliers were excluded. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.5 Survey Section Timing

The BPS:12/17 survey consisted of consecutive sections that each contained questions related to a general content area, such as enrollment or employment. The full survey consisted of six content sections: enrollment, education experiences, financial aid, employment, income and expenses, and background. There was also a section in the survey that allowed respondents to select how they would like to receive their incentive for completing the survey. Overall, the employment section took the longest to complete: 8.8 minutes on average. It was followed by the enrollment section, which took 4.7 minutes on average to complete and the background section, which took 3.4 minutes to complete. These sections included the most questions, and enrollment and employment contained looping sections to gather information about additional attendance at the NPSAS institution, postsecondary attendance at institutions other than the NPSAS institution, and employment history since July 2014. Table 23 shows the average time in minutes to complete the BPS:12/17 full survey by mode of administration and section.

**Table 23. Average time in minutes to complete the full survey, by mode of administration and survey section: 2017**

Survey section	Mode of administration							
	All respondents		Web nonmobile		Web mobile		Telephone	
	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time
<b>Total</b>	<b>15,520</b>	<b>23.9</b>	<b>7,940</b>	<b>23.2</b>	<b>5,760</b>	<b>22.1</b>	<b>1,820</b>	<b>32.3</b>
Enrollment	15,520	4.7	7,940	4.7	5,760	4.1	1,820	6.0
Education experiences	15,520	0.5	7,940	0.5	5,760	0.4	1,820	0.8
Financial aid	15,520	0.7	7,940	0.7	5,760	0.6	1,820	1.0
Employment	15,520	8.8	7,940	8.6	5,760	8.2	1,820	12.1
Income and expenses	15,520	3.2	7,940	3.1	5,760	2.9	1,820	4.4
Background	15,520	3.4	7,940	3.4	5,760	3.2	1,820	4.4
Incentives	15,520	1.9	7,940	1.7	5,760	2.0	1,820	2.7

NOTE: Analysis included only completed cases that had two or fewer forms of imputed timing data; partial surveys and outliers were excluded. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Similar to the full survey, the BPS:12/17 abbreviated survey was administered in sections, with a reduced number of questions from each full-survey section. The employment section took the longest to complete: 3.5 minutes on average, followed by the enrollment section, which took 3.0 minutes on average to complete. The longer times for these sections could be due to the looping in each of the sections. Although there were fewer questions in each loop, a respondent could go through each loop an unlimited number of times contingent upon their own situation. Table 24 shows the completion time for each section in the abbreviated survey by mode of administration and section.

**Table 24. Average time in minutes to complete the abbreviated survey, by mode of administration and survey section: 2017**

Survey section	Mode of administration							
	All respondents		Web nonmobile		Web mobile		Telephone	
	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time
<b>Total</b>	<b>3,010</b>	<b>10.4</b>	<b>1,080</b>	<b>9.7</b>	<b>1,210</b>	<b>9.2</b>	<b>710</b>	<b>13.3</b>
Enrollment	3,010	3.0	1,080	3.1	1,210	2.5	710	3.8
Education experiences	3,010	0.1	1,080	0.1	1,210	0.1	710	0.2
Financial aid	3,010	0.3	1,080	0.3	1,210	0.3	710	0.3
Employment	3,010	3.5	1,080	3.2	1,210	3.2	710	4.5
Income and expenses	3,010	0.4	1,080	0.4	1,210	0.3	710	0.7
Incentives	3,010	2.3	1,080	2.0	1,210	2.2	710	3.0

NOTE: Analysis included only completed cases that had two or fewer forms of imputed timing data; partial surveys and outliers were excluded. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.6 Survey Timing by Prior-Round Respondent Status

BPS:12/17 was the second follow-up of a cohort of beginning postsecondary students who entered postsecondary education for the first time in the 2011–12 academic year. The first attempt to contact these respondents occurred in 2011–12 with the NPSAS:12 (base-year) survey. The second attempt to contact them was in 2014 for the first follow-up survey (BPS:12/14). The BPS:12/17 sample comprised four types of members: double nonrespondents—those who were nonrespondents in both NPSAS:12 and BPS:12/14; base-year-only respondents—those who completed only the NPSAS:12 survey; first-follow-up-only respondents—those who completed only the BPS:12/14 survey; and double respondents—those who completed both the NPSAS:12 and BPS:12/14 surveys.

In the BPS:12/17 survey, respondents received slightly different series of questions depending on their prior-round respondent status. For example, double nonrespondents received more questions about their enrollment during the 2011–12 NPSAS year, while double respondents received enrollment questions that were limited to July 2014 through June 2017. Overall, for the full survey, double nonrespondents took the longest to complete: 28.8 minutes on average. This was significantly longer than base-year-only respondents, who took 24.8 minutes on average to complete ( $t(189.4) = -4.0, p < .0001$ ), and double respondents, who took 23.7 minutes on average to complete the survey ( $t(152.8) = -5.4, p < .0001$ ). There was no significant difference between double nonrespondents and first-follow-up-only respondents. Base-year-only respondents (24.8 minutes on average) took significantly longer than double respondents (23.7 minutes on average) ( $t(1,265.7) = 3.2, p < .001$ ). There were no other significant differences by prior-round response status for the full survey.

Similarly, for the abbreviated survey, double nonrespondents took the longest to complete overall: 13.3 minutes on average. This is significantly longer than base-year-only respondents, who took 10.7 minutes on average to complete ( $t(567.7) = -5.9, p < .0001$ ), first-follow-up-only respondents, who took 10.2 minutes on average to complete ( $t(177.48) = -4.6, p < .0001$ ), and double respondents, who took 9.9 minutes on average to complete the abbreviated interview ( $t(354.4) = -8.9, p < .0001$ ). Like the full survey, there were no other significant differences by prior-round response statuses for the abbreviated survey. Table 25 shows the time it took respondents to complete the full and abbreviated surveys by mode of administration and prior-round response status.

**Table 25. Average time in minutes to complete the full and abbreviated surveys, by mode of administration and prior-round response status: 2017**

Prior-round response status	Mode of administration							
	All respondents		Web nonmobile		Web mobile		Telephone	
	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time
Full surveys	15,520	23.9	7,940	23.2	5,760	22.1	1,820	32.3
Double nonrespondent	150	28.8	70	29.7	60	25.5	20	34.9
Base-year-only respondent	1,100	24.8	460	23.3	400	21.7	240	32.9
First-follow-up-only respondent	400	25.3	160	23.5	160	23.1	80	33.3
Double respondent	13,870	23.7	7,250	23.2	5,140	22.1	1,480	32.1
Abbreviated surveys	3,010	10.4	1,080	9.7	1,210	9.3	710	13.3
Double nonrespondent	290	13.3	90	12.8	110	11.5	90	15.9
Base-year-only respondent	500	10.7	170	10.2	220	9.7	110	13.3
First-follow-up-only respondent	90	10.2	30	8.2	40	9.8	20	13.3
Double respondent	2,120	9.9	790	9.3	850	8.8	480	12.9

NOTE: Analysis included only completed cases that had two or fewer forms of imputed timing data; partial surveys and outliers were excluded. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.7 Coder Form Timing

Assisted coding systems (coders) were used to identify standardized codes for text-string responses. Each coder required respondents or DCIs to enter a text string, such as a major or occupation, into a text box that would then be used to perform a keyword search linked to an underlying database. The coder returned a list of possible matches for the respondent to review and select from. The BPS:12/17 full survey included four types of coders: school, major, occupation, and zip code of current/most recent employer and primary residence. See section 3.1.2 for a detailed description of each coder.

The BPS:12/17 occupation coder (B17DOCC) took the longest amount of time to complete: 103.4 seconds on average. The occupation coder was not a predictive coder, as mentioned in section 3.1.2, so respondents could have needed more time to look for their occupation. Times for the other coders, which were all predictive coders, ranged from 60.1 seconds on average for *NPSAS other attendance 1: major 2 coder* (B17ANPMAJ201) to 19.5 seconds on average for *ZIP code when enrolled at primary school* (B17FDISTNC). Table 26 shows the mean and median times in seconds that respondents took to complete each coder in the BPS:12/17 full survey.

**Table 26. Mean and median survey times, in seconds, for coder forms in the full survey, by form and form label: 2017**

Form	Form label	Number of cases	Mean (seconds)	Median (seconds)
B17DOCC	Primary employer: occupation coder	13,610	103.4	77.3
B17ANPMAJ201	NPSAS other attendance 1: major 2 coder	40	60.1	30.8
B17ANPMAJ01	NPSAS other attendance 1: major 1 coder	700	48.7	32.1
B17AOTMAJ01	Other school attendance 1: major 1 coder	2,330	48.1	29.8
B17AMAJ1	Major 1 coder for degree/certificate at NPSAS started 2011–12	2,030	43.8	27.2
B17AMAJ2	Major 2 coder for degree/certificate at NPSAS started 2011–12	230	36.4	23.5
B17AOMJ1A	Original major coder for degree/certificate at NPSAS started 2011–12	640	35.1	24.2
B17AOTSCH01	Other school attendance 1: school name	4,410	35.0	19.9
B17AOTMAJ201	Other school attendance 1: major 2 coder	120	30.8	20.4
B17DEMPZIP	ZIP code of reference employer	13,650	30.2	19.4
B17FDISTNC	ZIP code when enrolled at primary school	10,330	19.5	13.9

NOTE: Sample sizes rounded to the nearest 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.8 Highest Completion Times for Noncoder Forms

Analysts also examined completion times for noncoder forms. Four of the 10 noncoder forms with the highest completion times were calendar forms, which allowed respondents to select months in which they were enrolled at an institution or employed by an employer. The long completion times for these calendar forms were not surprising because they required the respondent to recall dates of events that occurred 3 years earlier. Of the calendar forms listed, *Other school attendance 1: attendance from July 2014 to June 2017* (B17AOTENRL01) took the longest time to complete: 66.7 seconds on average, while *Not working and actively looking for work: July 2014–June 2017* (B17DLKWRK) took the least amount of time to complete: 32.6 seconds on average.

Other forms with long average times included *Importance of factors in choosing a job* (B17DEDBENFTS) and *Financial literacy: value of money in savings after inflation* (B17FINTRST), which were both radio-button forms but may have required more cognitive processing, due to the nature of the question, to choose an answer compared to other radio-button forms. *Employer 1: current salary* (B17DCURERN01) and *Employer 1: employer name* (B17DEMPLOY01) were text-box forms in the employer loop that required respondents to recall their salary and employer names for each employer. Finally, *Program at NPSAS in 2011–12* (B17ADEGREE) could have taken a longer time because it required respondents to recall their degree program from 6 years earlier. Noncalendar form times ranged from 41.8 seconds on average (B17DEDBENFTS) to 32.0 seconds on average (B17ADEGREE).

The 10 noncoder forms with the highest completion times, by form type, are shown in table 27, along with the mean and median timing.

**Table 27. Noncoder forms with the highest completion times, in seconds, by form and form type: 2017**

Form	Form label	Form type	Number of cases	Average (seconds)	Median (seconds)
B17AOTENRL01	Other school attendance 1: attendance from July 2014 to June 2017	Calendar form	5,030	66.7	45.0
B17DWKMON01	Employer 1: months worked between July 2014 and June 2017	Calendar form	13,770	59.2	43.6
B17ANPENRL01	NPSAS other attendance 1: attendance between July 2014 and June 2017	Calendar form	1,500	55.4	37.9
B17ANENRL	NPSAS attendance from July 2014 to June 2017	Calendar form	5,060	49.9	33.4
B17DEDBENFTS	Importance of factors in choosing a job	Radio buttons	15,410	41.8	31.6
B17FINTRST	Financial literacy: value of money in savings after inflation	Radio buttons	15,400	37.1	25.8
B17DCURERN01	Employer 1: current salary	Text box	13,730	35.8	23.8
B17DEMPLOY01	Employer 1: employer name	Text box	11,290	32.7	22.4
B17DLKWRK	Not working and actively looking for work: July 2014 to June 2017	Calendar form	8,470	32.6	22.7
B17ADEGREE	Program at NPSAS in 2011–12	Check box	120	32.0	23.8

NOTE: NPSAS = National Postsecondary Student Aid Study. Forms with fewer than 25 observations were excluded. Sample sizes rounded to the nearest 10.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.9 Number of Calls to Sample Members

On average, DCIs made about 11 calls per sample member during the production phase. The average call counts for completed cases varied by factors such as prior-round response status and mode of administration. Table 28 shows the average number of telephone calls by prior-round response status, control and level of institution, and BPS:12/17 mode of administration.



**Table 28. Average number of calls, by prior-round response status, control and level of institution, and BPS:12/17 mode of administration: 2017**

Prior-round response status, control and level of institution, and BPS:12/17 mode of administration	Number of eligible cases <sup>1</sup>	Number of calls	Average number of calls
<b>Total</b>	<b>33,460</b>	<b>375,980</b>	<b>11.2</b>
Prior-round response status			
BPS:12/14 respondent	24,770	228,360	9.2
NPSAS:12 respondent	23,650	211,820	9.0
NPSAS:12 nonrespondent	1,110	16,540	14.8
BPS:12/14 nonrespondent	8,690	147,620	17.0
NPSAS:12 respondent	5,720	104,270	18.3
NPSAS:12 nonrespondent	2,980	43,350	14.6
Control and level of institution			
Public less-than-2-year	200	2,690	13.3
Public 2-year	10,080	115,260	11.4
Public 4-year, non-doctorate-granting	1,830	17,700	9.7
Public 4-year, doctorate-granting	3,400	30,090	8.9
Private nonprofit 2-year or less	330	4,380	13.3
Private nonprofit 4-year, non-doctorate-granting	2,280	20,150	8.8
Private nonprofit 4-year, doctorate-granting	2,600	20,450	7.9
Private for-profit less-than-2-year	1,420	19,940	14.0
Private for-profit 2-year	3,090	41,490	13.4
Private for-profit 4-year	8,230	103,840	12.6
BPS:12/17 mode of administration			
Respondent	22,530	137,660	6.1
Web nonmobile interviews	10,450	48,440	4.6
Excluding those with no calls	4,120	48,440	11.8
Web mobile interviews	9,160	59,100	6.5
Excluding those with no calls	4,400	59,100	13.4
Telephone interviews	2,920	30,120	10.3
Excluding those with no calls	2,840	30,120	10.6
Nonrespondent and exclusions	10,930	238,320	21.8

<sup>1</sup> The deceased cases (70) have been excluded from the final eligible sample (33,390) but are included in this analysis of data-collection results.

NOTE: Respondent count includes eligible sample members who met the criteria for qualification as an interview respondent, which required completing at least a partial survey. Web interviews include mobile and nonmobile web interviews. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.10 Refusal Conversion

BPS:12/17 staff integrated refusal conversion techniques into DCI training, revisiting them throughout data collection in quality circle meetings. Project staff sorted sample members who ever refused to be interviewed, or had a gatekeeper refuse on their behalf, into a separate queue managed by a subset of DCIs who had received specialized refusal conversion training. Overall, nearly 7 percent of eligible sample members ever refused or had someone refuse on their behalf; of those who refused, over 20 percent subsequently completed the interview (table 29). BPS:12/14 nonrespondents refused at a higher rate than BPS:12/14 respondents ( $\chi^2 = 464.9$ ,

$p < .001$ ) and of those who refused, BPS:12/14 nonrespondents completed surveys at a lower rate than BPS:12/14 respondents ( $\chi^2 = 464.9, p < .001$ ).

**Table 29. Refusal and refusal conversion rates, by prior-round response status and control and level of institution: 2017**

Prior-round response status and control and level of institution	Total eligible <sup>2</sup>	Ever any refusal <sup>1</sup>		Subsequently completed interview		
		Number	Percent of total eligible	Number	Percent of refused	Percent of total eligible
<b>Total</b>	<b>33,460</b>	<b>2,160</b>	<b>6.5</b>	<b>440</b>	<b>20.2</b>	<b>1.3</b>
Prior-round response status						
BPS:12/14 respondent	24,770	1,180	4.7	320	27.1	1.3
NPSAS:12 respondent	23,650	1,070	4.5	300	28.4	1.3
NPSAS:12 nonrespondent	1,110	110	9.7	20	13.9	1.3
BPS:12/14 nonrespondent	8,690	990	11.4	120	12.0	1.4
NPSAS:12 respondent	5,720	660	11.5	100	14.7	1.7
NPSAS:12 nonrespondent	2,980	330	11.1	20	6.6	0.7
Control and level of institution						
Public less-than-2-year	200	20	9.4	10	42.1	3.9
Public 2-year	10,080	730	7.3	140	19.6	1.4
Public 4-year, non-doctorate-granting	1,830	120	6.4	20	17.9	1.2
Public 4-year, doctorate-granting	3,400	190	5.7	40	21.1	1.2
Private nonprofit 2-year or less	330	20	7.0	10	30.4	2.1
Private nonprofit 4-year, non-doctorate-granting	2,280	150	6.4	30	23.3	1.5
Private nonprofit 4-year, doctorate-granting	2,600	150	5.9	40	22.7	1.3
Private for-profit less-than-2-year	1,420	80	5.8	10	15.9	0.9
Private for-profit 2-year	3,090	200	6.6	40	18.6	1.2
Private for-profit 4-year	8,230	490	6.0	100	19.5	1.2

<sup>1</sup> Includes eligible sample members who ever refused or had a gatekeeper (parent or other contact) refuse on their behalf.

<sup>2</sup> The deceased cases (70) have been excluded from the final eligible sample (33,390) but are included in this analysis of data-collection results.

NOTE: Respondent count includes eligible sample members who met the criteria for qualification as an interview respondent, which required completing at least a partial survey. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.3.11 Evaluation of Responsive Design

BPS:12/17 tested a responsive design based on the use of an importance score to identify nonrespondents to target for specific interventions. A key requirement of this responsive design was the ability to identify nonrespondents, within categories defining the control and level of institution, who were most likely to contribute to nonresponse bias. The likelihood of nonresponse bias can then be reduced by increasing response among the identified cases. For BPS:12/17, staff targeted nonrespondents for key interventions using a value, called the importance score, which accounted for the current nonresponse bias contributed by that individual, along with the likelihood that individual would respond over the course of the data-

collection period with an intervention. This section describes the dimensions of the importance measure used to target specific nonrespondents to reduce nonresponse bias, groups for level and control of institutions, and interventions used to convert nonrespondents. Finally, it presents the results of an evaluation of the responsive design. For this evaluation, staff selected a random subset of all sample members to be set aside as a *control* sample that was not eligible for intervention targeting. The remaining sample members were referred to as the *treatment* sample, and the targeting methods were applied to that group.

**The importance measure.** BPS:12/17 employed an importance measure approach to reduce nonresponse bias in survey variables by directing effort and resources during data collection and to minimize the cost of doing so. This approach was designed to meet three conditions: (1) the targeted cases must be drawn from groups that are underrepresented on key survey variable values among those who already responded; (2) their likelihood of participation should not be excessively low or high (i.e., targeted sample members who will never respond no matter the intervention cannot decrease bias; targeting only easy to convert high-propensity cases can potentially increase the bias of estimates); and (3) targeted cases should be numerous enough to impact survey estimates within domains of interest. Although targeting cases based on response propensities alone may reduce nonresponse bias, bias may be unaffected if the targeted cases are extremely difficult to convert and do not respond to the intervention as desired.

The importance measure approach targeted cases based on two dimensions: the likelihood that the case could contribute to nonresponse bias if not surveyed, and the likelihood that the case could be converted to a respondent. These dimensions form an importance score, such that

$$I_{ij} \propto U_{ij} \cdot P(R)_i,$$

Where  $I$  is the calculated importance score,  $U$  is a measure of underrepresentativeness on key variables that reflects the case's likelihood of inducing bias if not converted, and  $P(R)$  is the predicted final response propensity, across  $i$  sample members and  $j$  data-collection phases with responsive-design interventions. The importance score was determined by the combination of two models: a response propensity model and a bias-likelihood model.

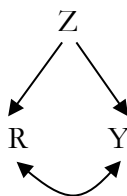
**Response propensity (P(R)) model.** Before BPS:12/17 data collection, a single response propensity model was developed to predict the sample member's likelihood of responding to BPS:12/17 based on BPS:12/14 data and response behavior. The

model predicted BPS:12/14 response using the following variables from the base NPSAS:12 study and the BPS:12/14 full-scale data collection:

- responded during BPS:12/14 early completion period;
- NPSAS:12 respondent;
- “ever refused” status;
- incentive amount offered in BPS:12/14;
- age;
- gender;
- citizenship;
- control and level of institution;
- BPS:12/14 e-mail count; and
- whether address information was updated in BPS:12/14.

BPS:12/14 full-scale data and response were used to create this response propensity model because that study was similar in design and target population to the BPS:12/17 full-scale study and this model was finalized before BPS:12/17 data collection began.

**Bias-likelihood (U) model.** A model to identify cases to be targeted for intervention should use covariates ( $Z$ ) that are strongly related to the survey variables of interest ( $Y$ ) to identify sample members who are underrepresented (using a response indicator,  $R$ ) with regard to these covariates. We then have the following relationships, using a single  $Z$  and  $Y$  for illustration:



Nonresponse bias arises when there is a relationship between  $R$  and  $Y$ . Just as in adjustment for nonresponse bias (see Little and Vartivarian 2005), a  $Z$ -variable cannot be effective in nonresponse bias reduction if  $\text{corr}(Z, Y)$  is weak or nonexistent, even if  $\text{corr}(Z, R)$  is substantial. That is, selection of  $Z$ -variables based only on their correlation with  $R$  may not help to identify cases that contribute to nonresponse bias. The goal is to identify sample cases with  $Y$ -variable values that are associated with lower response rates, as this is one of the most direct ways to reduce nonresponse bias in an estimate of a mean.

The key Z-variable selection criterion should then be association with Y. Good-candidate Z-variables would be the Y-variables or their proxies measured in a prior wave and any correlates of change in estimates over time. A second set of useful Z-variables would be those used in weighting and those used to define subdomains for analysis, such as demographic variables. This should help to reduce the variance inflation due to weighting and nonresponse bias in comparisons across groups. Key, however, is the exclusion of variables that are highly predictive of R but quite unrelated to Y. These variables, such as the number of prior contact attempts and prior refusal, can dominate in a model predicting the likelihood of participation and mask the relationship of Z-variables that are associated with Y.

Prior to each targeted intervention, a separate logistic regression model was fit for each sector group (described below) in order to predict the survey outcome (R) through the current phase of collection using only substantive and demographic variables and their correlates from NPSAS:12 and the sampling frame (Z), along with select two-way interactions. The goal of this model was not to maximize the ability to predict survey response ( $\hat{p}$ ) but to obtain a predicted likelihood of a completed survey reducing nonresponse bias if successfully interviewed. Because of this key difference,  $(1 - \hat{p})$  was used to calculate a case-level prediction representing bias likelihood, rather than response propensity. The following variables were used in the bias-likelihood model:

- race;
- gender;
- age;
- control and level of institution;<sup>21</sup>
- match to CPS;
- match to Pell Grant system;
- total income;
- parent's highest education level;
- job hours worked per week;
- attendance intensity;
- highest level of education ever expected;
- dependent children and marital status;

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<sup>21</sup> This variable was used in the bias likelihood model for targeting sample members from public 4-year and private nonprofit institutions.

- federal Pell Grant amount;
- direct subsidized and unsubsidized loans;
- total federal aid;
- institution aid total; and
- degree program.

**Groups of level and control of institution.** Individuals were targeted within groups of level and control of institution because nonresponse bias patterns differed by these groups. Targeting within these groups was designed to reduce nonresponse bias within specific sectors, rather than across the aggregate target population. The five groupings (table 30) were constructed by first identifying level and control of institutions with historically low response rates, as observed in BPS:12/14 and NPSAS:12, and then assigning those with the lowest participation to their own groups. The remaining pairings of level and control of institution were then combined into groups. The private for-profit institutions (groups C, D, and E) were identified as having low response rates. Public less-than-2-year and public 2-year institutions (group A) were combined because they were similar and because the public less-than-2-year level and control pairing was too small to function as a distinct group. Public 4-year and private nonprofit institutions (group B) remained combined because they have not historically exhibited low response rates. (Nonetheless, cases within this group are still eligible for targeting; the targeting model for group B included level and control of institution as a term to account for differences between the groups.)

**Table 30. Groups of control and level of institution: 2017**

Group	Control and level of institution
A	Public less-than-2-year Public 2-year
B	Public 4-year, non-doctorate-granting Public 4-year, doctorate-granting Private nonprofit less-than-4-year Private nonprofit 4-year, non-doctorate-granting Private nonprofit 4-year, doctorate-granting
C	Private for-profit less-than-2-year
D	Private for-profit 2-year
E	Private for-profit 4-year

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Targeted interventions.** All NPSAS:12 study members who responded to the NPSAS:12 or BPS:12/14 student interviews were initially offered a \$30 incentive. Following the \$30 baseline offer, two different targeted interventions were used in the responsive-design approach:

- First intervention (incentive boost): targeted nonrespondents were offered an additional \$45 over their baseline incentive amount.
- Second intervention (abbreviated survey): Targeted nonrespondents were offered an earlier abbreviated survey. (Note that all nonrespondents were offered an abbreviated survey during the final few weeks of data collection.)

Before each targeted intervention, predicted bias-likelihood values were calculated for all survey nonrespondents. The product of the bias likelihood and response propensity were used to calculate the target importance score described above. Nonrespondents with propensity scores outside of high and low cutoffs, determined by a review of the predicted distribution, were excluded as potential targets during data collection.<sup>22</sup>

The number of nonrespondents to be targeted was based on data from the BPS:12/14 data-collection period. The targeted nonrespondents were allocated proportionally to sector groups with lower response rates in BPS:12/14, as shown in table 31 for each of the interventions. Again, nonrespondents within the control group could not be targeted for either intervention.

**Table 31. Number of nonrespondents targeted and BPS:12/14 final response rate: 2017**

Control and level of institution group	Intervention	Number of nonrespondents targeted	BPS:12/14 final response rate <sup>1</sup>
Total	First	3,750	69.7
	Second	2,870	
Group A	First	1,360	67.4
	Second	1,020	
Group B	First	700	79.3
	Second	520	
Group C	First	140	57.1
	Second	110	
Group D	First	390	63.8
	Second	320	
Group E	First	1,160	65.1
	Second	910	

<sup>1</sup> Unweighted response rate, excludes ineligible sample members.

NOTE: Group A = Public less-than-2-year, Public 2-year. Group B = Public 4-year, non-doctorate-granting; Public 4-year, doctorate-granting; Private nonprofit less-than-4-year; Private nonprofit 4-year, non-doctorate-granting; Private nonprofit 4-year, doctorate-granting. Group C = Private for-profit less-than-2-year. Group D = Private for-profit 2-year. Group E = Private for-profit 4-year. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

<sup>22</sup> These adjustments helped ensure that overrepresented groups, high-propensity/low-importance cases, and very-difficult-to-convert nonrespondents were not included in the target set of nonrespondents. The bottom 10 percent of propensity scores for each sector group were excluded from targeting. The top percentage of cases to be excluded varied from 4 to 12 percent by sector group.

**Evaluation of responsive design.** Several questions were used to outline the analytical framework for the full-scale experiment. The questions, and the results of the related analyses, are described below. The approximately 1,780 BPS:12/17 sample members who were not fielded in the data collection were not part of the treatment or control groups because they were not exposed to any data-collection protocols. Only fielded, and eligible, individuals were examined for these analyses ( $n = 33,380$ ), and response rates and nonresponse bias calculations will differ somewhat from other sections in this report.

1. Were response rates improved using the targeted interventions?

Response rates were examined by level and control of institution group to determine whether the overall response rates for the treatment and control groups differed significantly. Although the goal of this approach was to minimize bias, and not necessarily to increase response rates, a higher response rate among the treatment group was a necessary requirement for a reduction in bias. table 32 shows the number of respondents and nonrespondents, the weighted response rate, and whether the difference between the treatment group and the control group was significant.

The weighted response rates for the treatment group were always larger than those for the control group. They were only significantly higher for group D (58 percent vs. 51 percent) and overall (70 percent vs. 64 percent).



**Table 32. Weighted response rates and tests of difference of response rates within groups, by treatment vs. control: 2017**

Control and level of institution group	Treatment			Control			Testing difference in response rates: treatment vs. control–weighted			
	Number of respondents	Number of non- respondents	Weighted response rate <sup>1</sup>	Number of respondents	Number of non- respondents	Weighted response rate <sup>1</sup>	Difference in the response rate (treatment-control)	t statistic	One-tailed p value	Two-tailed p value
Overall	20,400	9,430	70.0	2,130	1,420	63.6	6.5	4.50	<0.001	<0.001
Group A	6,290	3,110	65.6	440	270	61.7	4.0	1.29	0.099	0.198
Group B	7,690	2,250	74.7	570	180	72.8	1.9	0.89	0.187	0.375
Group C	410	320	55.4	360	320	49.8	5.6	1.47	0.070	0.141
Group D	1,350	890	58.3	380	310	51.4	7.0	2.13	0.017	0.034
Group E	4,670	2,860	58.8	400	330	50.5	8.3	1.26	0.105	0.209

<sup>1</sup> The base weight adjusted for unknown eligibility was used to produce the estimates in this column.

NOTE: Group A = Public less-than-2-year, Public 2-year. Group B = Public 4-year, non-doctorate-granting; Public 4-year, doctorate-granting; Private nonprofit less-than-4-year; Private nonprofit 4-year, non-doctorate-granting; Private nonprofit 4-year, doctorate-granting. Group C = Private for-profit less-than-2-year. Group D = Private for-profit 2-year. Group E = Private for-profit 4-year. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 2. Did conversion of targeted nonrespondents reduce unit nonresponse bias?

The effect of the responsive-design approach on unit nonresponse bias was measured by comparing nonresponse bias estimates for the treatment group with nonresponse bias estimates for the control group. The null hypothesis is that there is no difference in unit nonresponse bias between respondents assigned to the treatment group and respondents assigned to the control group. Nonresponse bias was estimated and tested to determine if bias was significant at the  $p < .05$  level for the variables described in chapter 6, section 6.3. The mean and median percent relative bias were computed across the categories of these variables as shown in table 33.

Results showed that, before nonresponse adjustments, the mean percent relative bias was not significantly different between the treatment group and the control group for any comparisons, indicating that the inclusion of targeted interventions did not significantly reduce nonresponse bias. This result may have been due to a lack of power from too small a control group, as some of the overlap on the confidence intervals is very small.

However, the confidence intervals for the mean percent relative bias between the control and treatment populations after nonresponse weight adjustments do show some significant differences. Significant reductions in mean percent relative bias can be seen for level and control of institution groups A and E. In addition, the overall confidence intervals for the control and treatment groups do not overlap, implying that the treatment group's mean percent relative bias of 2.89 is significantly lower than the control group's mean percent relative bias of 6.80.

**Table 33. Summary of nonresponse bias for level and control of institution group, by treatment and control: 2017**

Level and control of institution group	Experiment group	Number of characteristics	Before nonresponse weight adjustments <sup>1</sup>				After nonresponse weight adjustments <sup>2</sup>			
			Mean percent relative bias	95 CI of mean percent relative bias <sup>3</sup>	Median percent relative bias	Median effect size	Mean percent relative bias	95 CI of mean percent relative bias <sup>3</sup>	Median percent relative bias	Median effect size
Overall	Control	85	9.28	(7.45, 11.11)	7.50	0.10	6.80	(5.08, 8.52)	5.61	0.05
	Treatment	85	6.85	(6.10, 7.59)	4.48	0.07	2.89	(2.25, 3.53)	2.49	0.03
Group A	Control	45	7.28	(4.10, 10.46)	5.26	0.10	7.97	(4.41, 11.52)	6.13	0.09
	Treatment	45	4.10	(3.36, 4.84)	2.85	0.04	3.25	(2.27, 4.24)	2.60	0.03
Group B	Control	39	3.54	(2.00, 5.09)	2.55	0.04	4.41	(2.51, 6.31)	3.72	0.06
	Treatment	39	2.47	(1.90, 3.04)	1.83	0.03	2.19	(1.50, 2.88)	2.02	0.03
Group C	Control	41	10.81	(6.38, 15.23)	7.99	0.15	12.15	(6.82, 17.48)	8.77	0.15
	Treatment	41	12.04	(8.66, 15.42)	9.56	0.14	9.60	(6.17, 13.03)	6.52	0.14
Group D	Control	47	11.10	(7.75, 14.46)	7.57	0.14	10.56	(6.90, 14.22)	6.96	0.12
	Treatment	47	6.86	(4.58, 9.14)	3.96	0.07	6.18	(3.87, 8.48)	5.04	0.07
Group E	Control	53	17.36	(10.10, 24.61)	11.71	0.18	16.61	(8.54, 24.69)	14.80	0.22
	Treatment	53	7.30	(3.92, 10.68)	6.18	0.07	4.92	(2.29, 7.54)	2.70	0.06

<sup>1</sup> Respondent and full-sample means are weighted using the student base weight adjusted for unknown eligibility.

<sup>2</sup> Full-sample means are weighted using the student base weight, and respondent means are weighted using the base weight adjusted for student nonresponse.

<sup>3</sup> Confidence intervals for mean percent relative bias were obtained using Monte Carlo estimates of the standard error.

NOTE: CI = confidence interval. Group A = Public less-than-2-year, Public 2-year. Group B = Public 4-year, non-doctorate-granting; Public 4-year, doctorate-granting; Private nonprofit less-than-4-year; Private nonprofit 4-year, non-doctorate-granting; Private nonprofit 4-year, doctorate-granting. Group C = Private for-profit less-than-2-year. Group D = Private for-profit 2-year. Group E = Private for-profit 4-year. Relative bias and effect size are calculated using the weighted difference between respondent and full-sample means. Percent relative bias is calculated as 100 times the ratio of the estimated bias to the weighted full-sample mean. Effect size is calculated as the square root of the sum over categories of the squared differences over full-sample means. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Variables and characteristics that did not meet reporting standards in the control group or treatment group were excluded from summary statistics for both groups.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 3.4 Evaluation of Student Survey Items

BPS:12/17 staff evaluated the student survey for data quality and response patterns. The evaluation activities included recoding and upcoding of data collected by survey coders. For further insight into which items may have proved problematic for respondents, staff analyzed help-text access rates, conversion text success rates, and item nonresponse rates.

### 3.4.1 Survey Coders

To reduce respondent burden and improve data quality, the BPS:12/17 student survey made use of assisted coding systems. These coders, as described in section 3.1.2, created standardized codes from text-string responses for several survey items: additional postsecondary institutions attended between July 2014 and June 2017, majors or fields of study at all postsecondary institutions, occupations, and zip codes of current or most recent employer and permanent address.

The following analyses are limited to a sample of respondents who either completed the full survey, completed an abbreviated survey, or completed enough of the full survey to be deemed a final partial complete, meaning they completed the enrollment section of the survey (combined  $n = 22,530$ ). Major codes included in the analyses were limited to responses from the student survey (not from administrative databases).

**Recoding.** Ten percent of the major and occupation codes were randomly selected from the student survey for recoding, a process in which staff reviewed the codes chosen in the survey alongside the original text strings and determined whether the coder selection most accurately described the text string provided by the respondent. This review was conducted for majors and occupations due to the variability in names of programs of study across institutions and occupation titles given to the same or similar jobs across employers. Because respondents must scroll through a list of returned results on a small screen during web mobile mode administration, agreement rates between modes of administration were also compared to assess the impact that mode of administration may have on data quality. Overall, for the major code review, expert coding staff agreed with the respondent's choice from the survey 95 percent of the time ( $n = 700$ ). For the occupation code review, coding staff agreed with 90 percent of responses chosen in the interview ( $n = 1,460$ ).

Of the major codes selected for recoding, 2 percent were assigned a different code by expert coders, and 3 percent of major strings provided were considered too vague

to code. There were no significant differences between modes of administration for these recodes.

Of the occupation codes selected for recoding, expert coders assigned a different occupation code from the one selected in the interview 4 percent of the time. There were no significant differences between modes of administration. Of occupation text strings provided by web mobile respondents, 9 percent were too vague for expert coders to code, significantly greater than the percentage for web nonmobile respondents (5 percent) ( $\chi^2(1, n = 1,304) = 8.14, p < .01$ ). Due to small cell sizes, no significant differences could be detected between the percentage of vague occupation text strings provided by telephone respondents and the percentage provided by web mobile and web nonmobile respondents. Table 34 shows the rates of recodes for major and occupation coders in the survey by coding system and mode of administration.

**Table 34. Percentage of recoding results, by coding system and mode of administration: 2017**

Coding system	Recoded same as original				Recoded to a different value				Text string too vague to code			
	Overall	Web non-mobile	Web mobile	Tele-phone	Overall	Web non-mobile	Web mobile	Tele-phone	Overall	Web non-mobile	Web mobile	Tele-phone
Major	95.0	95.4	95.3	91.5	2.4	2.4	3.3	#	2.6	2.2	1.4	8.5
Occupation	90.2	91.4	87.4	94.4	3.7	3.9	4.0	1.9	6.1	4.7	8.6	3.8

# Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Upcoding.** Upcoding occurred when expert coding staff assigned a code to any text string without a corresponding standardized response. Overall, text strings from the occupation coder were upcoded most frequently at 9 percent. Text strings from the postsecondary institution coder were upcoded at an overall rate of 5 percent, and major text strings were upcoded at an overall rate of 2 percent. Table 35 shows the upcode rate overall and by coding system and mode of administration.

**Table 35. Percentage of text strings upcoded, by mode of administration and coding system: 2017**

Coding system	Overall	Mode of administration		
		Web nonmobile	Web mobile	Telephone
Postsecondary institution	5.3	3.6	7.1	7.8
Major	2.2	1.3	3.1	4.6
Occupation	9.2	8.0	12.4	#

# Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 3.4.2 *Help Text*

In the BPS:12/17 survey, respondents and DCIs could click a help button provided on each survey screen to obtain question-specific help text with definitions of key terms and phrases used in the screen and any other explanations thought to help clarify and standardize meaning for respondents. In addition, some questions included embedded hyperlinks to the help text on specific terms or phrases in the question itself. Whether accessed through the help button or through a hyperlink, each question had unique help text to assist respondents in completing the screen correctly.

Overall, respondents and DCIs accessed help text less than 1 percent of the time.<sup>23</sup> DCIs accessed help text at a rate of 1 percent, while both web mobile and web nonmobile respondents accessed help text at a rate of less than 1 percent. The higher rate of help-text access by DCIs was expected because DCIs were trained to access help text when respondents expressed uncertainty about an answer.

The question-level rate of help-text access was analyzed by mode of administration to identify whether specific questions proved to be more difficult to answer by mode. Eighteen survey questions administered to at least 10 respondents had an overall help-text access rate of 1 percent or greater. Fourteen of the eighteen survey questions meeting this help-text access threshold had embedded hyperlinks to help-text.<sup>24</sup> This result suggests that including help-text hyperlinks in survey questions can prompt respondents to review help text on forms that collect difficult or complex information. Table 36 shows the interview questions (forms) with the highest rates of help-text access.

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<sup>23</sup> Overall help-text access rates were calculated by dividing the total number of times that respondents (or DCIs) accessed help text by the number of times that questions were administered, across all modes. Form-level help-text access rates were calculated by dividing the number of times that respondents (or DCIs) accessed help text for that form by the number of times that questions were administered. Only forms administered to 10 respondents or more were included in the help-text analysis.

<sup>24</sup> The four exceptions—B17DEMPBEN, B17AELCRD, B17EINCOM, and B17ACKHOUR—did not contain hyperlinks in question wording or response options.

**Table 36. Forms with highest rates of help-text access, by mode of administration: 2017**

Form	Form label	Mode of administration							
		Overall		Web nonmobile		Web mobile		Telephone	
		Number administered to	Percent of help-text access	Number administered to	Percent of help-text access	Number administered to	Percent of help-text access	Number administered to	Percent of help-text access
B17CEVRPRVLN	Ever took out undergraduate private loans	14,960	6.8	6,590	8.9	6,330	4.8	2,030	6.3
B17CPRVLN	Took out undergraduate private loans in 2016–17 academic year	2,030	3.4	1,130	4.1	700	2.2	200	4.4
B17DEMPBEN	Primary employer: eligible for employer benefits	14,980	3.4	7,560	0.7	5,760	7.7	1,660	0.7
B17ECARRYBAL	Credit card amount carried over each month	11,710	2.8	6,310	3.3	4,270	2.0	1,130	3.4
B17DLKWRK	Not working and actively looking for work: July 2014–June 2017	8,960	2.7	4,640	4.6	3,470	0.4	850	1.4
B17AELCRD	Attended NPSAS for credit in 2011–12 school year	40	2.6	10	#	20	#	10	8.3
B17ANPCLDG01	NPSAS other attendance 1: primarily took classes to transfer credit	140	2.2	80	3.7	50	#	10	#
B17CEVRRCVLN	Ever took out undergraduate student loans	11,110	1.8	5,070	1.8	4,650	1.4	1,400	3.6
B17EINCOM	Respondent's income in calendar year 2016	22,220	1.7	10,380	3.4	8,970	#	2,870	0.4
B17ACKHOUR	Clock hour req at NPSAS for undergraduate certificate in 2011–12	130	1.6	30	#	60	#	30	6.1
B17ASTDABR	Studied abroad as part of education at NPSAS	5,670	1.4	3,390	1.4	1,790	1.3	490	1.8
B17ANPDBLM01	NPSAS other attendance 1: declared major	1,820	1.4	880	1.5	780	1.0	160	2.4
B17ACMPDGN	Completed requirements for degree/cert started at NPSAS in 2011–12	15,900	1.4	7,680	1.6	6,140	1.1	2,090	1.3
B17DEDBENFTS	Importance of factors compared to salary	17,800	1.3	8,840	1.3	7,000	1.1	1,960	1.5
B17AOTDBLM01	Other school attendance 1: declared major	5,760	1.2	3,050	1.1	2,110	0.9	590	3.2
B17ANPDEC01	NPSAS other attendance 1: decided major	170	1.2	60	1.7	90	1.2	20	#
B17CPRVAMT	Amount of undergraduate private loans borrowed in 2016–17	360	1.1	210	1.0	130	0.8	30	4.0
B17ADECIDMAJ	Decided major for degree or certificate at NPSAS started 2011–12	200	1.0	80	#	100	1.0	20	5.6

# Rounds to zero.

NOTE: NPSAS = National Postsecondary Student Aid Study. Table includes only those items that were administered to at least 10 respondents who completed the full or abbreviated survey. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

*Ever took out undergraduate private loans* (B17CEVRPRVLN) had the highest overall help-text access rate at 7 percent. This form asked respondents whether they had taken out private student loans for any undergraduate education they had completed and contained an embedded hyperlink to the help text. Web nonmobile respondents accessed help text for this question 9 percent of the time, while telephone respondents accessed help text 6 percent of the time and web mobile respondents 5 percent of the time. Overall help-text access rates for the remaining 17 forms ranged from 1 to 3 percent.

### 3.4.3 Conversion Text

To minimize item-level nonresponse in the interview, the survey used conversion text to encourage reluctant respondents to provide a response to critical survey items. When a respondent left a survey question blank and hit “next” to move forward, additional text (i.e., conversion text) appeared to emphasize the importance of the question. This additional text encouraged respondents to provide an answer; however, if the answer was still missing, the respondent could proceed to the next question with no additional prompting. Of the questions in the survey, a subset of 28 critical questions included conversion text.

To determine a conversion-text success rate, the total number of valid responses provided after conversion text was displayed was divided by the total number of cases in which conversion text was triggered. Overall, conversion text led to a survey response 83 percent of the time. Web nonmobile mode surveys accounted for 43 percent of the total instances in which conversion text was triggered and 45 percent of the total converted responses. Web mobile mode surveys accounted for 40 percent of the total instances in which conversion text was triggered and 42 percent of the total converted responses. The remaining 17 percent of total instances in which conversion text was triggered occurred in telephone surveys, accounting for 13 percent of the total converted responses.

Among the 28 critical questions that included conversion text, analysis excluded two items in which conversion text was available on the form but was never triggered in any mode. Of the remaining 26 critical questions, the majority (23) did not display a “don’t know” option when conversion text was triggered. Three questions related to income from the prior year did display a “don’t know” option due to the sensitive nature of the questions.

Table 37 shows conversion rates for the 23 critical questions that did not display a “don’t know” option when conversion text was triggered. For these questions, total conversion rates ranged from 63 to 100 percent, with only five items resulting in a



conversion rate lower than 80 percent. These five questions required respondents to recall specific amounts, dates since July 2014, or location (B17AOTENRL01, B17DEMPZIP, B17DWRKHRS01, B17DWKHREN01, and B17COTGRTAMT).

**Table 37. Conversion rates for critical questions, by mode of administration: 2017**

Form	Form label	Mode of administration											
		Total			Web nonmobile			Web mobile			Telephone		
		Number of cases	Converted Number	Percent	Number of cases	Converted Number	Percent	Number of cases	Converted Number	Percent	Number of cases	Converted Number	Percent
B17ASAMEDEG	Attended NPSAS after July 2014 for program started in 2011–12	70	70	100.0	50	50	100.0	10	10	100.0	10	10	100.0
B17AOTSCHENR	Attended another school between July 2011/2014–June 2017	80	80	100.0	30	30	100.0	40	40	100.0	10	10	100.0
B17AOTCMPD01	Other school attendance 1: completed degree/certificate requirements	30	30	100.0	20	20	100.0	10	10	100.0	†	†	#
B17AOTOTDG01	Other attendance 1: attendance at another school	50	50	100.0	30	30	100.0	20	20	100.0	#	#	100.0
B17EDPNUM	Number of others financially supported by parents in college in 2016–17	10	10	100.0	10	10	100.0	10	10	100.0	†	†	#
B17ASAMESCH	Attended NPSAS any time between July 2014 and June 2017	50	40	97.8	30	30	100.0	10	10	90.9	10	10	100.0
B17AOTDEG01	Other school attendance 1: enrollment type	50	40	95.7	20	20	94.4	20	20	95.8	#	#	100.0
B17ACMPDGN	Completed requirements for NPSAS degree/certificate started in 2011–12	20	20	95.7	10	10	100.0	10	10	100.0	#	#	66.7
B17BREMEVER	Took remedial courses since high school	20	20	95.7	10	10	100.0	10	10	100.0	10	10	83.3
B17ANPOTHENR	Additional attendance at NPSAS for another program July 2011/2014–June 2017	40	40	95.5	20	20	100.0	10	10	100.0	10	10	71.4
B17ANPCMPD01	NPSAS other attendance 1: completed degree/certificate requirements	20	20	93.8	10	10	90.0	10	10	100.0	†	†	#
B17EDEPS	Financially supported children	60	50	92.7	30	30	100.0	20	20	90.0	10	10	71.4

See notes at end of table.

**Table 37. Conversion rates for critical questions, by mode of administration: 2017—Continued**

Form	Form label	Mode of administration											
		Total			Web nonmobile			Web mobile			Telephone		
		Number of cases	Converted Number	Percent	Number of cases	Converted Number	Percent	Number of cases	Converted Number	Percent	Number of cases	Converted Number	Percent
B17DANYJOBS	Worked for pay since July 2014	110	100	91.4	40	40	93.0	50	50	96.2	10	10	60.0
B17ANPDEG01	NPSAS other attendance 1: enrollment type	60	50	82.8	40	40	89.7	20	20	84.2	10	#	33.3
B17ANPENRL01	NPSAS other attendance 1: attendance from July 2014 to June 2017	180	160	86.8	70	60	83.8	100.0	90	92.7	10	10	58.3
B17ANENRL	NPSAS attendance from July 2014 to June 2017	90	80	84.4	30	30	89.7	40	40	97.7	20	10	41.2
B17CEVRRCVLN	Ever took out undergraduate student loans	40	30	83.8	20	20	88.2	20	20	100.0	10	#	20.0
B17CRCVLN	Took out undergraduate student loans in 2016–17 academic year	20	20	83.3	10	10	100.0	10	10	100.0	10	#	50.0
B17AOTENRL01	Other school attendance 1: attendance from July 2014 to June 2017	520	400	78.1	210	170	83.5	230	210	89.7	80	20	29.5
B17DEMPZIP	Primary employer: employer ZIP code	230	170	76.4	100	80	78.6	110	90	79.3	20	10	43.8
B17DWRKHRS01	Employer 1: hours per week worked while not attending school	200	140	73.8	80	60	77.9	80	60	77.2	40	20	59.0
B17DWKHREN01	Employer 1: hours per week worked while attending school	30	20	71.0	20	10	66.7	10	10	88.9	#	#	50.0
B17COTGRTAMT	Amount of specific aid in 2016–17 academic year	20	20	62.5	10	10	81.8	10	#	66.7	10	#	28.6

† Not applicable.

# Rounds to zero.

NOTE: NPSAS = National Postsecondary Student Aid Study. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Three of the 23 critical questions that did not display a “don’t know” option triggered conversion text at least 200 times: *other school attendance 1: attendance from July 2014 to June 2017* (B17AOTENRL01), *primary employer: employer ZIP code* (B17DEMPZIP), and *employer 1: hours per week worked while not attending school* (B17DWRKHRS01). Conversion rates were significantly different across the three modes of administration for B17AOTENRL01 ( $\chi^2 (2, n = 516) = 129.40, p < .001$ ) and B17DEMPZIP ( $\chi^2 (2, n = 225) = 10.24, p < .01$ ).<sup>25</sup> Specifically, the conversion rates in telephone mode were observed to be significantly lower than those for web nonmobile mode for B17AOTENRL01 ( $\chi^2 (1, n = 284) = 76.70, p < .001$ ) and B17DEMPZIP ( $\chi^2 (2, n = 116) = 4.56, p < .05$ ), as well as significantly lower than web mobile mode for B17AOTENRL01 ( $\chi^2 (1, n = 310) = 111.29, p < .001$ ) and B17DEMPZIP ( $\chi^2 (2, n = 118) = 4.23, p < .05$ ). No significant differences were observed between the conversion rates for web nonmobile and web mobile modes of administration. These questions required respondents to recall information like dates of enrollment, location of current or most recent employer, and number of hours worked, which could have been difficult for the respondent if they were not currently enrolled at the institution in question or currently working for the employer in question.

Table 38 shows conversion rates for the three critical questions that did display a “don’t know” option when conversion text was triggered. Of these three questions, total conversion-text rates ranged from 58 to 100 percent. Two of these survey questions also triggered conversion text over 200 times: *Parents’ (or guardians’) income in calendar year 2016* (B17EPARNC) and *respondent’s income in calendar year 2016* (B17EINCOM). The conversion rate for B17EINCOM was significantly lower when administered by DCI (50 percent) compared to web nonmobile administration (68 percent) ( $\chi^2 (1, n = 159) = 5.00, p < .05$ ). This lower conversion rate for telephone mode may be attributed to the presence of a DCI and the sensitive nature of the income information being requested.

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<sup>25</sup> Significance tests were conducted to determine significant differences between modes of administration for rates of total conversion for all critical questions. Generally, questions with adequate cell sizes for comparison did not present significant differences in conversion rates by mode of administration.

**Table 38. Conversion rates for critical questions with a “don’t know,” by mode of administration: 2017**

Form	Form label	Mode of administration															
		Total				Web nonmobile				Web mobile				Telephone			
		Converted				Converted				Converted				Converted			
		Num- ber of cases	Num- ber	Per- cent	Percent “don’t know”	Num- ber of cases	Num- ber	Per- cent	Percent “don’t know”	Num- ber of cases	Num- ber	Per- cent	Percent “don’t know”	Num- ber of cases	Num- ber	Per- cent	Percent “don’t know”
B17EPARNCP	Parents’ (or guardians’) income in calendar year 2016	290	290	100.0	34.4	120	120	100.0	39.1	70	70	100.0	30.6	100	100	100.0	31.6
B17EINCSP	Spouse’s income in calendar year 2016	90	70	73.9	15.9	40	30	88.9	11.1	40	30	71.4	14.3	20	10	47.1	6.8
B17EINCOM	Respondent’s income in calendar year 2016	230	140	58.4	19.7	80	60	67.5	15.7	70	40	56.8	17.6	80	40	50.0	26.3

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### **3.4.4 Item-Level Nonresponse**

The analysis of the rate of nonresponse for individual items in the student survey identified potentially burdensome or sensitive questions. BPS:12/17 staff calculated item nonresponse rates from the student survey for all items administered to 10 or more respondents. The following analysis includes all items with an overall nonresponse rate of 10 percent or greater. Overall, only five items met this threshold. Table 39 summarizes these results.

**Table 39. Item nonresponse rates for items with more than 10 percent of data missing, by mode of administration: 2017**

Item	Item label	Mode of administration							
		Overall		Web nonmobile		Web mobile		Telephone	
		Number admin- istered to	Percent missing	Number admin- istered to	Percent missing	Number admin- istered to	Percent missing	Number admin- istered to	Percent missing
B17CPRVEST	Estimated amount of undergraduate private loans borrowed in 2016–17 academic year	10	16.7	10	14.3	#	#	#	33.3
B17DPRIEMP04	Employer 4: worked at prior employer between July 2014 and June 2017	30	16.1	20	10.0	#	50.0	10	14.3
B17DLKWKSTG	Not working and actively looking for work: July 2014–June 2017	8,960	11.6	4,640	9.5	3,470	12.1	850	20.6
B17CTLPRVEST	Estimated total amount borrowed in undergraduate private loans	100	11.5	40	5.0	40	16.7	10	14.3
B17AOTDGNO04	Other school attendance 4: degree/cert not yet awarded	10	10.0	10	#	10	20.0	#	#

# Rounds to zero.

NOTE: Table only includes those items that were administered to at least 10 respondents who completed the full or abbreviated survey. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

The item with the highest overall nonresponse rate was *estimated amount of undergraduate private loans borrowed in 2016–17 academic year* (B17CPRVEST). Of the 10 respondents who received this item, 17 percent did not provide an answer. This item was administered to only a small number of respondents because it was used as a nonresponse conversion for respondents who, on a preceding question, had not provided an exact amount of private student loans borrowed, and displayed a “don’t know” option. Therefore, the higher nonresponse rate for this item was likely due to respondents’ inability to recall this level of detail about their borrowing behavior.

Other items with a nonresponse rate greater than 10 percent include *employer 4: worked at prior employer between July 2014 and June 2017* (B17DPRIEMP04), which had a nonresponse rate of 16 percent; *not working and actively looking for work: July 2014–June 2017* (B17DLKWKSTG), which had a nonresponse rate of 12 percent; *estimated total amount borrowed in undergraduate private loans* (B17CILPRVEST), which had a nonresponse rate of 12 percent; and *other school attendance 4: degree/certificate not yet awarded* (B17AOTDGNO04), which had a nonresponse rate of 10 percent.

Item-level nonresponse rates were also examined by mode of administration for the five items with 10 percent or more missing data. Higher rates of nonresponse were observed in telephone mode (21 percent) than in either web mobile mode (12 percent) ( $\chi^2(1, n = 4,304) = 43.65, p < .001$ ) or web nonmobile mode (10 percent) ( $\chi^2(1, n = 10,952) = 91.83, p < .001$ ) for *not working and actively looking for work: July 2014–June 2017* (B17DLKWKSTG). Web mobile mode nonresponse rates for this item were also significantly higher than web nonmobile mode rates ( $\chi^2(1, n = 5,476) = 13.16, p < .001$ ). None of the other items had adequate cell sizes for comparison across all three modes of administration.



## Chapter 4. Overview of Administrative Records Matching

In addition to the student interview, sample member data for BPS:12/17 were also collected from administrative databases, including two databases from the U.S. Department of Education's Federal Student Aid (FSA) Office: CPS and NSLDS. Additional data sources included NSC and the Veterans Benefits Administration (VBA). These additional data sources were useful in supplementing student survey data and reducing institution and student burden. This chapter provides detail on the data sources, processes, and outcomes of administrative records matching, as well as checks that were performed to verify the quality of administrative data.

### 4.1 Administrative Records Matching

**Central Processing System.** To reduce institution and student burden, BPS staff obtained federal financial aid data from CPS. As part of the process of applying for federal student financial aid, students enter information about themselves and their family into the FAFSA form. CPS then processes the FAFSA information and provides it to requesting postsecondary institutions as part of the procedure for determining student eligibility for federal financial aid. Data are transmitted to FSA using their SSL encrypted website and from FSA using EdConnect, a software program provided by the Department of Education to transmit data securely.

Project staff collected CPS data, which come from the FAFSA, for the BPS:12/17 sample for the 2014–15, 2015–16, 2016–17, and 2017–18 financial aid years. The variable CPS ID—the sample member's SSN concatenated with the first two letters of their last name—was used to match BPS:12/17 and CPS records. Sample members without available SSNs were not included in the match. Any SSNs that had been obtained since the last match were included in later matches. CPS data are available directly from CPS for a limited time each year, after which they are available only from NSLDS. For the 2016–17 and 2017–18 financial aid years, these data were collected directly from CPS. For financial aid years 2014–15 and 2015–16, the required information was no longer available directly from CPS and was obtained from NSLDS. FAFSA data from NSLDS needed to be parsed and reformatted to match the CPS file format. Obtaining information from NSLDS provided the opportunity to also obtain additional FAFSA data for BPS sample members who

applied late in the application cycle or whose application data were updated after the last direct CPS match was conducted.

**National Student Loan Data System.** Student-level data on Pell Grants and federal student loans were obtained by matching sample members to the NSLDS database. In a cooperative effort, project staff and the U.S. Department of Education initiated a match between BPS records and the NSLDS database three times. The first and second matches, during data collection, provided data for preliminary analyses, and the third match occurred after the end of data collection to retrieve the most current NSLDS data. As with CPS, sample members missing SSNs were not part of the match. The BPS sample member had to have at least one valid grant or loan record in the NSLDS database for a successful match. The NSLDS Pell Grant and loan files included information on the year of interest and a complete federal grant and loan history for each student. All NSLDS data transfers used a password-protected NCES system transmitting over an encrypted SSL connection.

**National Student Clearinghouse.** The NSC StudentTracker service provided enrollment data for the BPS:12/17 sample members. This administrative record match provided information on institutions attended, enrollment dates, and degree completions. An individual student record would match with NSC only if the student's institution was an NSC participant.<sup>26</sup> StudentTracker data were requested toward the end of data collection to ensure availability of the most up-to-date student identifying data for the match. All files were encrypted and transmitted over encrypted Secure File Transfer Protocol connections. Personally identifying data used for the match included sample member name, SSN, and date of birth.

**Veterans Benefits Administration.** A file match with VBA was performed in collaboration with VBA staff to identify veterans, amounts of federal veterans education benefits, and any associated enrollment information. After the end of data collection, BPS staff provided a file containing SSN, name, and date of birth to VBA for data matching. The match used SSN as the primary identifier, with the other fields used to identify the proper person in rare cases of multiple matches. As with the NSLDS file matching, all data transmission used an NCES secure file transfer system.

## 4.2 Administrative Records Matching Outcomes

**Central Processing System.** Table 40 summarizes the results of student data matching for financial aid years 2014–15 through 2017–18. The table shows the total

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<sup>26</sup> For more information on NSC participation, visit <https://studentclearinghouse.org/>.

BPS:12/17 sample with records sent to CPS for matching (i.e., BPS:12/17 student records that included an SSN and last name were submitted to CPS for matching) and records matched to CPS by year. Sample members must have filed a FAFSA in that year in order for their records to match. The match rates for 2014–15, 2015–16, 2016–17, and 2017–18 were 36 percent, 29 percent, 21 percent, and 16 percent, respectively.

**Table 40. Central Processing System (CPS) matching, by financial aid year: 2014–18**

Financial aid year	Total sample	Sent to CPS		Matched to CPS	
		Number	Percent	Number	Percent
2014–15	35,540	33,260	93.6	12,010	36.1
2015–16	35,540	34,710	97.7	10,190	29.4
2016–17	35,540	34,700	97.6	7,210	20.8
2017–18	35,540	34,710	97.7	5,700	16.4

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Fellowship and assistantship amounts, which are usually not need based and do not require the completion of federal financial aid forms, are not included in the CPS data.

**National Student Loan Data System.** NSLDS matching only returned records of sample members who, at some point in time, had received Pell Grant or federal student loan funding. A sample member had to have an apparently valid SSN in order to be sent for the match with NSLDS. Table 41 shows the overall NSLDS match rates for sample members. In this table, a match indicates that a student had at least one loan or Pell Grant, although not necessarily during 2017–18. Students who did not have at least one loan or Pell Grant are included in the category “Did not match.”

**Table 41. National Student Loan Data System (NSLDS) matching results: 2018**

Matching results	Number	Percent
<b>Total</b>	<b>35,540</b>	<b>100.0</b>
Sent to NSLDS	34,710	97.7
Not sent to NSLDS	830	2.4
Federal loan		
Matched	24,270	69.9
Did not match	10,440	30.1
Pell Grant		
Matched	24,030	69.2
Did not match	10,680	30.8

NOTE: Matching was completed on historical files that include awards made in 2017–18 and prior years. All sampled cases were provided for the match. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

The NSLDS match yielded loan matches for 24,270 sample members (70 percent of sample members). The match yielded Pell Grant matches for 24,030 sample members (69 percent of sample members).

**National Student Clearinghouse.** The NSC match returned enrollment and degree records for the 2014–15, 2015–16, 2016–17, and 2017–18 academic years. An individual student record match was possible only if an institution the student attended was an NSC participant. NSC matches for sample members included the institution in which they were sampled for NPSAS and any other participating institutions they had attended since the 2011–12 academic year. Table 42 shows NSC match rates.

**Table 42. National Student Clearinghouse matching results: 2018**

Matching results	Number	Percent
<b>Total</b>	<b>35,540</b>	<b>100.0</b>
Matched	30,250	85.1
Did not match	5,300	14.9

NOTE: All sampled cases were provided for the match. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Of the total sample members, approximately 30,250 (85 percent) matched to NSC. Sample members who did not have any NSC records for the NPSAS institution or others attended since the 2011–12 academic year are included in the category “Did not match.”

**Veterans Benefits Administration.** Veterans education benefits information was obtained for 2,200 of the sample members (6 percent), as shown in table 43. No

VBA information was available for the remaining sample members (included in the category “Did not match”).

**Table 43. Veterans Benefits Administration matching results: 2018**

Matching results	Number	Percent
<b>Total</b>	<b>35,540</b>	<b>100.0</b>
Matched	2,200	6.2
Did not match	33,340	93.8

NOTE: All sampled cases were provided for the match. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 4.3 Administrative Records Matching Evaluation

Several checks were performed to verify the quality of administrative data. File layouts and code to read in the files were checked to make sure they were current and accurate. For example, with NSLDS, the file received must have a header and a footer; otherwise, the file and data are incomplete. If a source provided the personally identifying information from their database, names and dates of birth were compared to the study database to make sure the data were for the correct person. If the names and dates of birth did not match, the case was excluded from the administrative file. Project staff examined the files individually by running basic summary statistics such as the number of records and the range of values (e.g., dates and amounts) to check for potential outliers or abnormalities. Files were then checked to see if they related to one another as expected. For example, students who received veterans education benefit payments were expected to have at least one military service record on file. In the event that BPS staff found any disagreement or items that required clarification, they worked with VBA staff who extracted the data to correct the information or to understand why such occurrences existed.



## Chapter 5. Data File Processing and Preparation

BPS:12/17 student-level data are compiled from student surveys and matches to governmental and administrative databases. These files are fully documented and available to researchers as a set of restricted-use microlevel data files. The public can generate tables of estimates and simple regressions based on restricted-use data via PowerStats and other publicly facing web tools available on the NCES website, <https://nces.ed.gov/datalab/>. This chapter provides details on the contents of the restricted-use BPS:12/17 files, processing of the survey data files, statistical imputations, and creation of derived variables.

### 5.1 Overview of the BPS:12/17 Study Files

Complete data for BPS:12/17 are contained in restricted-use files and documented in detail in the associated codebooks. The restricted-use files (table 44) are available to researchers who have applied for and received authorization from NCES to access those files. Researchers may obtain authorization by contacting the Institute of Education Sciences (IES) Data Security Office.<sup>27</sup>

The primary analysis file (or derived file) for BPS:12/17 contains data for approximately 22,530 respondents and includes more than 1,700 variables. NSC and VBA data were also used to create derived variables, in combination with data from other sources (the student survey, CPS, and NSLDS). The NSC and VBA data files are not available as source files.

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<sup>27</sup> More information on obtaining restricted-use data files is available at <https://nces.ed.gov/statprog/rudman/>.

**Table 44. BPS:12/17 restricted-use file, description, and file path: 2018**

<b>Restricted-use file</b>	<b>Description</b>	<b>File path</b>
BPS:12/17 analysis (derived)	Contains analytic variables derived from all BPS:12/17 data sources, as well as selected direct student-interview variables, for 22,530 respondents.	/data/derived/ bps17derived_datafile.csv
BPS:12/17 student-interview data	Contains data collected from the student interviews of the 22,530 respondents.	/data/source/bps17interview/ bps17interview_datafile.csv
BPS:12/17 school information	Contains student-institution-level undergraduate enrollment information for all respondents in BPS:12/17. This file includes one record for each institution a respondent attended at the undergraduate level and their months of enrollment at that institution between July 1, 2011, and June 30, 2017.	/data/source/bps17schinfo/ bps17schinfo_datafile.csv
BPS:12/17 program information	Contains student-institution-program level undergraduate enrollment information for all respondents in BPS:12/17. This file includes one record for each undergraduate degree program (including nondegree) a respondent enrolled in and their months of attendance in that program between July 1, 2011, and June 30, 2017.	/data/source/bps17proginfo/ bps17proginfo_datafile.csv
BPS:12/17 graduate enrollment information	Contains student-institution-level graduate enrollment information for 1,490 respondents in BPS:12/17 who had graduate-level enrollment between July 1, 2011, and June 30, 2017. This file includes one record for each institution a respondent attended at the graduate level and their months of enrollment at that institution.	/data/source/bps17grinfo/ bps17grinfo_datafile.csv
BPS:12/17 school identification number crosswalk	Contains student-institution-level observations with IPEDS identification numbers (UNITID) and/or Office of Postsecondary Education identification numbers (OPEID) for each institution that reported enrollment information for the respondent from any available source throughout the study. This file catalogs organizational changes across institution identification numbers (e.g., institution mergers and closures) and accounts for other administrative differences in the way enrollment information was reported across data sources.	/data/source/bps17schidcw/ bps17schidcw_datafile.csv
Imputation flag	Contains imputation flags for any BPS:12/17 derived variable that was imputed for approximately 22,530 BPS:12/17 interview respondents. This file includes one record per respondent.	/data/source/bps17flag/ bps17flag_datafile.csv
CPS 2011–12 data	Contains data received from CPS and NSLDS for the 19,730 respondents who matched to the 2011–12 financial aid application files.	/data/source/bps17cps12/ bps17cps12_datafile.csv
CPS 2012–13 data	Contains data received from CPS and NSLDS for the 15,490 respondents who matched to the 2012–13 financial aid application files.	/data/source/bps17cps13/ bps17cps13_datafile.csv
CPS 2013–14 data	Contains data received from CPS and NSLDS for the 12,280 respondents who matched to the 2013–14 financial aid application files.	/data/source/bps17cps14/ bps17cps14_datafile.csv
CPS 2014–15 data	Contains data received from CPS and NSLDS for the 11,320 respondents who matched to the 2014–15 financial aid application files.	/data/source/bps17cps15/ bps17cps15_datafile.csv
CPS 2015–16 data	Contains data received from CPS and NSLDS for the 7,790 respondents who matched to the 2015–16 financial aid application files.	/data/source/bps17cps16/ bps17cps16_datafile.csv

See notes at end of table.



**Table 44. BPS:12/17 restricted-use file, description, and file path: 2018—Continued**

Restricted-use file	Description	File path
CPS 2016–17 data	Contains data received from CPS for the 5,650 respondents who matched to the 2016–17 financial aid application files.	/data/source/bps17cps17/ bps17cps17_datafile.csv
CPS 2017–18 data	Contains data received from CPS for the 4,540 respondents who matched to the 2017–18 financial aid application files.	/data/source/bps17cps18/ bps17cps18_datafile.csv
GIS census tract data	Contains one observation per respondent with census tract level characteristics based on geocoded location information of each respondent's residence in the base year (2011–12) matched to the 2008–12 (5-year) estimates from the America Community Survey from the U.S. Census Bureau.	/data/source/bps17gis/ bps17gis_datafile.csv
NSLDS loan	Contains loan-level data received from NSLDS for approximately 15,960 matched respondents who had received federal loans as of early 2018. This file includes one record for each federal loan received by these respondents and provides the most recent information for that loan.	/data/source/bps17nsldsloan/bps 17nsldsloan_datafile.csv
NSLDS loan disbursement	Contains loan-disbursement level data from NSLDS for approximately 15,960 matched respondents who borrowed federal loans as of early 2018. This file includes one record for each disbursement made on a federal loan to respondents.	/data/source/bps17nsldsloan/bps17nsldsloan/ disbursement_datafile.csv
NSLDS loan delinquency	Contains loan-level delinquency data received from NSLDS for respondents who were ever delinquent on a federal loan as of early 2018. This is a history file with separate records for each instance of delinquency per loan.	/data/source/bps17nsldsdelinq/bp s17nsldsdelinq_datafile.csv
NSLDS loan deferment	Contains loan-level deferment data received from NSLDS for respondents who ever obtained a deferment for a federal loan as of early 2018. This is a history file with separate records for each instance of deferment per loan.	/data/source/bps17nsldsdefer/bp s17nsldsdefer_datafile.csv
NSLDS loan forbearance	Contains loan-level forbearance data received from NSLDS for respondents who ever obtained a forbearance for a federal loan as of early 2018. This is a history file with separate records for each instance of forbearance per loan.	/data/source/bps17nsldsforbear/b ps17nsldsforbear_datafile.csv
NSLDS Stafford loan default	Contains loan-level default occurrences derived from NSLDS for all respondents with federal Stafford Loans that were ever in default as of early 2018. This is a history file with a separate record for each default occurrence per loan.	/data/source/bps17nsldsstaffdef/b ps17nsldsstaffdef_datafile.csv
NSLDS non-Stafford loan default	Contains loan-level default occurrences derived from NSLDS for all respondents with federal non-Stafford (Perkins) loans that were ever in default as of early 2018. This is a history file with a separate record for each default occurrence per loan.	/data/source/bps17nsldsnonstaffd ef/bps17nsldsnonstaffdef_datafile csv
NSLDS outstanding interest balance	Contains loan-level outstanding interest balance data received from NSLDS for respondents who received federal loans as of early 2018. This is a history file with separate records for each interest update per loan.	/data/source/bps17nsldsoib/bps1 7nsldsoib_datafile.csv

See notes at end of table.

**Table 44. BPS:12/17 restricted-use file, description, and file path: 2018—Continued**

<b>Restricted-use file</b>	<b>Description</b>	<b>File path</b>
NSLDS outstanding principal balance	Contains loan-level outstanding principal balance data received from NSLDS for respondents who received federal loans as of early 2018. This is a history file with separate records for each balance update per loan.	/data/source/bps17nsldsopb/bps17nsldsopb_datafile.csv
NSLDS loan repayment history	Contains loan-level repayment data received from NSLDS for respondents who entered repayment and made any payments on their federal loans as of early 2018. This is a history file with separate records for each payment made on a loan.	/data/source/bps17nsldsrpmthis/bps17nsldsrpmthis_datafile.csv
NSLDS loan repayment plan	Contains loan-level repayment plan information received from NSLDS for respondents who entered repayment on federal loans as of early 2018. This is a history file with separate records for each change to a loan's repayment.	/data/source/bps17nsldsrpmtplan/bps17nsldsrpmtplan_datafile.csv
NSLDS loan to IDR application data	Contains loan-application-level repayment plan data, where each observation represents a successful enrollment, recertification, or recalculation on an IDR plan resulting from the IDR application identification number linked to the observation.	/data/source/bps17nsldsloanidrappl/bps17nsldsloanidrappl_datafile.csv
NSLDS IDR plan application data	Contains student-application-level data received from NSLDS for respondents who applied for any federal income-driven repayment plans for federal loans as of early 2018. Each observation represents an IDR plan application.	/data/source/bps17nsldsidrappl/bps17nsldsidrappl_datafile.csv
NSLDS FAFSA history	Contains student award year-level data from FAFSA, stored and obtained from NSLDS, for approximately 19,250 matched study members as of early 2018. This file includes one record for each year in which a respondent filed a FAFSA between the 1995 and 2019 federal award years. Each record includes income, expected family contribution, and select demographic information reported on the application.	/data/source/bps17nsldsfafsa/bps17nsldsfafsa_datafile.csv
NSLDS award origin	Contains student award year-level data on federal Direct Loans awarded to 15,790 study members as of early 2018. This file includes one record for each student and year during which the student was awarded a federal Direct Loan between 2012 and 2018. The file is an aggregation of loan-level data reported by institutions to the U.S. Department of Education's COD system and provides information on loan amount eligibility and the academic year periods associated with loans disbursed during the award year.	/data/source/bps17nsldsaward/bps17nsldsaward_datafile.csv
NSLDS enrollment status	Contains student-school-program-level enrollment information from NSLDS for 12,020 respondents. These data are incomplete in the first 3 years of the study, but are more reliable from the 2015 through 2017 academic years. This file includes one record for each program and enrollment status change for a student as reported to NSLDS.	/data/source/bps17nsldsenroll/bps17nsldsenroll_datafile.csv
NSLDS Pell Grant data	Contains Pell Grant data received from NSLDS for approximately 15,210 respondents who received a federal grant as of early 2018. This file includes one record for each federal grant received by these respondents and provides distribution information for that grant.	/data/source/bps17nsldspell/bps17nsldspell_datafile.csv

See notes at end of table.

**Table 44. BPS:12/17 restricted-use file, description, and file path: 2018—Continued**

Restricted-use file	Description	File path
BPS:12/14 interview data	Contains the raw BPS:12/14 interview data for the BPS:12/17 study respondents who completed an interview in BPS:12/14.	/data/source/bps14interview/ bps14interview_datafile.csv
NPSAS:12 student base	Contains the base-year data included in the NPSAS:12 data file collected for the BPS:12/17 respondents from institution records and from student interviews. There is a separate record for each BPS:12/17 interview respondent.	/data/source/bps17n12studbase/ bps17n12studbase_datafile.csv
NPSAS:12 institution data	Contains institution-level data for the BPS:12/17 sample members' NPSAS institution collected during 2011–12. There are 1,410 institutions represented.	/data/source/bps17n12institution/ bps17n12institution_datafile.csv
BPS:12/17 weights	Contains the final BPS:12/17 weight and variance estimation variables as a separate record for each study member.	/data/source/bps17weights/ bps17weights_datafile.csv
BPS:12/17 weights history	Contains the intermediate weight-adjustment factors as well as the final student weights and the variance estimation variables as a separate record for each study member.	/data/source/bps17weighth/ bps17weighth_datafile.csv

NOTE: BPS = Beginning Postsecondary Students Longitudinal Study; COD = Common Origination and Disbursement; CPS = Central Processing System; FAFSA = Free Application for Federal Student Aid; IDR = Income-Driven Repayment; IPEDS = Integrated Postsecondary Education Data System; NPSAS = National Postsecondary Student Aid Study; NSLDS = National Student Loan Data System.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 5.2 Post-Data-Collection Editing

Throughout data collection, the interview data were reviewed weekly for the presence of data anomalies (e.g., data where not expected, high rates of missing data). All data were investigated by the interview data file team to determine the cause of the issue. If data anomalies were the result of consistency-code implementation, the program that implements consistency codes for missing data was reviewed and revised accordingly. If data anomalies were the result of the functionality of the interview (i.e., routing, validations, question wording, response options), instrumentation staff were alerted and necessary adjustments were made.

Staff performed quality control checks on all student survey data to ensure their quality and accuracy. As one of the checks, staff examined all missing data to assign specific codes indicating why the data were missing (table 45). For example, staff examined skip-pattern relationships in the interview database by methodically cross-tabulating gate items with their associated nested items. (An example of a gate item is a question asking whether the respondent was employed in a specific year, with nested items asking for details about that employer.) In many instances, gate-nest relationships spanned multiple levels within the instrument (i.e., items nested within a gate question could themselves also be gate items for others). Consequently, validating the complex series of gate-nest relationships often required several iterations and a series of multiway cross-tabulations to ensure that the final data

adhered to the item routing that respondents experienced when navigating the interview.

**Table 45. Description of missing data codes: 2017–18**

Missing data code	Data label	Description
-3	Skipped—not applicable	Item does not apply to the respondent.
-4	Missing—unable to determine applicability	Gate was left blank; we cannot determine if nested items apply.
-5	Missing—implied no/zero	Item left blank by respondent, but a response was provided for other items in the group; when all grouped items with a response are positive, 0/no are implied for blank items.
-7	Missing—not included in abbreviated survey	Item not included in the abbreviated survey; respondent did not have an opportunity to provide an answer.
-8	Missing—due to error	Item is missing data due to a technical error.
-9	Missing—response not provided	Respondent saw item; did not provide an answer.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Cleaning and editing of the BPS:12/17 data files was a multistage process that consisted of the following:

1. As a first step, project staff replaced all blank values in the survey data files with the appropriate initial -9 data code. Then, one-way frequency distributions of every variable were reviewed to confirm that no missing or blank values remained. Labels of expected values were assigned to assist in the identification of anomalous categorical frequencies. Staff investigated anomalous data patterns and corrected as necessary.
2. Survey source code written by instrument programmers and survey logic documented in flowcharts were used to identify legitimate skips in the survey data. Staff defined gate-nest question relationships and examined data for adherence to logic established in the survey design. When an item was skipped in the survey, the -9 value of *missing—response not provided* was replaced with -3 for *skipped—not applicable* or -7 *missing—not included in abbreviated interview*. If the gate was left blank, a -9 value in the nested item was replaced with -4 *missing—unable to determine applicability*. If a “yes” response was provided on at least one item on a Likert grid form in the group and all other items were missing, the -9 was replaced with -5 *missing—implied no/zero*.
3. Staff evaluated cross-tabulations of each gate-nest combination and investigated high numbers of nonreplaced -9 codes to ensure conditional response integrity. If a -9 value was found where data were expected, and the result of the investigation revealed an error in instrument routing, the -9 was replaced with -8 *missing—due to error*. Staff further checked nested values to

find instances in which a legitimate skip code overwrote valid response data. This typically occurred if a respondent answered a gate question and the appropriate nested items, but then backed up within the survey to change the value of the gate, leading to an alternate path of nested items. Responses to the first nested items remained in the database, which required further examination and editing. In this scenario, editing would involve removing from the data file the values provided in response to the first nested items prior to backing up. This is done to maintain conditional response integrity throughout the data.

4. Expert coders reviewed IPEDS, occupation, major, and zip codes (including the strings that interviewers or respondents could not resolve during the interview) and assigned new codes when necessary. Staff reviewed string data collected in occupation title and occupation duty variables, as well as major variables, and sanitized strings by removing any information that could be used to identify respondents. See section 3.1.2 for more information on coding systems.
5. Staff performed logical recodes of the interview data when the value of missing items could be determined from answers to previous questions. If respondents left an interview prior to completion but previous responses allowed for logical recodes of post-breakoff items, logical recodes were used. For example, if the respondent indicated they were currently enrolled in a degree program, the instrument skipped the question about degree completion. During logical recodes, this sequence would generate a value of “no” instead of a “not applicable” value.

While cleaning data, staff documented question wording, response options, logical recoding, and the “applies to” text for each delivered variable from the interview data collection. For the interview questionnaire, see the student instrument facsimile in appendix E.

## 5.3 Data Perturbation

In preparing data files for release, NCES takes steps to minimize the likelihood that individual students participating in the study can be identified, including a formal disclosure risk analysis. Every effort is made to protect the confidentiality of information about specific individuals, including performing data swapping procedures on BPS:12/17 data to minimize disclosure risk. In data swapping, the values of the variables being swapped are exchanged between carefully selected pairs of records: a target record and a donor record.

All cases were eligible for swapping. Swapping variables were selected from questionnaire and administrative record items. Perturbation was carried out through specific targeted, but undisclosed, swap rates. Because perturbation of the BPS:12/17 data could have changed the relationships between data items, an extensive data-quality check was carried out to assess and limit the impact of swapping on these relationships. For example, a set of correlations for a variety of variables was evaluated pre- and posttreatment to verify that the swapping did not greatly affect the associations.

Therefore, the modifications used to reduce the likelihood that any respondent could be identified in the data generally did not affect the overall data quality. The swapping procedures, which the IES Disclosure Review Board reviewed and approved, preserved central tendency estimates but may have resulted in slight increases in nonsampling errors.

## 5.4 Statistical Imputations

Staff imputed missing data for all variables included in the restricted-use derived file (also used in PowerStats) in accordance with mass imputation procedures described by Krotki, Black, and Creel (2005). After filling in missing data for cases where values could be deduced with certainty based upon logical or mathematical relationships among observed variables (logical imputation),<sup>28</sup> staff used the weighted sequential hot deck (WSHD) method to replace missing data by imputing plausible values from statistically selected donor cases (stochastic imputation) (Cox 1980; Iannacchione 1982).

The first stage in the imputation procedure was to determine the pattern and level of missingness and produce an initial set of imputations. Depending on patterns of missing data, some variables that were related substantively and required imputation were grouped into blocks (vectors), and the variables within a block were imputed simultaneously (vector imputation). Then, variables and vectors were prioritized for imputation based upon their level of missing data: variables and vectors with low levels of missingness were imputed before variables where the rate of missingness was greater. That is, variables with smaller amounts of uncertainty due to imputation were imputed first, and variables with larger amounts of uncertainty due to imputation were imputed next. For each variable and vector, staff identified

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<sup>28</sup> An example of logical imputation follows: in a case where a student has valid values for the total number of dependents and the number of dependent children, but not the number of other dependents, the third value may be calculated as the difference of the first value minus the second value. Likewise, if a student has zero total dependents, it may be logically inferred that the student has zero dependent children.

imputation classes from which donor cases for the hot deck procedure would be selected. To develop those classes, they used nonparametric classification or regression trees to identify homogeneous subgroups of item respondents (Breiman et al. 1984), using complete response variables and any previously imputed variables as possible predictor variables. Within these classes, WSHD was used to select donors.

In the second stage of imputation, for each variable or vector, in the same sequence as in the first stage, the missingness was reintroduced and the missing items were reimputed. This time, all complete response variables and all the other imputed variables on the dataset were available to form the imputation classes. To improve imputation quality, the procedure described above, using trees and WSHD, was combined and implemented with the cyclic  $p$ -partition hot deck (Marker, Judkins, and Winglee 2002) technique (cycling), as discussed in Judkins (1997). This imputation approach reinforces existing patterns within the observed data. This is an iterative process, and typically the result of cycling is a convergence to plausible values and maintenance of relationships that already exist. For BPS:12/17, there were five iterations, which improved quality without significantly slowing down the imputation process.

To minimize the potential error due to imputation, staff performed quality checks throughout the imputation process. In particular, staff compared the distributions of the observed, imputed, and complete (observed and imputed) data to screen variables for further investigation. For example, the distributions of observed income and imputed income differ because the missing data are primarily for students who do not apply for federal financial aid. Those who do not apply tend to have a higher income than those who do apply. Consequently, the imputed income distribution is higher than the observed income distribution. In addition, staff verified that the distributions within imputation classes were similar for the observed and imputed data and concluded that the complete (observed and imputed) distribution for income was reasonable. Selected results from the imputation process are shown in appendix H, which shows the item response and nonresponse rates and pre- and postimputation distributions for each variable subject to imputation for all students.

## 5.5 Derived Variable Construction

Analysts derived the analytic variables by examining data available from the various data sources, prioritizing the data sources on an item-by-item basis, and reconciling discrepancies within and between sources. In some cases, staff created derived variables by simply assigning a value from the available source with the highest priority. (For a listing of the analysis variables derived for BPS:12/17, see

appendix I.) Details about the creation of each variable appear in the variable descriptions contained in the PowerStats documentation and codebooks for the restricted-use files.

Enrollment and attainment estimates using BPS:12/17 derived variables are higher than those in previous iterations of BPS, including those produced in BPS:12/14. Matching to administrative sources (see chapter 4) resulted in higher estimates of student enrollment. Administrative data matches identified additional student-school pairs not observed in the BPS:12/14 study. Including only sample members who were respondents in both BPS:12/14 and BPS:12/17, staff identified approximately 5,750 more student-school pairs in BPS:12/17 than in BPS:12/14, an increase of 23 percent. While 76 percent of students had the same number of student-school pairs across the two collections, the remaining students gained an average of 1.2 schools based on BPS:12/17 enrollment data. As a result of increased enrollment estimates, other estimates may be impacted (e.g., transfer, number of institutions attended, employment while enrolled).



## Chapter 6. Weighting and Variance Estimation

This chapter provides information about the weighting procedures for BPS:12/17. The development of statistical analysis weights for the BPS:12/17 sample is discussed in section 6.1. Section 6.2 gives weighted and unweighted response rates. Section 6.3 discusses the accuracy of BPS:12/17 estimates for precision and the potential for nonresponse bias. Analysis procedures that can be used to produce unbiased estimates of sampling variances are discussed in section 6.4, including variances computed using Taylor-series and bootstrap replication techniques. This section also describes how the Taylor-series strata, primary sampling unit (PSU) variables, and bootstrap replicate weights were constructed.

The use of weights is essential to produce estimates that are representative of the target population of FTB undergraduate students from the NPSAS:12 sample. An analysis weight should be used to produce survey estimates. When testing hypotheses (e.g., conducting  $t$  tests, regression analyses, etc.) using weighted data from a study such as BPS:12/17 that has a complex design, analysts also should use methods to properly estimate variances. Two such methods are the Taylor-series linearization method and bootstrap replication. PSU and stratum identifiers are provided in the data file for use with the Taylor-series method with or without the correction for assuming a finite population, and bootstrap replicate weights are provided for use with the bootstrap replication procedure.

### 6.1 Analysis Weights

Because the BPS:12/17 sample members are a subset of the NPSAS:12 sample, the weights for analyzing the BPS:12/17 data were derived from the NPSAS:12 weights. The NPSAS:12 student design weights for BPS:12/17 sample members were adjusted to account for subsampling (see section 2.3) and for unknown student eligibility and nonresponse. They were also calibrated to weighted estimates obtained from NPSAS:12 and population estimates obtained from the IPEDS:2010–11 Fall Enrollment file (EF2011A) and the IPEDS:2011–12 Student Financial Aid and Net Price file (SFA1112). IPEDS data files can be downloaded from the online IPEDS data center at <https://nces.ed.gov/ipeds/use-the-data>.

The BPS:12/17 sample was a subset of the BPS:12/14 first follow-up sample in which individuals who were deceased or determined not to be FTB students were excluded. Because some BPS:12/17 respondents did not respond in BPS:12/14, two analysis weights were constructed for BPS:12/17. The first weight, the cross-sectional weight, was created for all BPS:12/17 survey respondents regardless of their NPSAS:12 or BPS:12/14 response status. The second weight, referred to as the panel weight, was created for all BPS:12/17 respondents who also responded in BPS:12/14.<sup>29</sup>

Each weight component represents either a probability of selection or a weight adjustment. Using a weighting methodology described by Folsom and Singh (2000), staff computed all nonresponse and poststratification adjustments using the procedure WTADJUST in SUDAAN (RTI 2012). The WTADJUST procedure uses a constrained logistic model to predict response using bounds for adjustment factors and bounds on variance inflation. A key feature and advantage of this procedure is that the weight adjustments and weight trimming and smoothing are all accomplished in one step.

Staff trimmed extremely large or extremely small weights by specifying minimum and/or maximum values prior to nonresponse and poststratification adjustments. In general, these bounds were set equal to the median value plus or minus 2.5 times the interquartile range, where the median and interquartile range were defined for each level-of-institution sector. Staff then set upper and lower bounds on the weight-adjustment factors calculated by the weight-adjustment procedure. For the nonresponse adjustments, staff initially set the lower bound at 1; for the poststratification adjustment, staff initially set the lower bound at 0.01. During model refinement, staff ran the WTADJUST procedure with no upper limit. Once staff achieved convergence of the model, they tightened weight-adjustment bounds to reduce the magnitude of the weight-adjustment factors and the unequal weighting effects (UWEs). The final minimum weight-adjustment bound for all nonresponse adjustments was 1. The final nonresponse-adjustment models were unbounded above because the maximum adjustment factors were not found to be extreme. The poststratification adjustment had a lower bound of 0.00001 and was unbounded above in order to achieve convergence.

In this way, staff controlled the extreme weights and reduced the design effect due to unequal weighting. The WTADJUST procedure is designed so that the sum of the

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<sup>29</sup> Note that all BPS:12/17 respondents were also NPSAS:12 study members, meaning that enough information was collected on key variables to support the analytic objectives of the NPSAS:12 study. This means that both weights also include NPSAS:12 study members or respondents in their definitions, and they only differ on inclusion of BPS:12/14 response status as part of their definition.

unadjusted weights for all eligible units equals the sum of the adjusted weights for the respondents. The exact formula for the weight-adjustment factors calculated by the SUDAAN WTADJUST procedure can be found in the SUDAAN User's Manual (RTI 2012).

### 6.1.1 Initial Base Weight for BPS:12/17

The *2011–12 National Postsecondary Student Aid Study (NPSAS:12) Data File Documentation* (Wine, Bryan, and Siegel 2014) describes the development of the NPSAS:12 weights. The analysis weights compensated for the unequal probability of selection of institutions and students in the NPSAS:12 sample. The first eight weight components were

1. institution sampling weight (WT1);
2. institution subsampling weight (WT2);
3. institution multiplicity adjustment (WT3);
4. institution nonresponse adjustment (WT4);
5. institution poststratification adjustment (WT5);
6. student sampling weight (WT6);
7. student multiplicity adjustment (WT7); and
8. student unknown eligibility adjustment (WT8).

Of the 20,574 FTB students who did not respond to the NPSAS survey or were classified as nonstudy members, 7,088 were subsampled for inclusion in the BPS:12/14 sample as described in section 2.3. This resulted in an additional adjustment (WT9) to account for subsampling of students for inclusion in BPS:12/14. During BPS:12/14, some BPS:12/14 sample members were determined to be ineligible, and an unknown eligibility adjustment (WT10) was developed.

The BPS:12/17 base weight was formed as the product of each of these adjustment factors. Specifically, for each student, the BPS:12/17 base weight was computed as

$$B17WT1 = WT1 \times WT2 \times WT3 \times WT4 \times WT5 \times WT6 \times WT7 \times WT8 \times WT9 \times WT10$$

This base weight was used for both the cross-sectional and panel analysis weights.

### 6.1.2 Unknown Eligibility Adjustment (B17AWT1 and B17AWT2)

As stated above, the unknown eligibility adjustment due to ineligible individuals identified as part of BPS:12/14 was included in the BPS:12/17 base weight. As part of BPS:12/17 data collection, staff could not determine final eligibility status for the double nonrespondents (i.e., those who were nonrespondents in both NPSAS:12 and BPS:12/14) who were also nonrespondents in BPS:12/17. In order to adjust for this unknown status within the double nonrespondent group, staff estimated the rate of eligibility of unknown status to be the same among students of known status. Table 46 shows the weight-adjustment factors applied to the students with unknown eligibility status, referred to as B17AWT1. For the students known to be eligible, the weight-adjustment factor was set equal to 1. This unknown eligibility adjustment is the same for both the cross-sectional and panel weights.

Summary statistics of the weight-adjustment factors follow:

- minimum: 0.38;
- median: 1.00; and
- maximum: 1.00.

**Table 46. Weight-adjustment factors for unknown student eligibility status among double nonrespondents: 2017**

Weighting class—collapsed institution	Number adjusted for unknown eligibility	Weight-adjustment factor (B17AWT1)
<b>Total</b>	<b>4,130</b>	
Public, 2-year or less-than-2-year	1,470	0.74
Public, 4-year and private nonprofit	600	0.91
Private for-profit less-than-2-year	220	0.38
Private for-profit 2-year	490	0.54
Private for-profit 4-year	1,360	0.52

NOTE: Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

After the unknown eligibility adjustment was applied to all individuals with unknown eligibility, a second adjustment was made to the known ineligible individuals, specified as B17AWT2. Their weights were adjusted upward to increase their total weight to be equal to their original weight plus the amount of weight reduced by the unknown eligibility adjustment. This was done so that the known ineligible individuals represented the total weight for known and unknown eligibility adjustments because the ineligible individuals were to be used in the later poststratification step to adjust the control totals.

### 6.1.3 Nonresponse Adjustment

The next adjustment was for study nonresponse. staff adjusted the student weights for nonresponse in three stages—first, inability to locate the student, then survey refusal, and finally, other nonresponse—because the predictors of response propensity were potentially different for each of these nonresponse outcomes. In addition, the three nonresponse-adjustment models differed for the cross-sectional and panel weights, resulting in six total adjustments. For each of the nonresponse-adjustment models, they included the 35,170 students who were eligible and were not deceased.

**Student not located adjustments (B17AWT3 and B17BWT1).** The first type of adjustment for student nonresponse was an adjustment for the inability to contact the student during data collection (“not located”). Independent model variables were those that (1) were considered to be predictive of response status, (2) were nonmissing for both study respondents and nonrespondents, and (3) included variables from the NPSAS:12 nonresponse-adjustment models. Variables in the nonresponse modeling included all of the following predictor variables,<sup>30</sup> as well as certain important interaction terms:

- control and level of institution attended (from NPSAS:12);
- region of institution attended (categorical—from NPSAS:12);
- base-year enrollment of institution attended from IPEDS 2011–12 file (categorical—from NPSAS:12);
- age group (categorical—from NPSAS:12);
- cumulative Pell Grant amount (categorical—through June 2017);
- cumulative Direct Loan amount (categorical—through June 2017);
- cumulative Parent Loan for Undergraduate Students (PLUS) amount (categorical—through June 2017);
- defaulted on a federal loan status (through June 2017);
- institution aid receipt<sup>31</sup> (yes/no—from NPSAS:12); and
- state aid receipt (yes/no—from NPSAS:12).

To detect important interactions for each of the nonresponse models, a Chi-squared automatic interaction detection (CHAID) analysis was performed on the predictor

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<sup>30</sup> Federal aid receipt (yes/no—through June 2017) was considered for both weight models but presented convergence issues and had to be removed from both.

<sup>31</sup> Institution aid receipt was fully defined through the CHAID interaction terms for the panel weight adjustment, and the main effect was removed as singular.

variables (Kass 1980). CHAID is a hierarchical clustering algorithm that successively partitions individuals according to categorical predictors for a categorical dependent variable. The algorithm begins with all study individuals as a whole and cycles over each predictor, finding for each predictor an optimal partition of the individuals according to its levels. Staff retained the most significant optimal partition and applied the CHAID algorithm to the members of that partition to find further partitions using the remaining predictors. The algorithm was stopped after a specified number of partitioning steps or if the algorithm failed to find statistical significance among any of the partitions at a given step.

The CHAID analysis divided the data into segments that differed with respect to the response variables (located, refusal and other nonresponse). CHAID was run for up to three segments, resulting in the identification of two-way and three-way interactions. The interaction terms (CHAID segments) identified were treated as additional candidate predictor variables. Candidate predictor variables that impeded the creation of a convergent model were dropped from the final model.

Staff computed the weight adjustments using SUDAAN's WTADJUST procedure as described in section 6.1.

Table 47 shows the final predictor variables used in the model to determine weight adjustments and the average weight-adjustment factors resulting from these variables for the cross-sectional weight. The cross-sectional student not located weight-adjustment factors have the following characteristics:

- minimum: 1.01;
- median: 1.14; and
- maximum: 3.66.

The final lower bound was 1.0 and the final upper bound was unbounded to achieve convergence for this weight adjustment.

**Table 47. Cross-sectional weight-adjustment factors for student not located adjustment: 2017**

Model predictor variables	Number located	Weighted response rate	Average weight-adjustment factor (B17AWT3)
<b>Total</b>	<b>28,700</b>	<b>84.6</b>	<b>1.22</b>
Control and level of institution attended <sup>1</sup>			
Public less-than-2-year	140	66.9	1.49
Public 2-year	8,570	80.6	1.25
Public 4-year, non-doctorate-granting	1,660	84.8	1.18
Public 4-year, doctorate-granting	3,290	89.7	1.11
Private nonprofit less-than-4-year	320	76.4	1.31
Private nonprofit 4-year, non-doctorate-granting	2,050	90.4	1.14
Private nonprofit 4-year, doctorate-granting	2,580	91.1	1.10
Private for-profit less-than-2-year	1,070	74.1	1.32
Private for-profit 2-year	2,330	75.7	1.33
Private for-profit 4-year	6,690	77.6	1.26
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>			
New England	1,440	87.4	1.18
Mideast	4,590	86.4	1.18
Great Lakes	4,350	84.6	1.25
Plains	2,020	87.3	1.16
Southeast	6,550	84.9	1.23
Southwest	3,690	81.3	1.28
Rocky Mountains	1,310	86.2	1.20
Far West	4,750	82.5	1.24
Institution total enrollment <sup>3</sup>			
2,628 or fewer	7,480	82.4	1.28
2,629–10,233	8,560	86.0	1.19
10,234–26,884	6,890	84.6	1.20
26,885 or more	5,760	84.5	1.21
Age as of Dec 31, 2011			
15–23	23,450	86.1	1.19
24–29	2,360	72.3	1.39
30 or more	2,890	74.2	1.37
Total Pell Grant cumulative amount received <sup>3</sup>			
\$0 or unknown	9,720	83.9	1.22
\$1–\$3,500	4,220	79.0	1.33
\$3,501–\$6,352	4,540	80.9	1.29
\$6,353–\$13,088	4,900	85.9	1.20
\$13,089 or more	5,310	92.1	1.10
Total Direct Loan cumulative amount received <sup>3</sup>			
\$0 or unknown	9,290	80.4	1.28
\$1–\$6,365	4,320	80.1	1.31
\$6,366–\$12,755	4,670	84.7	1.25
\$12,756–\$26,000	5,180	89.9	1.15
\$26,001 or more	5,240	93.1	1.10

See notes at end of table.

**Table 47. Cross-sectional weight-adjustment factors for student not located adjustment: 2017—  
Continued**

<b>Model predictor variables</b>	<b>Number located</b>	<b>Weighted response rate</b>	<b>Average weight-adjustment factor (B17AWT3)</b>
Parent Loan for Undergraduate Students (PLUS) cumulative amount <sup>3</sup>			
\$0 or unknown	24,750	83.6	1.24
\$1–\$6,900	930	88.4	1.19
\$6,901–\$14,999	970	91.1	1.14
\$15,000–\$34,349	1,000	92.5	1.12
\$34,350 or more	1,050	95.7	1.06
Defaulted on a federal loan as of June 30, 2017			
Yes	4,270	67.3	1.54
No	24,430	86.8	1.17
Institution aid status			
Received	6,310	91.8	1.09
Did not receive	19,420	82.5	1.24
Unknown	2,970	73.7	1.40
State aid status			
Received	5,170	89.4	1.13
Did not receive or unknown	23,530	83.2	1.24
CHSID segments in nonresponse-adjustment model			
Has not defaulted on federal loans as of 6/31/2017, received federal aid, did not receive institutional aid or Defaulted on federal loans as of 6/31/2017, institutional aid status unknown, in the Great Lakes, Southwest, or Rocky Mountains region	9,840	90.4	1.13
Has not defaulted on federal loans as of 6/31/2017, received federal aid, received institutional aid	3,930	95.5	1.05
Has not defaulted on federal loans as of 6/31/2017, received federal aid, institutional aid status unknown	1,560	85.0	1.19
Has not defaulted on federal loans as of 6/31/2017, did not receive federal aid, 15–23 years of age as of 12/31/2011	7,820	82.0	1.24
Has not defaulted on federal loans as of 6/31/2017, did not receive federal aid, 24 years or older as of 12/31/2011	1,440	67.9	1.52
Defaulted on federal loans as of 6/31/2017, did not receive institutional aid, No Pell amount received or unknown	300	57.6	1.77
Defaulted on federal loans as of 6/31/2017, did not receive institutional aid, Pell amount received between \$1 and \$3,500	840	63.8	1.58
Defaulted on federal loans as of 6/31/2017, did not receive institutional aid, Pell amount received between \$3,501 and \$13,088	1,870	67.8	1.50
Defaulted on federal loans as of 6/31/2017, did not receive institutional aid, Pell amount received \$13,089 or more	310	74.9	1.35

See notes at end of table.



**Table 47. Cross-sectional weight-adjustment factors for student not located adjustment: 2017—Continued**

Model predictor variables	Number located	Weighted response rate	Average weight-adjustment factor (B17AWT3)
Defaulted on federal loans as of 6/31/2017, received institutional aid, attended a public 2-year institution or a private for-profit less-than-2-year institution	50	60.7	1.61
Defaulted on federal loans as of 6/31/2017, received institutional aid, attended a nonprofit 4-year, non-doctorate-granting institution; a public 4-year, doctorate-granting institution, a public 4-year, non-doctorate-granting institution, a private nonprofit less-than-4-year institution, a private for-profit 2-year institution, or a private for-profit 4-year institution	330	76.5	1.34
Defaulted on federal loans as of 6/31/2017; received institutional aid, attended a private nonprofit 4-year, doctorate-granting institution	100	93.0	1.07
Defaulted on federal loans as of 6/31/2017, institutional aid status unknown, in the Mideast, New England, Southeast, Far West, or Plains region	320	68.5	1.50

<sup>1</sup> Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

<sup>3</sup> Cumulative Enrollment, Pell Grant, Direct Loan, and PLUS Loan categories were defined by quartiles.

NOTE: CHAID = Chi-squared automatic interaction detection. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Table 48 shows the final predictor variables used in the model to determine weight adjustments and the average weight-adjustment factors resulting from these variables for the panel weight. The panel student not located weight-adjustment factors have the following characteristics:

- minimum: 1.01;
- median: 1.15; and
- maximum: 3.98.

The final lower bound was 1.0 and the final upper bound was unbounded to achieve convergence for this weight adjustment.

**Table 48. Panel weight-adjustment factors for student not located adjustment: 2017**

Model predictor variables	Number located	Weighted response rate	Average weight-adjustment factor (B17BWT1)
<b>Total</b>	<b>28,700</b>	<b>84.6</b>	<b>1.22</b>
Control and level of institution attended <sup>1</sup>			
Public, less-than-2-year	140	66.9	1.49
Public, 2-year	8,570	80.6	1.25
Public 4-year, non-doctorate-granting	1,660	84.8	1.18
Public 4-year, doctorate-granting	3,290	89.7	1.11
Private nonprofit less-than-4-year	320	76.4	1.32
Private nonprofit 4-year, non-doctorate-granting	2,050	90.4	1.14
Private nonprofit 4-year, doctorate-granting	2,580	91.1	1.10
Private for-profit less-than-2-year	1,070	74.1	1.32
Private for-profit 2-year	2,330	75.7	1.33
Private for-profit 4-year	6,690	77.6	1.26
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>			
New England	1,440	87.4	1.18
Mideast	4,590	86.4	1.18
Great Lakes	4,350	84.6	1.25
Plains	2,020	87.3	1.17
Southeast	6,550	84.9	1.22
Southwest	3,690	81.3	1.28
Rocky Mountains	1,310	86.2	1.20
Far West	4,750	82.5	1.23
Institution total enrollment <sup>3</sup>			
2,628 or fewer	7,480	82.4	1.28
2,629–10,233	8,560	86.0	1.19
10,234–26,884	6,890	84.6	1.20
26,885 or more	5,760	84.5	1.21
Age as of Dec 31, 2011			
15–23	23,450	86.1	1.19
24–29	2,360	72.3	1.40
30 or more	2,890	74.2	1.37
Total Pell Grant cumulative amount received <sup>3</sup>			
\$0 or unknown	9,720	83.9	1.22
\$1–\$3,500	4,220	79.0	1.33
\$3,501–\$6,352	4,540	80.9	1.29
\$6,353–\$13,088	4,900	85.9	1.20
\$13,089 or more	5,310	92.1	1.10
Total Direct Loan cumulative amount received <sup>3</sup>			
\$0 or unknown	9,290	80.4	1.28
\$1–\$6,365	4,320	80.1	1.32
\$6,366–\$12,755	4,670	84.7	1.25
\$12,756–\$26,000	5,180	89.9	1.15
\$26,001 or more	5,240	93.1	1.10

See notes at end of table.

**Table 48. Panel weight-adjustment factors for student not located adjustment: 2017—Continued**

<b>Model predictor variables</b>	<b>Number located</b>	<b>Weighted response rate</b>	<b>Average weight-adjustment factor (B17BWT1)</b>
Parent Loan for Undergraduate Students (PLUS) cumulative amount <sup>3</sup>			
\$0 or unknown	24,750	83.6	1.24
\$1–\$6,900	930	88.4	1.19
\$6,901–\$14,999	970	91.1	1.14
\$15,000–\$34,349	1,000	92.5	1.12
\$34,350 or more	1,050	95.7	1.06
Defaulted on a federal loan as of June 30, 2017			
Yes	4,270	67.3	1.54
No	24,430	86.8	1.17
State aid status			
Received	5,170	89.4	1.13
Did not receive or unknown	23,530	83.2	1.24
CHSID segments in nonresponse-adjustment model			
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Did not receive institutional aid or Defaulted on federal loans as of 6/31/2017, Institution aid status unknown, in the Plains region	9,700	91.2	1.11
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Received institutional aid	3,930	95.5	1.05
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Institution aid status unknown	1,560	85.0	1.19
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, Did not receive institutional aid	6,420	79.0	1.28
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, Received institutional aid	1,900	88.4	1.13
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, Institution aid status unknown	940	68.7	1.50
Defaulted on federal loans as of 6/31/2017, Did not receive institutional aid, No Pell amount received or unknown	300	57.6	1.77
Defaulted on federal loans as of 6/31/2017, Did not receive institutional aid, Pell amount received between \$1 and \$3,500	840	63.8	1.57
Defaulted on federal loans as of 6/31/2017, Did not receive institutional aid, Pell amount received between \$3,501 and \$6,352	1,110	67.0	1.52
Defaulted on federal loans as of 6/31/2017, Did not receive institutional aid, Pell amount received between \$6,353 and \$13,088	770	68.7	1.45
Defaulted on federal loans as of 6/31/2017, Did not receive institutional aid, Pell amount received \$13,089 or more	310	74.9	1.35

See notes at end of table.

**Table 48. Panel weight-adjustment factors for student not located adjustment: 2017—Continued**

Model predictor variables	Number located	Weighted response rate	Average weight-adjustment factor (B17BWT1)
Defaulted on federal loans as of 6/31/2017, Received institutional aid, Attended a public 2-year institution or a private for-profit less-than-2-year institution	50	60.7	1.60
Defaulted on federal loans as of 6/31/2017, Received institutional aid, Attended a private nonprofit 4-year, non-doctorate-granting institution or a public 4-year, non-doctorate-granting institution	100	93.0	1.07
Defaulted on federal loans as of 6/31/2017; Received institutional aid; Attended a private nonprofit 4-year, doctorate-granting institution	140	79.2	1.25
Defaulted on federal loans as of 6/31/2017; Received institutional aid; Attended a public 4-year, doctorate-granting institution or a private nonprofit less-than-4-year institution	90	73.6	1.42
Defaulted on federal loans as of 6/31/2017, Received institutional aid, Attended a private for-profit 2-year institution or a private for-profit 4-year institution	90	68.8	1.43
Defaulted on federal loans as of 6/31/2017, Institution aid status unknown, in the Mideast, New England, or Far West region	150	72.2	1.39
Defaulted on federal loans as of 6/31/2017, Institution aid status unknown, in the Great Lakes or Rocky Mountains region	110	37.8	2.63
Defaulted on federal loans as of 6/31/2017, Institution aid status unknown, in the Southeast region	150	67.0	1.53
Defaulted on federal loans as of 6/31/2017, Institution aid status unknown, in the Southwest region	50	42.8	2.56

<sup>1</sup> Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

<sup>3</sup> Cumulative Enrollment, Pell Grant, Direct Loan, and PLUS Loan categories were defined by quartiles.

NOTE: CHAID = Chi-squared automatic interaction detection. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Student refusal adjustments (B17AWT4 and B17BWT2).** The second stage of the student-nonresponse adjustments was adjustments for refusal, given that the student was located for both the cross-sectional and panel weights. These additional types of nonresponse adjustments were made to compensate further for the potential student-nonresponse bias. The same SUDAAN procedure that was used in the adjustments for students not located was used in the adjustments for refusal. The same candidate predictor variables were used to predict refusal, and the same type of CHAID analyses were used to detect important interactions.

Table 49 shows the final predictor variables used in the model to determine weight adjustments and the average weight-adjustment factors resulting from these variables for the cross-sectional weight. Summary statistics of the refusal weight-adjustment factors follow:

- minimum: 1.00;
- median: 1.03; and
- maximum: 1.40.

The final lower bound was 1.0 and the final upper bound was unbounded to achieve convergence for this weight adjustment.

**Table 49. Cross-sectional weight-adjustment factors for student refusal adjustment: 2017**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17AWT4)
<b>Total</b>	<b>27,730</b>	<b>96.4</b>	<b>1.04</b>
Control and level of institution attended <sup>1</sup>			
Public less-than-2-year	130	98.2	1.02
Public 2-year	8,240	95.7	1.04
Public 4-year, non-doctorate-granting	1,600	96.7	1.03
Public 4-year, doctorate-granting	3,210	97.1	1.03
Private nonprofit less-than-4-year	300	94.2	1.06
Private nonprofit 4-year, non-doctorate-granting	1,990	96.4	1.04
Private nonprofit 4-year, doctorate-granting	2,510	97.0	1.03
Private for-profit less-than-2-year	1,040	97.5	1.03
Private for-profit 2-year	2,240	96.0	1.04
Private for-profit 4-year	6,470	96.9	1.03
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>			
New England	1,390	97.1	1.03
Mideast	4,440	96.3	1.04
Great Lakes	4,200	96.7	1.03
Plains	1,960	95.4	1.04
Southeast	6,330	96.5	1.04
Southwest	3,570	96.3	1.04
Rocky Mountains	1,250	96.5	1.04
Far West	4,590	96.6	1.03
Institution total enrollment <sup>3</sup>			
2,628 or fewer	7,240	97.1	1.03
2,629–10,233	8,270	96.4	1.04
10,234–26,884	6,640	95.8	1.04
26,885 or more	5,580	96.9	1.03
Age as of Dec 31, 2011			
15–23	22,690	96.5	1.04
24–29	2,280	96.2	1.04
30 or more	2,770	95.8	1.04
Total Pell Grant cumulative amount received <sup>3</sup>			
\$0 or unknown or \$3,501 or more	23,680	96.5	1.04
\$1–\$3,500	4,050	96.0	1.04
Total Direct Loan cumulative amount received <sup>3</sup>			
\$0 or unknown	8,890	95.7	1.04
\$1–\$6,365	4,170	96.2	1.04
\$6,366–\$12,755	4,510	97.0	1.03
\$12,756–\$26,000	5,040	97.1	1.03
\$26,001 or more	5,110	97.5	1.03

See notes at end of table.

**Table 49. Cross-sectional weight-adjustment factors for student refusal adjustment: 2017—  
Continued**

<b>Model predictor variables</b>	<b>Number did not refuse</b>	<b>Weighted response rate</b>	<b>Average weight-adjustment factor (B17AWT4)</b>
Parent Loan for Undergraduate Students (PLUS) cumulative amount <sup>3</sup>			
\$0 or unknown	23,900	96.5	1.04
\$1–\$6,900	900	97.1	1.03
\$6,901–\$14,999	940	96.3	1.04
\$15,000–\$34,349	960	95.1	1.05
\$34,350 or more	1,020	97.1	1.03
Federal aid status			
Received	18,850	97.0	1.03
Did not receive	8,880	95.7	1.04
Defaulted on a federal loan as of June 30, 2017			
Yes	4,180	97.5	1.03
No	23,550	96.3	1.04
Institution aid status			
Received	6,130	97.0	1.03
Did not receive	18,720	96.1	1.04
Unknown	2,880	97.2	1.03
State aid status			
Received	5,030	96.8	1.03
Did not receive or unknown	22,700	96.3	1.04
CH Aid segments in nonresponse-adjustment model			
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$12,755 or less or unknown, Institution enrollment less than 2,629	1,960	96.7	1.03
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$12,755 or less or unknown, Institution enrollment between 2,629 and 26,884	5,470	94.5	1.06
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$12,755 or less or unknown, Institution enrollment greater than 26,885	2,370	96.3	1.04
Pell amount received \$3,500 or less or unknown, Direct Loan amount between \$12,776 and \$26,000, in the Far West, Mideast, or Great Lakes region	920	97.3	1.03
Pell amount received \$3,500 or less or unknown, Direct Loan amount between \$12,776 and \$26,000, in the Southeast, Plains, Rocky Mountains, or Southwest region	680	94.8	1.06
Pell amount received \$3,500 or less or unknown, Direct Loan amount between \$12,776 and \$26,000, in the New England region	130	100.0	1.00
Pell amount received \$3,500 or less or unknown, Direct Loan amount \$26,001 or greater, has not defaulted on federal loans as of 6/31/2017	1,760	97.7	1.02

See notes at end of table.

**Table 49. Cross-sectional weight-adjustment factors for student refusal adjustment: 2017—  
Continued**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17AWT4)
Pell amount received \$3,500 or less or unknown, Direct Loan amount \$26,001 or greater, defaulted on federal loans as of 6/31/2017	60	100.0	1.00
Pell amount received between \$3,501 and \$6,352, did not receive state aid, attended a private nonprofit 4-year, non-doctorate-granting institution	100	100.0	1.00
Pell amount received between \$3,501 and \$6,352; did not receive state aid; attended a private nonprofit 4-year, doctorate-granting institution; a public 4-year, doctorate-granting institution; a public less-than-2-year institution; a private for-profit less-than-2-year institution; or a private for-profit 4-year institution	1,510	97.7	1.02
Pell amount received between \$3,501 and \$6,352; did not receive state aid; attended a public 4-year, non-doctorate-granting institution; a public 2-year institution; or a private for-profit 2-year institution	1,630	94.9	1.05
Pell amount received between \$3,501 and \$6,352, did not receive state aid, attended a private nonprofit less-than-4-year institution	80	86.0	1.17
Pell amount received between \$3,501 and \$6,352, received state aid, in the Far West region	70	99.9	1.00
Pell amount received between \$3,501 and \$6,352, received state aid, in the Mideast, Southeast, Plains, Rocky Mountains, or New England region	420	96.8	1.03
Pell amount received between \$3,501 and \$6,352, received state aid, in the Great Lakes region	70	99.4	1.01
Pell amount between \$3,501 and \$6,352, received state aid, in the Southwest region	60	100.0	1.00
Pell amount received between \$3,501 and \$6,352; state aid status unknown; attended a private nonprofit 4-year, non-doctorate-granting institution; a private nonprofit 4-year, doctorate-granting institution; or a public 2-year institution	140	99.9	1.00
Pell amount received between \$3,501 and \$6,352; state aid status unknown; attended a public 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a private for-profit 2-year institution; a private nonprofit less-than-4-year institution; or a private for-profit less-than-2-year institution	150	100.0	1.00
Pell amount received between \$3,501 and \$6,352, state aid status unknown, attended a private for-profit 4-year institution	180	92.3	1.09
Pell amount received between \$6,353 and \$13,088; PLUS amount received \$6,900 or less or unknown; Attended a private nonprofit 4-year, non-doctorate-granting institution or a private for-profit 2-year institution	660	94.4	1.06

See notes at end of table.



**Table 49. Cross-sectional weight-adjustment factors for student refusal adjustment: 2017—  
Continued**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17AWT4)
Pell amount received between \$6,353 and \$13,088; PLUS amount received \$6,900 or less or unknown; Attended a private nonprofit 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a public 2-year institution; a private nonprofit less-than-4-year institution; a private for-profit less-than-2-year institution; or a private for-profit 4-year institution	3,420	98.3	1.02
Pell amount received between \$6,353 and \$13,088, PLUS amount received \$6,900 or less or unknown, Attended a public 4-year, doctorate-granting or a public less-than-2-year institution	300	99.9	1.00
Pell amount received between \$6,353 and \$13,088, PLUS amount received between \$6,901 and \$34,349, in the Far West, Mideast, Southeast, or Southwest region	200	94.3	1.05
Pell amount received between \$6,353 and \$13,088, PLUS amount received between \$6,901 and \$34,349, in the Great Lakes, Plains, Rocky Mountains, or New England region	80	100.0	1.00
Pell amount received between \$6,353 and \$13,088; PLUS amount received \$34,350 or more; Attended a private nonprofit 4-year, non-doctorate-granting institution; a private nonprofit 4-year, doctorate-granting institution; a public 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a public 2-year institution; a private for-profit 2-year institution; or a private nonprofit less-than-4-year institution	60	100.0	1.00
Pell amount received between \$6,353 and \$13,088, PLUS amount received \$34,350 or more, Attended a private for-profit 4-year institution	50	98.2	1.02
Pell amount received \$13,089 or more, PLUS amount received \$6,900 or less or unknown, Did not receive institutional aid	2,960	96.9	1.03
Pell amount received \$13,089 or more, PLUS amount received \$6,900 or less or unknown, Received institutional aid or institutional aid status unknown	1,700	98.3	1.02
Pell amount received \$13,089 or more, PLUS amount received between \$6,901 and \$34,349, in the Far West region	70	98.5	1.01
Pell amount received \$13,089 or more, PLUS amount received between \$6,901 and \$34,349, in the Mideast or Rocky Mountains region	110	100.0	1.00
Pell amount received \$13,089 or more, PLUS amount received between \$6,901 and \$34,349, in the Southeast, Great Lakes, or Plains region	140	83.7	1.19
Pell amount received \$13,089 or more, PLUS amount received between \$6,901 and \$34,349, in the Southwest or New England region	70	99.9	1.00

See notes at end of table.

**Table 49. Cross-sectional weight-adjustment factors for student refusal adjustment: 2017—  
Continued**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17AWT4)
Pell amount received \$13,089 or more; PLUS amount received \$34,350 or more; Attended a private nonprofit 4-year, non-doctorate-granting institution; a private nonprofit 4-year, doctorate-granting institution; a public 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a public 2-year institution; a private for-profit 2-year institution; a private nonprofit less-than-4-year institution; or a private for-profit less-than-2-year institution	100	100.0	1.00
Pell amount received \$13,089 or more, PLUS amount received \$34,350 or more, Attended a private for-profit 4-year institution	60	99.3	1.01

<sup>1</sup> Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

<sup>3</sup> Cumulative Enrollment, Pell Grant, Direct Loan, and PLUS Loan categories were defined by quartiles.

NOTE: CHAID = Chi-squared automatic interaction detection. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Table 50 shows the final predictor variables used in the model to determine weight adjustments and the average weight-adjustment factors resulting from these variables for the panel weight. Summary statistics of the refusal weight-adjustment factors follow:

- minimum: 1.00;
- median: 1.03; and
- maximum: 1.32.

The final lower bound was 1.0 and the final upper bound was unbounded to achieve convergence for this weight adjustment.

**Table 50. Panel weight-adjustment factors for student refusal adjustment: 2017**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17BWT2)
<b>Total</b>	<b>27,730</b>	<b>96.4</b>	<b>1.04</b>
Control and level of institution attended <sup>1</sup>			
Public less-than-2-year	130	98.2	1.02
Public 2-year	8,240	95.7	1.04
Public 4-year, non-doctorate-granting	1,600	96.6	1.03
Public 4-year, doctorate-granting	3,210	97.1	1.03
Private nonprofit less-than-4-year	300	94.2	1.06
Private nonprofit 4-year, non-doctorate-granting	1,990	96.4	1.04
Private nonprofit 4-year, doctorate-granting	2,510	97.0	1.03
Private for-profit less-than-2-year	1,040	97.5	1.03
Private for-profit 2-year	2,240	95.9	1.04
Private for-profit 4-year	6,470	97.0	1.03
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>			
New England	1,390	97.1	1.03
Mideast	4,440	96.3	1.04
Great Lakes	4,200	96.7	1.03
Plains	1,960	95.5	1.04
Southeast	6,330	96.5	1.04
Southwest	3,570	96.2	1.04
Rocky Mountains	1,250	96.5	1.04
Far West	4,590	96.6	1.03
Institution total enrollment <sup>3</sup>			
2,628 or fewer	7,240	97.1	1.03
2,629–10,233	8,270	96.4	1.04
10,234–26,884	6,640	95.8	1.04
26,885 or more	5,580	96.9	1.03
Age as of Dec 31, 2011			
15–23	22,690	96.5	1.04
24–29	2,280	96.2	1.04
30 or more	2,770	95.9	1.04
Total Pell Grant cumulative amount received <sup>3</sup>			
\$0 or unknown or \$3,501 or more	23,680	96.5	1.04
\$1–\$3,500	4,050	96.0	1.04
Total Direct Loan cumulative amount received <sup>3</sup>			
\$0 or unknown	8,890	95.7	1.05
\$1–\$6,365	4,170	96.2	1.04
\$6,366–\$12,755	4,510	97.0	1.03
\$12,756–\$26,000	5,040	97.1	1.03
\$26,001 or more	5,110	97.5	1.03

See notes at end of table.

**Table 50. Panel weight-adjustment factors for student refusal adjustment: 2017—Continued**

<b>Model predictor variables</b>	<b>Number did not refuse</b>	<b>Weighted response rate</b>	<b>Average weight-adjustment factor (B17BWT2)</b>
Parent Loan for Undergraduate Students (PLUS) cumulative amount <sup>3</sup>			
\$0 or unknown	23,900	96.4	1.04
\$1–\$6,900	900	97.1	1.03
\$6,901–\$14,999	940	96.3	1.03
\$15,000–\$34,349	960	95.1	1.05
\$34,350 or more	1,020	97.1	1.03
Federal aid status			
Received	18,850	97.0	1.03
Did not receive	8,880	95.7	1.05
Defaulted on a federal loan as of June 30, 2017			
Yes	4,180	97.4	1.03
No	23,550	96.3	1.04
Institution aid status			
Received	6,130	97.0	1.03
Did not receive	18,720	96.1	1.04
Unknown	2,880	97.2	1.03
State aid status			
Received	5,030	96.8	1.03
Did not receive or unknown	22,700	96.3	1.04
CHSID segments in nonresponse-adjustment model			
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$12,755 or less or unknown, Institution enrollment between 0 and 2,628	1,960	96.7	1.03
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$12,755 or less or unknown, Institution enrollment between 2,629 and 26,884 inclusive	5,470	94.5	1.06
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$12,755 or less or unknown, Institution enrollment greater than 26,884	2,370	96.3	1.04
Pell amount received \$3,500 or less or unknown, Direct Loan amount received between \$12,756 and \$26,000, in the Far West, Mideast, or Great Lakes region	920	97.3	1.03
Pell amount received \$3,500 or less or unknown, Direct Loan amount received between \$12,756 and \$26,000, in the Southeast, Plains, Rocky Mountains, or Southwest region	680	94.8	1.06
Pell amount received \$3,500 or less or unknown, Direct Loan amount received between \$12,756 and \$26,000, in the New England region	130	100.0	1.00
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$26,001 or more, Has not defaulted on federal loans as of 6/31/2017	1,760	97.7	1.02

See notes at end of table.

**Table 50. Panel weight-adjustment factors for student refusal adjustment: 2017—Continued**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17BWT2)
Pell amount received \$3,500 or less or unknown, Direct Loan amount received \$26,001 or more, Defaulted on federal loans as of 6/31/2017	60	100.0	1.00
Pell amount received between \$3,501 and \$6,352; Did not receive state aid; Attended a private nonprofit 4-year, non-doctorate-granting institution	100	100.0	1.00
Pell amount received between \$3,501 and \$6,352; Did not receive state aid; Attended a private nonprofit 4-year, doctorate-granting institution; a public 4-year, doctorate-granting institution; a public less-than-2-year institution; a private for-profit less-than-2-year institution; or a private for-profit 4-year institution	1,510	97.7	1.02
Pell amount received between \$3,501 and \$6,352; Did not receive state aid; Attended a public 4-year, non-doctorate-granting institution; a public 2-year institution; a private for-profit 2-year institution; or a private nonprofit less-than-4-year institution	1,710	94.7	1.06
Pell amount received between \$3,501 and \$6,352, Received state aid, Institution enrollment between 0 and 2,628	90	94.1	1.07
Pell amount received between \$3,501 and \$6,352, Received state aid, Institution enrollment between 2,629 and 10,233	230	99.7	1.00
Pell amount received between \$3,501 and \$6,352, Received state aid, Institution enrollment between 10,234 and 26,884	200	96.3	1.04
Pell amount received between \$3,501 and \$6,352, Received state aid, Institution enrollment greater than 26,885	90	100.0	1.00
Pell amount received between \$3,501 and \$6,352; State aid status unknown; Attended a private nonprofit 4-year, non-doctorate-granting institution; a private nonprofit 4-year, doctorate-granting institution; or a public 2-year institution	140	99.9	1.00
Pell amount received between \$3,501 and \$6,352; State aid status unknown; Attended a public 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a private for-profit 2-year institution; a private nonprofit less-than-4-year institution; or a private for-profit less-than-2-year institution	150	100.0	1.00
Pell amount received between \$3,501 and \$6,352, State aid status unknown, Attended a private for-profit 4-year institution	180	92.4	1.09
Pell amount received between \$6,353 and \$13,088; PLUS amount received \$6,900 or less or unknown; Attended a private nonprofit 4-year, non-doctorate-granting institution or a private for-profit 2-year institution	660	94.4	1.06

See notes at end of table.

**Table 50. Panel weight-adjustment factors for student refusal adjustment: 2017—Continued**

Model predictor variables	Number did not refuse	Weighted response rate	Average weight-adjustment factor (B17BWT2)
Pell amount received between \$6,353 and \$13,088; PLUS amount received \$6,900 or less or unknown; Attended a private nonprofit 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a public 2-year institution; a private nonprofit less-than-4-year institution; a private for-profit less-than-2-year institution; or a private for-profit 4-year institution	3,420	98.3	1.02
Pell amount received between \$6,353 and \$13,088; PLUS amount received \$6,900 or less or unknown; Attended a public 4-year, doctorate-granting institution or a public less-than-2-year institution	300	99.9	1.00
Pell amount received between \$6,353 and \$13,088, PLUS amount received between \$6,901 and \$34,349, in the Far West, Mideast, Southeast, or Southwest region	200	94.3	1.06
Pell amount received between \$6,353 and \$13,088, PLUS amount received between \$6,901 and \$34,349, in the Great Lakes, Plains, Rocky Mountains, or New England region	80	100.0	1.00
Pell amount received between \$6,353 and \$13,088, PLUS amount received \$34,350 or more	110	99.9	1.00
Pell amount received \$13,089 or more, PLUS amount received \$6,900 or less or unknown, Did not receive institutional aid	2,960	96.9	1.03
Pell amount received \$13,089 or more, PLUS amount received \$6,900 or less or unknown, Received institutional aid or institutional aid unknown	1,700	98.3	1.02
Pell amount received \$13,089 or more; PLUS amount received between \$6,901 and \$34,349; Attended a private nonprofit 4-year, non-doctorate-granting institution; a public 2-year institution; or a private for-profit 4-year institution	240	97.1	1.03
Pell amount received \$13,089 or more; PLUS amount received between \$6,901 and \$34,349; Attended a private nonprofit 4-year, doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a private for-profit 2-year institution; a private nonprofit less-than-4-year institution; or a private for-profit less-than-2-year institution	100	100.0	1.00
Pell amount received \$13,089 or more; PLUS amount received between \$6,901 and \$34,349; Attended a public 4-year, doctorate-granting institution	60	83.2	1.20
Pell amount received \$13,089 or more, PLUS amount received \$34,350 or more	160	100.0	1.00

<sup>1</sup> Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

<sup>3</sup> Cumulative Enrollment, Pell Grant, Direct Loan, and PLUS Loan categories were defined by quartiles.

NOTE: CHAID = Chi-squared automatic interaction detection. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Student other nonresponse adjustments (B17AWT5 and B17BWT3).** The third, and final, stage of adjustment for student nonresponse was an adjustment for other nonresponse (i.e., contacted, but not surveyed before the end of the data-collection period), given that the student was located and did not explicitly refuse to participate. Staff made these additional student-nonresponse adjustments for the cross-sectional and panel weights to compensate further for potential student-nonresponse bias. As with the previous nonresponse adjustments, the same WTADJUST SUDAAN procedures and candidate predictor variables were used, and CHAID analyses on the predictor variables were run to detect important interactions.

Table 51 shows the final predictor variables used in the model to determine weight adjustments and the average weight adjustment factor resulting from these variables for the cross-sectional weight. Summary statistics of the other nonresponse weight-adjustment factors follow:

- minimum: 1.01;
- median: 1.22; and
- maximum: 2.23.

The final lower bound was 1.0 and the final upper bound was unbounded to achieve convergence for this weight adjustment.

**Table 51. Cross-sectional weight-adjustment factors for other nonresponse adjustment: 2017**

Model predictor variables	Number responded	Weighted response rate	Average weight-adjustment factor (B17AWT5)
<b>Total</b>	<b>22,530</b>	<b>80.7</b>	<b>1.25</b>
Control and level of institution attended <sup>1</sup>			
Public less-than-2-year	110	77.8	1.27
Public 2-year	6,620	78.5	1.27
Public 4-year, non-doctorate-granting	1,340	81.4	1.22
Public 4-year, doctorate-granting	2,770	83.9	1.19
Private nonprofit less-than-4-year	230	73.1	1.35
Private nonprofit 4-year, non-doctorate-granting	1,690	82.7	1.20
Private nonprofit 4-year, doctorate-granting	2,220	86.2	1.16
Private for-profit less-than-2-year	760	68.8	1.48
Private for-profit 2-year	1,730	75.9	1.29
Private for-profit 4-year	5,070	75.0	1.27
Bureau of Economic Analysis Code(Office of Business Economics [OBE]) Region <sup>2</sup>			
New England	1,150	81.4	1.23
Mideast	3,630	80.3	1.26
Great Lakes	3,450	81.3	1.24
Plains	1,620	81.0	1.24
Southeast	5,120	80.4	1.26
Southwest	2,860	79.5	1.28
Rocky Mountains	1,000	78.8	1.30
Far West	3,710	82.0	1.22
Institution total enrollment <sup>3</sup>			
2,628 or fewer	5,710	78.3	1.29
2,629–10,233	6,760	81.6	1.23
10,234–26,884	5,460	81.3	1.23
26,885 or more	4,600	80.4	1.26
Age as of Dec 31, 2011			
15–23	18,670	81.9	1.23
24–29	1,760	72.1	1.34
30 or more	2,100	71.3	1.36
Total Pell Grant cumulative amount received <sup>3</sup>			
\$0 or unknown	7,610	80.7	1.24
\$1–\$3,500	3,040	74.7	1.36
\$3,501–\$6,352	3,430	77.7	1.31
\$6,353–\$13,088	3,930	80.3	1.26
\$13,089 or more	4,530	87.5	1.15
Total Direct Loan cumulative amount received <sup>3</sup>			
\$0 or unknown or \$12,756 or more	15,780	81.9	1.23
\$1–\$6,365	3,190	74.6	1.34
\$6,366–\$12,755	3,570	79.4	1.29

See notes at end of table.



**Table 51. Cross-sectional weight-adjustment factors for other nonresponse adjustment: 2017—  
Continued**

<b>Model predictor variables</b>	<b>Number responded</b>	<b>Weighted response rate</b>	<b>Average weight- adjustment factor (B17AWT5)</b>
Parent Loan for Undergraduate Students (PLUS) cumulative amount <sup>3</sup>			
\$0 or unknown	19,360	80.2	1.26
\$1–\$6,900	730	82.3	1.25
\$6,901–\$14,999	780	82.9	1.25
\$15,000–\$34,349	810	86.6	1.18
\$34,350 or more	860	85.2	1.19
Federal aid status			
Received	15,510	82.2	1.24
Did not receive	7,020	78.6	1.28
Defaulted on a federal loan as of June 30, 2017			
Yes	2,970	68.2	1.46
No	19,560	82.3	1.22
Institution aid status			
Received	5,250	84.5	1.18
Did not receive	14,890	78.5	1.29
Unknown	2,400	84.7	1.18
State aid status			
Received	4,230	83.6	1.20
Did not receive or unknown	18,300	79.9	1.26
CHAID segments in nonresponse-adjustment model			
Has not defaulted on federal loans as of 6/31/2017, No Direct Loan amount received or unknown, 15–23 years old as of 12/31/2011 or Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, PLUS amount received \$1 or more	6,180	80.1	1.25
Has not defaulted on federal loans as of 6/31/2017, No Direct Loan amount received or unknown, 24 years old or older as of 12/31/2011	970	67.7	1.46
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$1 and \$6,365, Pell amount received \$3,500 or less or unknown	1,110	76.6	1.31
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$1 and \$6,365, Pell amount received \$3,501 or more	980	86.2	1.16
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, Pell amount received \$3,500 or less or unknown	870	84.5	1.18

See notes at end of table.

**Table 51. Cross-sectional weight-adjustment factors for other nonresponse adjustment: 2017—  
Continued**

Model predictor variables	Number responded	Weighted response rate	Average weight-adjustment factor (B17AWT5)
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, Pell amount received between \$3,501 and \$6,352	810	76.2	1.30
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, Pell amount received between \$6,353 and \$13,088	610	83.7	1.19
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, Pell amount received \$13,089 or more	360	88.6	1.13
Has not defaulted on federal loans as of 6/31/2017; Direct Loan amount received between \$12,756 and \$26,000; Attended a private nonprofit 4-year, non-doctorate-granting institution; a public 4-year, non-doctorate-granting institution; a private for-profit 2-year institution; or a private nonprofit less-than-4-year institution	840	82.1	1.22
Has not defaulted on federal loans as of 6/31/2017; Direct Loan amount received between \$12,756 and \$26,000; Attended a private nonprofit 4-year, doctorate-granting institution; a public 4-year, doctorate-granting institution; a public 2-year institution; or a public less-than-2-year institution	1,770	87.7	1.14
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$12,756 and \$26,000, Attended a private for-profit less-than-2-year or a private for-profit 4-year institution	990	71.9	1.34
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, Pell amount received \$6,352 or less or unknown	1,820	90.1	1.11
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, Pell amount received between \$6,353 and \$13,088	540	83.6	1.19
Has not defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, Pell amount received \$13,089 or more	1,840	88.7	1.12
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$12,755 or less or unknown, Did not receive state aid	1,560	63.1	1.57
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$12,755 or less or unknown, Received state aid	240	70.9	1.40
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$12,755 or less or unknown, State aid status unknown	220	77.9	1.25
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$12,755 or \$26,000, No PLUS amount received or unknown	490	67.2	1.48

See notes at end of table.

**Table 51. Cross-sectional weight-adjustment factors for other nonresponse adjustment: 2017—Continued**

Model predictor variables	Number responded	Weighted response rate	Average weight-adjustment factor (B17AWT5)
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$12,755 or \$26,000, PLUS amount received \$1 or more	140	87.3	1.14
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, No PLUS amount received or unknown	190	78.7	1.25

<sup>1</sup> Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

<sup>3</sup> Cumulative Enrollment, Pell Grant, Direct Loan, and PLUS Loan categories were defined by quartiles.

NOTE: CHAID = Chi-squared automatic interaction detection. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Table 52 shows the final predictor variables used in the model to determine weight adjustments and the average weight-adjustment factor resulting from these variables for the panel weight. Summary statistics of the other nonresponse weight-adjustment factors follow:

- minimum: 1.08;
- median: 1.39; and
- maximum: 3.13.

The final lower bound was 1.0 and the final upper bound was unbounded to achieve convergence for this weight adjustment.

**Table 52. Panel weight-adjustment factors for other nonresponse adjustment: 2017**

Model predictor variables	Number responded	Weighted response rate	Average weight-adjustment factor (B17BWT3)
<b>Total</b>	<b>19,840</b>	<b>69.9</b>	<b>1.46</b>
Control and level of institution attended <sup>1</sup>			
Public less-than-2-year	90	54.4	1.81
Public 2-year	5,770	66.3	1.52
Public 4-year, non-doctorate-granting	1,180	69.3	1.44
Public 4-year, doctorate-granting	2,520	74.9	1.33
Private nonprofit less-than-4-year	200	60.6	1.62
Private nonprofit 4-year, non-doctorate-granting	1,530	72.4	1.37
Private nonprofit 4-year, doctorate-granting	2,050	79.5	1.26
Private for-profit less-than-2-year	630	57.7	1.76
Private for-profit 2-year	1,490	62.9	1.53
Private for-profit 4-year	4,380	62.4	1.51
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>			
New England	1,030	70.2	1.45
Mideast	3,220	69.9	1.45
Great Lakes	3,010	70.2	1.46
Plains	1,440	70.7	1.42
Southeast	4,510	69.7	1.47
Southwest	2,460	66.6	1.54
Rocky Mountains	870	67.1	1.55
Far West	3,300	72.6	1.39
Institution total enrollment <sup>3</sup>			
2,628 or fewer	4,960	67.0	1.51
2,629–10,233	5,940	69.3	1.46
10,234–26,884	4,830	70.0	1.43
26,885 or more	4,110	71.5	1.42
Age as of Dec 31, 2011			
15–23	16,490	71.3	1.42
24–29	1,490	56.9	1.70
30 or more	1,860	60.8	1.58
Total Pell Grant cumulative amount received <sup>3</sup>			
\$0 or unknown	6,840	72.0	1.40
\$1–\$3,500	2,550	60.3	1.70
\$3,501–\$6,352	2,870	61.3	1.64
\$6,353–\$13,088	3,390	66.8	1.51
\$13,089 or more	4,190	80.2	1.24
Total Direct Loan cumulative amount received <sup>3</sup>			
\$0 or unknown or \$6,366 or more	17,200	71.4	1.42
\$1–\$6,365	2,640	59.7	1.69

See notes at end of table.

**Table 52. Panel weight-adjustment factors for other nonresponse adjustment: 2017—Continued**

<b>Model predictor variables</b>	<b>Number responded</b>	<b>Weighted response rate</b>	<b>Average weight-adjustment factor (B17BWT3)</b>
Parent Loan for Undergraduate Students (PLUS) cumulative amount <sup>3</sup>			
\$0 or unknown	16,970	69.1	1.47
\$1–\$6,900	640	71.3	1.47
\$6,901–\$14,999	690	73.4	1.42
\$15,000–\$34,349	730	77.1	1.34
\$34,350 or more	800	78.7	1.28
Federal aid status			
Received	13,650	71.2	1.44
Did not receive	6,190	68.1	1.50
Defaulted on a federal loan as of June 30, 2017			
Yes	2,330	51.1	1.97
No	17,500	72.2	1.39
Institution aid status			
Received	4,750	74.6	1.34
Did not receive	12,930	66.9	1.53
Unknown	2,150	77.1	1.31
State aid status			
Received	3,780	72.7	1.39
Did not receive or unknown	16,060	69.1	1.47
CHAID segments in nonresponse-adjustment model			
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, No Pell amount received or unknown	3,320	70.1	1.44
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, Pell amount received between \$1 and \$6,352	1,470	56.1	1.79
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, Pell amount received between \$6,353 and \$13,088	670	71.5	1.41
Has not defaulted on federal loans as of 6/31/2017, Did not receive federal aid, Pell amount received \$13,089 or more	720	79.8	1.26
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Direct Loan amount received \$6,365 or less or unknown	1,820	68.4	1.47
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Direct Loan amount received between \$6,366 and \$12,755	2,330	71.4	1.42
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Direct Loan amount received between \$12,756 and \$26,000	3,260	76.1	1.33

See notes at end of table.

**Table 52. Panel weight-adjustment factors for other nonresponse adjustment: 2017—Continued**

Model predictor variables	Number responded	Weighted response rate	Average weight-adjustment factor (B17BWT3)
Has not defaulted on federal loans as of 6/31/2017, Received federal aid, Direct Loan amount received \$26,001 or more or Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, in the Great Lakes or Rocky Mountains region	3,950	81.6	1.23
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$6,365 or less or unknown, Did not receive institutional aid or received institutional aid	730	44.6	2.27
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$6,365 or less or unknown, institutional aid status unknown	110	69.6	1.43
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, Did not receive state aid	550	44.2	2.26
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, Received state aid	70	56.4	1.81
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$6,366 and \$12,755, State aid status unknown	70	65.0	1.53
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$12,756 and \$26,000, 15–23 years old as of 12/31/2011	370	62.6	1.62
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$12,756 and \$26,000, 24–29 years old as of 12/31/2011	70	39.5	2.48
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received between \$12,756 and \$26,000, 30 years old or older as of 12/31/2011	70	42.3	2.39
Defaulted on federal loans as of 6/31/2017, Direct Loan amount received \$26,001 or more, in the Far West, Mideast, Southeast, Plains, Southwest, or New England region	260	84.9	1.18

<sup>1</sup> Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

<sup>3</sup> Cumulative Enrollment, Pell Grant, Direct Loan, and PLUS Loan categories were defined by quartiles.

NOTE: CHAID = Chi-squared automatic interaction detection. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 6.1.4 Poststratification Adjustment (B17AWT6 and B17BWT4)

To ensure that the weighted student sample adequately represented the student population, staff used SUDAAN WTADJUST to further adjust the student weights so that they summed to known population totals for key characteristics. This

adjustment also helped increase the precision of the estimates for these key characteristics and any related characteristics.

The control totals for FTB students, by spring and fall enrollment as well as yearly enrollment, for the BPS:12/14 weights were modified from weighted sums created during NPSAS:12 and from the IPEDS:2010–11 Fall Enrollment file (EF2011A) and the IPEDS:2011–12 Student Financial Aid and Net Price file (SFA1112). These same control totals were used for the BPS:12/17 poststratification adjustment for the cross-sectional weights. Individuals that were confirmed as ineligible non-FTB students during BPS:12/17 data collection, along with deceased individuals, were included in the poststratification adjustments, and their weights were dropped after the adjustment. The sum of the final weights estimates the number of NPSAS:12 students who were eligible for BPS and were still alive at the time of the BPS:12/17 survey. The resulting weight sums, with the ineligible and deceased individuals removed, were used as the control totals for the poststratification adjustment for the panel weights. Therefore, the weight sums agreed for the final cross-sectional and panel analysis weights.

Control totals were established by summing the NPSAS:12 weights for the students identified as FTB students (including deceased students) and were derived from the sums of the NPSAS:12 weight for the following:

- full-year FTB undergraduate student enrollment (full- and part-time), by control and level of institution;
- estimated number of FTB Pell Grant recipients, by control and level of institution;
- estimated total amount of Pell Grants received by all FTB students, by control and level of institution;
- estimated total of Direct Loan amount received by all FTB students, by control and level of institution;
- estimated number of FTB federal loan recipients, by control and level of institution; and
- estimated total of federal loan amount received by all FTB students, by control and level of institution.

The following variables, derived from the IPEDS:2010–11 EF file and 2011–12 student financial aid and net price file, were also used for developing control totals:

- fall FTB undergraduate student enrollment (full- and part-time), by control and level of institution;

- fall FTB undergraduate student enrollment (full-time), by control and level of institution;
- number of full-time FTB students receiving Pell Grants, by control and level of institution;
- amount of Pell Grants awarded to full-time FTB students, by control and level of institution;
- number of full-time FTB students receiving federal student loans, by control and level of institution; and
- amount of federal student loans awarded to full-time FTB students, by control and level of institution.

Control totals for number and amount of Pell Grant and federal student loans were estimated from both NPSAS FTB students and IPEDS first-time students to control for potential inaccuracies within each data source. IPEDS only had data on fall FTB students, while the NPSAS FTB definition was based on year-round enrollment. Using both sources provided a better picture of spring and part-time enrollees as well. Table 53 shows the variables used for the poststratification, the values of the control totals, and the average weight-adjustment factors for each variable for the cross-sectional weights. Statistics for the poststratification weight-adjustment factors follow:

- minimum: 0.00;
- median: 1.60; and
- maximum: 150.74.

The poststratification adjustment had a lower bound of 0.00001 and was unbounded above in order to achieve convergence. After poststratification was performed, staff computed the final cross-sectional student weight (WTA000) as the product of the weight components described in this section.

$$WTA000 = B17WT1 \times B17AWT1 \times B17AWT2 \times B17AWT3 \times B17AWT4 \times B17AWT5 \times B17AWT6$$



**Table 53. Cross-sectional weight-adjustment factors for student poststratification: 2017**

Poststratification categories	Control total	Average weight- adjustment factor (B17AWT6)
Full-year FTB undergraduate student enrollment (full- and part-time), by control and level of institution		
Public less-than-2-year	31,010	5.86
Public 2-year	1,662,800	1.73
Public 4-year, non-doctorate-granting	422,810	1.40
Public 4-year, doctorate-granting	868,730	1.51
Private nonprofit less-than-4-year	26,990	3.94
Private nonprofit 4-year, non-doctorate-granting	279,210	1.23
Private nonprofit 4-year, doctorate-granting	382,100	1.71
Private for-profit less-than-2-year	165,110	2.29
Private for-profit 2-year	178,020	2.49
Private for-profit 4-year	260,270	2.95
Fall FTB undergraduate student enrollment (full- and part-time), by control and level of institution		
Public less-than-2-year	23,520	7.36
Public 2-year	1,219,290	1.59
Public 4-year, non-doctorate-granting	353,230	1.32
Public 4-year, doctorate-granting	774,560	1.48
Private nonprofit less-than-4-year	19,030	4.21
Private nonprofit 4-year, non-doctorate-granting	242,150	1.12
Private for-profit less-than-2-year	112,950	2.78
Private for-profit 2-year	123,780	2.88
Private for-profit 4-year	139,930	2.98
Fall FTB undergraduate student enrollment (full-time), by control and level of institution		
Public less-than-2-year	15,930	5.73
Public 2-year	733,310	1.28
Public 4-year, non-doctorate-granting	300,040	1.20
Public 4-year, doctorate-granting	754,380	1.48
Private nonprofit less-than-4-year	16,380	3.14
Private nonprofit 4-year, non-doctorate-granting	232,190	1.06
Private for-profit less-than-2-year	92,960	2.38
Private for-profit 2-year	114,620	2.90
Private for-profit 4-year	101,620	2.62
Number of full-time FTB students receiving Pell Grants, by control and level of institution		
Public 2-year	424,580	1.23
Public 4-year, non-doctorate-granting	142,350	1.19
Public 4-year, doctorate-granting	267,200	1.54
Private nonprofit 4-year, non-doctorate-granting	88,850	1.09
Private for-profit 4-year	84,830	2.91

See notes at end of table.

**Table 53. Cross-sectional weight-adjustment factors for student poststratification: 2017—  
Continued**

Poststratification categories	Control total	Average weight-adjustment factor (B17AWT6)
Amount of Pell Grants awarded to full-time FTB students, by control and level of institution		
Public 2-year	\$1,810,222,760	1.23
Public 4-year, non-doctorate-granting	\$615,315,550	1.19
Public 4-year, doctorate-granting	\$1,150,900,320	1.54
Private nonprofit 4-year, non-doctorate-granting	\$369,686,330	1.09
Private for-profit 4-year	\$388,880,100	2.91
Number of full-time FTB students receiving federal student loans, by control and level of institution		
Public 2-year	194,860	1.23
Public 4-year, non-doctorate-granting	146,300	1.08
Private nonprofit less-than-4-year	14,100	3.94
Private nonprofit 4-year, non-doctorate-granting	151,900	0.97
Private for-profit 4-year	93,050	2.82
Total amount of federal student loans awarded to all FTB students, by control and level of institution		
Public 2-year	\$907,612,890	1.23
Public 4-year, non-doctorate-granting	\$795,740,730	1.08
Private nonprofit less-than-4-year	\$92,909,670	3.94
Private nonprofit 4-year, non-doctorate-granting	\$916,726,380	0.97
Private for-profit 4-year	\$721,267,970	2.82
Estimated number of FTB Pell Grant recipients, by control and level of institution		
Public less-than-2-year	15,870	6.76
Public 2-year	794,360	1.49
Public 4-year, non-doctorate-granting	196,430	1.41
Public 4-year, doctorate-granting	316,450	1.62
Private nonprofit less-than-4-year	19,110	4.65
Private nonprofit 4-year, non-doctorate-granting	117,810	1.45
Private nonprofit 4-year, doctorate-granting	122,240	1.91
Private for-profit 2-year	167,580	2.86
Private for-profit 4-year	196,020	2.85
Estimated total amount of Pell Grants received by all FTB students, by control and level of institution		
Public less-than-2-year	\$61,015,790	6.76
Public 2-year	\$2,504,341,070	1.49
Public 4-year, non-doctorate-granting	\$748,119,530	1.41
Public 4-year, doctorate-granting	\$1,310,100,200	1.62
Private nonprofit less-than-4-year	\$75,416,370	4.65
Private nonprofit 4-year, non-doctorate-granting	\$467,389,770	1.45
Private nonprofit 4-year, doctorate-granting	\$509,921,540	1.91
Private for-profit less-than-2-year	\$675,337,820	2.55
Private for-profit 2-year	\$675,186,710	2.86
Private for-profit 4-year	\$678,920,090	2.85

See notes at end of table.

**Table 53. Cross-sectional weight-adjustment factors for student poststratification: 2017—  
Continued**

Poststratification categories	Control total	Average weight- adjustment factor (B17AWT6)
Estimated total of Direct Loan amount received by all FTB students, by control and level of institution		
Public less-than-2-year	\$36,672,040	3.08
Public 2-year	\$1,355,320,280	1.33
Public 4-year, non-doctorate-granting	\$961,561,150	1.21
Public 4-year, doctorate-granting	\$2,690,253,310	1.60
Private nonprofit less-than-4-year	\$97,897,410	3.98
Private nonprofit 4-year, non-doctorate-granting	\$1,084,463,900	1.24
Private nonprofit 4-year, doctorate-granting	\$1,297,564,380	1.76
Private for-profit less-than-2-year	\$848,552,930	2.13
Private for-profit 2-year	\$862,038,030	2.15
Private for-profit 4-year	\$1,430,976,950	2.86
Estimated number of FTB federal loan recipients, by control and level of institution		
Public less-than-2-year	6,350	3.08
Public 2-year	324,830	1.32
Public 4-year, non-doctorate-granting	188,190	1.21
Public 4-year, doctorate-granting	519,400	1.60
Private nonprofit 4-year, non-doctorate-granting	192,380	1.24
Private for-profit less-than-2-year	134,620	2.13
Private for-profit 2-year	135,610	2.15
Private for-profit 4-year	212,160	2.86
Estimated total of federal loan amount received by all FTB students, by control and level of institution		
Public 2-year	\$1,355,485,830	1.32
Public 4-year, non-doctorate-granting	\$969,088,260	1.21
Public 4-year, doctorate-granting	\$2,723,070,430	1.60
Private nonprofit 4-year, non-doctorate-granting	\$1,112,325,400	1.24
Private for-profit 2-year	\$862,883,470	2.15
Private for-profit 4-year	\$1,432,932,720	2.86

NOTE: FTB = first-time beginning. Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data. Control totals rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

Table 54 shows the variables used for the poststratification, the values of the control totals, and the average weight-adjustment factors for each variable for the panel weights. Statistics for the poststratification weight-adjustment factors follow:

- minimum: 0.01;
- median: 1.55; and
- maximum: 505.11.

The poststratification adjustment had a lower bound of 0.00001 and was unbounded above in order to achieve convergence. After poststratification was performed, staff computed the final panel student weight (WTB000) as the product of the weight components described in this section.

$$\text{WTB000} = \text{B17WT1} \times \text{B17AWT1} \times \text{B17AWT2} \times \text{B17BWT1} \times \text{B17BWT2} \times \text{B17BWT3} \times \text{B17BWT4}$$

**Table 54. Panel weight-adjustment factors for student poststratification: 2017**

Poststratification categories	Control total	Average weight-adjustment factor (B17BWT4)
Full-year FTB undergraduate student enrollment (full- and part-time), by control and level of institution		
Public less-than-2-year	30,010	5.45
Public 2-year	1,598,520	1.75
Public 4-year, non-doctorate-granting	416,990	1.38
Public 4-year, doctorate-granting	864,400	1.46
Private nonprofit less-than-4-year	26,990	3.70
Private nonprofit 4-year, non-doctorate-granting	276,360	1.78
Private nonprofit 4-year, doctorate-granting	381,310	1.87
Private for-profit less-than-2-year	148,830	2.35
Private for-profit 2-year	163,900	2.55
Private for-profit 4-year	242,170	3.09
Fall FTB undergraduate student enrollment (full- and part-time), by control and level of institution		
Public less-than-2-year	23,520	6.58
Public 2-year	1,212,580	1.49
Public 4-year, non-doctorate-granting	352,170	1.25
Public 4-year, doctorate-granting	773,580	1.36
Private nonprofit less-than-4-year	19,040	3.70
Private nonprofit 4-year, non-doctorate-granting	241,810	1.57
Private nonprofit 4-year, doctorate-granting	365,540	1.68
Private for-profit less-than-2-year	111,930	2.62
Private for-profit 2-year	122,930	2.72
Private for-profit 4-year	139,680	2.89
Fall FTB undergraduate student enrollment (full-time), by control and level of institution		
Public less-than-2-year	15,930	5.43
Public 2-year	730,510	1.20
Public 4-year, non-doctorate-granting	299,270	1.14
Public 4-year, doctorate-granting	753,400	1.37
Private nonprofit less-than-4-year	16,390	2.92
Private nonprofit 4-year, non-doctorate-granting	231,850	1.02
Private nonprofit 4-year, doctorate-granting	364,180	1.68
Private for-profit less-than-2-year	91,930	2.23
Private for-profit 2-year	113,850	2.74
Private for-profit 4-year	101,520	2.56

See notes at end of table.

**Table 54. Panel weight-adjustment factors for student poststratification: 2017—Continued**

Poststratification categories	Control total	Average weight-adjustment factor (B17BWT4)
Number of full-time FTB students receiving Pell Grants, by control and level of institution		
Public 2-year	423,440	1.14
Public 4-year, non-doctorate-granting	141,910	1.15
Public 4-year, doctorate-granting	266,750	1.41
Private nonprofit less-than-4-year	12,230	4.04
Private nonprofit 4-year, non-doctorate-granting	88,510	1.07
Private for-profit less-than-2-year	87,010	2.48
Private for-profit 2-year	107,250	3.21
Private for-profit 4-year	84,730	2.84
Amount of Pell Grants awarded to full-time FTB students, by control and level of institution		
Public 2-year	\$1,806,699,350	1.14
Public 4-year, non-doctorate-granting	\$613,193,590	1.15
Public 4-year, doctorate-granting	\$1,149,190,190	1.41
Private nonprofit less-than-4-year	\$52,916,900	4.04
Private nonprofit 4-year, non-doctorate-granting	\$368,058,010	1.07
Private for-profit less-than-2-year	\$419,571,100	2.48
Private for-profit 2-year	\$480,582,220	3.21
Private for-profit 4-year	\$388,474,530	2.84
Number of full-time FTB students receiving federal student loans, by control and level of institution		
Public less-than-2-year	70	1.23
Public 2-year	193,340	1.15
Public 4-year, non-doctorate-granting	146,080	1.04
Public 4-year, doctorate-granting	460,190	1.44
Private nonprofit less-than-4-year	14,100	3.56
Private nonprofit 4-year, non-doctorate-granting	151,700	0.94
Private nonprofit 4-year, doctorate-granting	226,180	1.73
Private for-profit less-than-2-year	76,280	2.07
Private for-profit 2-year	91,420	2.42
Private for-profit 4-year	92,950	2.75
Total amount of federal student loans awarded to all FTB students, by control and level of institution		
Public 2-year	\$901,156,820	1.15
Public 4-year, non-doctorate-granting	\$794,073,680	1.04
Public 4-year, doctorate-granting	\$2,394,588,980	1.44
Private nonprofit less-than-4-year	\$92,909,670	3.56
Private nonprofit 4-year, non-doctorate-granting	\$915,610,190	0.94
Private nonprofit 4-year, doctorate-granting	\$1,336,071,650	1.73
Private for-profit less-than-2-year	\$510,045,000	2.07
Private for-profit 2-year	\$607,492,940	2.42
Private for-profit 4-year	\$720,651,260	2.75

See notes at end of table.

**Table 54. Panel weight-adjustment factors for student poststratification: 2017—Continued**

<b>Poststratification categories</b>	<b>Control total</b>	<b>Average weight-adjustment factor (B17BWT4)</b>
Estimated number of FTB Pell Grant recipients, by control and level of institution		
Public less-than-2-year	15,870	5.58
Public 2-year	761,370	1.47
Public 4-year, non-doctorate-granting	194,570	1.43
Public 4-year, doctorate-granting	314,620	1.57
Private nonprofit less-than-4-year	19,100	4.35
Private nonprofit 4-year, non-doctorate-granting	115,550	2.80
Private nonprofit 4-year, doctorate-granting	122,240	2.39
Private for-profit less-than-2-year	139,910	2.61
Private for-profit 2-year	154,190	2.94
Private for-profit 4-year	182,040	3.00
Estimated total amount of Pell Grants received by all FTB students, by control and level of institution		
Public less-than-2-year	\$61,015,790	5.58
Public 2-year	\$2,441,449,420	1.47
Public 4-year, non-doctorate-granting	\$743,260,850	1.43
Public 4-year, doctorate-granting	\$1,300,707,360	1.57
Private nonprofit less-than-4-year	\$75,359,170	4.35
Private nonprofit 4-year, non-doctorate-granting	\$459,111,750	2.80
Private nonprofit 4-year, doctorate-granting	\$509,921,540	2.39
Private for-profit less-than-2-year	\$616,590,180	2.61
Private for-profit 2-year	\$624,880,550	2.94
Private for-profit 4-year	\$644,016,590	3.00
Estimated total of Direct Loan amount received by all FTB students, by control and level of institution		
Public less-than-2-year	\$36,672,040	2.51
Public 2-year	\$1,321,084,130	1.35
Public 4-year, non-doctorate-granting	\$958,239,600	1.20
Public 4-year, doctorate-granting	\$2,671,994,840	1.55
Private nonprofit less-than-4-year	\$97,969,110	3.62
Private nonprofit 4-year, non-doctorate-granting	\$1,068,656,880	1.78
Private nonprofit 4-year, doctorate-granting	\$1,297,564,380	2.00
Private for-profit less-than-2-year	\$789,743,840	2.22
Private for-profit 2-year	\$808,872,200	2.23
Private for-profit 4-year	\$1,355,608,480	2.98

See notes at end of table.

**Table 54. Panel weight-adjustment factors for student poststratification: 2017—Continued**

Poststratification categories	Control total	Average weight-adjustment factor (B17BWT4)
Estimated number of FTB federal loan recipients, by control and level of institution		
Public less-than-2-year	6,350	2.51
Public 2-year	316,860	1.33
Public 4-year, non-doctorate-granting	186,880	1.19
Public 4-year, doctorate-granting	517,160	1.55
Private nonprofit less-than-4-year	16,860	3.62
Private nonprofit 4-year, non-doctorate-granting	189,910	1.78
Private nonprofit 4-year, doctorate-granting	232,230	2.00
Private for-profit less-than-2-year	124,700	2.21
Private for-profit 2-year	126,620	2.23
Private for-profit 4-year	198,780	2.98
Estimated total of federal loan amount received by all FTB students, by control and level of institution		
Public 2-year	\$1,321,301,470	1.33
Public 4-year, non-doctorate-granting	\$965,766,710	1.19
Public 4-year, doctorate-granting	\$2,704,811,960	1.55
Private nonprofit less-than-4-year	\$97,970,610	3.62
Private nonprofit 4-year, non-doctorate-granting	\$1,096,518,380	1.78
Private nonprofit 4-year, doctorate-granting	\$1,367,030,590	2.00
Private for-profit less-than-2-year	\$790,598,770	2.21
Private for-profit 2-year	\$809,717,640	2.23
Private for-profit 4-year	\$1,357,566,090	2.98

NOTE: FTB = first-time beginning. Control and level of institution were updated during the 2011–12 National Postsecondary Student Aid Study after data collection using newer Integrated Postsecondary Education Data System data. Control totals rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

### 6.1.5 Weighting Adjustment Summary and Evaluation

**Cross-sectional analysis weight.** Table 55 summarizes the student-weight distribution and the variance inflation caused by unequal weighting (i.e., UWEs by control and level of institution) for the BPS:12/17 cross-sectional analysis weight. The median student weight ranges from 25.23 for students in private for-profit 4-year institutions to 311.84 for students in public 4-year, doctorate-granting institutions. The mean student weight ranges from 48.02 for students in private for-profit 4-year institutions to 324.02 for students in public 4-year, doctorate-granting institutions.

The unequal weighting effect is 2.46 overall and ranges from 1.30 for students in public 4-year, doctorate-granting institutions to 3.20 for students in private for-profit 2-year institutions. This means that for students, regardless of institutional control and level, the inflation on the variance of estimates due to the unequal weighting is relatively small and, even for those with the higher UWEs, there is little concern

about the effects it could have on estimation. The sample design and sample sizes accounted for UWEs in this range to ensure precision of estimates.

**Table 55. Student cross-sectional weight distribution and unequal weighting effects: 2017**

Control and level of institution	Minimum	First quartile	Median	Third quartile	Maximum	Mean	Unequal weighting effect <sup>1</sup>
<b>Total</b>	<b>1.00</b>	<b>31.17</b>	<b>119.17</b>	<b>258.02</b>	<b>3810.27</b>	<b>184.16</b>	<b>2.46</b>
Public less-than-2-year	16.34	75.84	159.91	339.85	1150.71	237.34	1.92
Public 2-year	1.00	50.37	151.29	294.74	1905.36	237.99	2.42
Public 4-year, non-doctorate-granting	11.41	184.15	253.93	364.53	1551.83	306.72	1.56
Public 4-year, doctorate-granting	4.04	252.31	311.84	370.88	1996.31	324.02	1.30
Private nonprofit less-than-4-year	1.00	55.66	103.91	170.17	1465.59	136.94	2.24
Private nonprofit 4-year, non-doctorate-granting	1.00	90.35	135.69	192.45	3810.27	156.52	2.30
Private nonprofit 4-year, doctorate-granting	2.32	35.14	196.68	250.30	922.71	178.82	1.67
Private for-profit less-than-2-year	2.83	37.41	96.31	226.41	3326.53	192.57	2.98
Private for-profit 2-year	1.00	21.50	44.40	112.64	1835.89	90.67	3.20
Private for-profit 4-year	1.00	11.55	25.23	61.36	953.45	48.02	2.49

<sup>1</sup> Unequal weighting effect calculated as sample size multiplied by the sum of the squared weights, divided by the sum of the weights squared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

To assess the overall predictive ability of the cross-sectional student-nonresponse models, staff used a Receiver Operating Characteristic (ROC) curve (Hanley and McNeil 1982). The ROC curve provides a measure of how well the model correctly classified individuals of known response type—in other words, how well the model predicts a student’s response propensity.<sup>32</sup> NPSAS staff developed the ROC curve in the following manner. The predicted probabilities of response ( $\hat{c}$ ) for the ROC curve associated with the nonresponse are the product of the predicted response probabilities obtained at each of the three nonresponse-adjustment steps. Note that for the second and third nonresponse adjustments (refusal and other nonresponse adjustments) predicted probabilities were calculated for all nonrespondents, but the models were developed excluding those students who had dropped out in the prior nonresponse adjustment. For any specified probability of response,  $c$ , two proportions were calculated:

- the proportion of respondents with a predicted probability of response greater than  $c$ ; and
- the proportion of nonrespondents with a predicted probability of response greater than  $c$ .

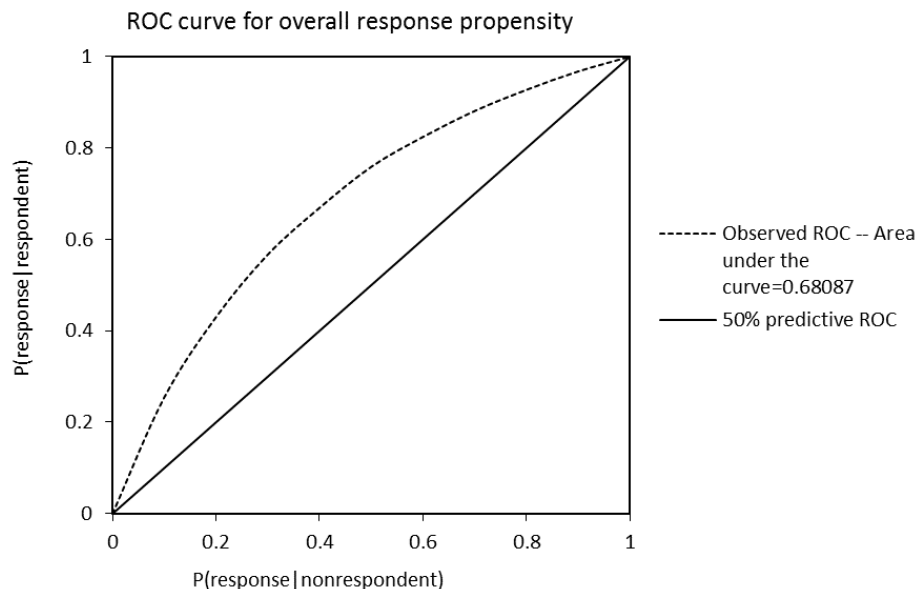
<sup>32</sup> For a more detailed example of the ROC curve used in nonresponse modeling, see Iannacchione (2003).



The plot of the first probability against the second, for  $c$  from zero to 1, resulted in the ROC curve shown in figure 3. The area under the curve equals the probability that the fitted model correctly classifies two randomly chosen individuals—one of whom is a true respondent, and one of whom is a true nonrespondent—where the individual with the higher predicted probability of response is classified as the respondent. An area of 0.5 under a ROC curve indicates that a correct classification is made 50 percent of the time, with the model providing no predictive benefit. An area of 1.0 indicates that the true respondent always has the higher predicted probability of response, as compared to the true nonrespondent, so the model always classifies the two individuals correctly.

Figure 3 shows that the area under the ROC curve is approximately 0.68, so the predicted probabilities give the correct classification 68 percent of the time. Researchers can also interpret predictive probabilities from ROC curves in terms of the nonparametric Wilcoxon test statistic, which is used to determine if the level of a quantitative variable, such as predicted probability of response, is different between two samples (respondents and nonrespondents in this case). The ROC area equals the value of the Wilcoxon test statistic. Viewed in this way, the Wilcoxon test rejects the null hypothesis of no predictive ability by showing that the predicted probability of response for the respondents is larger than that for the nonrespondents. Analysts can interpret this result to mean that the variables used in the model are highly informative predictors of a student's overall response propensity.

**Figure 3. Receiver Operating Characteristic (ROC) curve for overall institution response propensity: 2017**



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Panel analysis weight.** Table 56 summarizes the student-weight distribution and the variance inflation caused by unequal weighting for the BPS:12/17 panel analysis weight. The median student weight ranges from 28.03 for students in private for-profit 4-year institutions to 330.34 for students in public 4-year, doctorate-granting institutions. The mean student weight ranges from 55.47 for students in private for-profit 4-year institutions to 357.63 for students in public 4-year, doctorate-granting institutions.

The UWE is 2.77 overall and ranges from 1.74 for students in private nonprofit 4-year, doctorate-granting institutions to 3.24 for students in private for-profit less-than-2-year institutions. Again, for students in most institutions, regardless of the institution's control and level, the inflation on the variance of estimates due to the unequal weighting is relatively small and, even for those with the higher UWEs, there is little concern about the effects it could have on estimation.

**Table 56. Student panel weight distribution and unequal weighting effects: 2017**

Control and level of institution	Minimum	First quartile	Median	Third quartile	Maximum	Mean	Unequal weighting effect <sup>1</sup>
<b>Total</b>	<b>0.06</b>	<b>35.26</b>	<b>133.95</b>	<b>283.33</b>	<b>7161.80</b>	<b>209.19</b>	<b>2.77</b>
Public less-than-2-year	19.16	79.42	183.48	341.93	1210.43	275.46	1.89
Public 2-year	0.08	56.39	168.33	337.48	2118.20	273.04	2.49
Public 4-year, non-doctorate-granting	10.50	196.41	272.80	391.35	2682.26	346.63	1.82
Public 4-year, doctorate-granting	4.59	259.44	330.34	390.66	7161.80	357.63	1.81
Private nonprofit less-than-4-year	0.22	60.37	115.33	196.10	1452.11	156.92	2.22
Private nonprofit 4-year, non-doctorate-granting	0.06	100.42	144.50	209.13	5851.14	174.11	2.98
Private nonprofit 4-year, doctorate-granting	2.04	40.42	206.20	267.90	1689.99	192.87	1.74
Private for-profit less-than-2-year	4.41	41.29	107.90	280.56	4445.30	232.63	3.24
Private for-profit 2-year	0.92	26.53	51.21	131.47	1645.98	105.21	3.00
Private for-profit 4-year	0.29	12.83	28.03	74.65	847.83	55.47	2.46

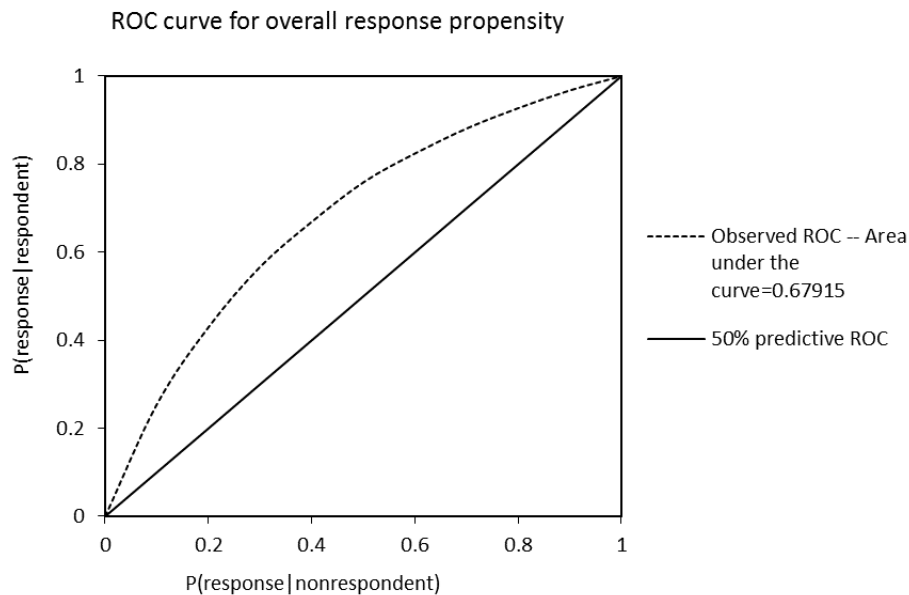
<sup>1</sup> Unequal weighting effect calculated as sample size multiplied by the sum of the squared weights, divided by the sum of the weights squared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

To assess the overall predictive ability of the student panel nonresponse models, an ROC curve was developed as described above. Again, the predicted probabilities of response ( $\hat{c}$ ) for the ROC curve associated with the panel nonresponse are the product of the predicted response probabilities obtained at each of the three nonresponse-adjustment steps. Figure 4 shows that the area under the ROC curve is approximately 0.68, so the predicted probabilities give the correct classification 68 percent of the time. Predictive probabilities from ROC curves can also be interpreted in terms of the nonparametric Wilcoxon test statistic, where the ROC area is equivalent to the value of the Wilcoxon test statistic. Viewed in this way, the

Wilcoxon test rejects the null hypothesis of no predictive ability by showing that the predicted probability of response for the respondents is larger than that for the nonrespondents. This result can be interpreted to mean that the variables used in the model are definitive predictors of a sample student's overall response propensity.

**Figure 4. Receiver Operating Characteristic (ROC) curve for overall student response propensity: 2017**



SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## 6.2 Weighted and Unweighted Response Rates

The overall BPS:12/17 response rate is an estimate of the proportion of the study population directly represented by the respondents. Because the BPS:12/17 study includes a subsample of NPSAS:12 nonrespondents, the overall BPS:12/17 response rate is the product of the NPSAS:12 institution-level response rate times the BPS:12/17 student-level survey response rate. Therefore, the overall BPS:12/17 response rates can only be estimated directly for defined institutional characteristics.

Table 57 gives the unweighted and weighted NPSAS:12 base-year institution and BPS:12/14 student survey response rate components by control and level of institution.

**Table 57. Unweighted and weighted NPSAS:12 institution response rates and BPS:12/17 student response rates, by control and level of institution: 2017**

Control and level of institution <sup>1</sup>	BPS:12/17 student sample								
	Institution response rate		Eligible sample size	Cross-sectional weight			Panel weight		
				Respondents	Student response rate		Panel respondents	Student response rate	
	Unweighted	Weighted			Unweighted	Weighted <sup>2</sup>		Unweighted	Weighted <sup>2</sup>
<b>Total</b>	<b>87.8</b>	<b>87.0</b>	<b>35,170</b>	<b>22,530</b>	<b>64.1</b>	<b>66.6</b>	<b>19,840</b>	<b>56.4</b>	<b>57.9</b>
Public									
Less-than-2-year	77.3	78.8	220	120	55.2	54.7	110	47.1	42.7
2-year	85.3	84.1	10,830	6,700	61.9	61.2	5,840	53.9	51.9
4-year, non-doctorate-granting	93.8	92.3	1,880	1,360	72.3	68.2	1,190	63.6	58.5
4-year, doctorate-granting	91.7	90.5	3,450	2,660	77.1	73.6	2,420	70.1	65.7
Private nonprofit									
Less-than-4-year	75.0	77.7	350	210	59.7	58.7	180	52.2	49.6
4-year, non-doctorate-granting	88.8	87.6	2,370	1,750	73.9	73.3	1,590	66.8	64.7
4-year, doctorate-granting	89.1	86.4	2,680	2,120	79.1	75.7	1,960	73.2	69.7
Private for-profit									
Less-than-2-year	81.5	80.3	1,450	770	53.0	50.7	640	43.8	41.9
2-year	80.0	77.5	3,220	1,820	56.5	55.3	1,570	48.8	46.2
4-year	89.5	89.5	8,720	5,030	57.7	56.8	4,350	49.9	47.9

<sup>1</sup> Control and level of institution are based on data from the 2011–12 National Postsecondary Student Aid Study sampling frame.

<sup>2</sup> Weighted rates are using the BPS:12/17 sampling weight adjusted for unknown eligibility.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

The institution-level response rates shown in table 57 are the percentage of institutions that provided sufficient data to select the NPSAS:12 student-level sample; these rates are presented and discussed in the NPSAS:12 data file documentation (Wine, Bryan, and Siegel 2014, table 3, p. 11). Only the weighted response rates can be interpreted as estimates of the proportion of the BPS:12/17 population that is directly represented by the respondents. Using the cross-sectional weight, table 57 shows that, across all sectors, 67 percent of the eligible BPS:12/17 sample members were survey respondents. The unweighted rate varied from 53 percent to 79 percent by control and level of institution.

## 6.3 Nonresponse Bias Analysis

The accuracy of survey statistics is affected by both random and nonrandom errors. Random errors reduce the precision of survey estimates, and nonrandom errors may result in bias (i.e., estimates that do not converge to the true population parameter as the sample size increases without limit) or loss of precision.

The sources of error in a survey are often dichotomized as sampling and nonsampling errors. Sampling error refers to the error that occurs because the survey is based on a sample of population members rather than the entire population. All other types of errors are nonsampling errors, including survey nonresponse (because of inability to contact sample members, their refusal to participate in the study, etc.) and measurement errors, such as the errors that occur because the intent of survey questions was not clear to the respondent, because the respondent had insufficient knowledge to answer correctly, or because the data were not captured correctly (e.g., because of recording, editing, or data-entry errors).

Sampling errors are primarily random errors for well-designed surveys such as BPS:12/17. However, nonrandom errors can occur if the sampling frame does not provide complete coverage of the target population. The BPS:12/17 survey instrument and data-collection procedures were subjected to thorough development and testing to minimize nonsampling errors because these errors are difficult to quantify and are likely to be nonrandom errors.

In this section, nonsampling error is observed by comparing BPS:12/17 nonrespondents and respondents using characteristics known for both groups. Section 6.4 discusses measurement of sampling error by variance estimation.

NCES Statistical Standard 4-4-1 states that “Any survey stage of data collection with a unit or item response rate less than 85 percent must be evaluated for the potential magnitude of nonresponse bias before the data or any analysis using the data may be

released. Estimates of survey characteristics for nonrespondents and respondents are required to assess the potential nonresponse bias” (Seastrom 2014).

The bias in an estimated mean based on respondents  $\bar{y}_R$  is the difference between the expected value of this mean and the target parameter,  $\pi$ , the population mean. Analysts can estimate the population mean for characteristics that are observed for both respondents and nonrespondents with the full-sample mean, which can be expressed in terms of the respondent mean and nonrespondent mean,  $\bar{y}_{NR}$ , as follows:  $\hat{\pi} = (1 - \eta) \bar{y}_R + \eta \bar{y}_{NR}$ , where  $\eta$  is the weighted unit (or item) nonresponse rate. For variables that are from the frame rather than from the sample, analysts can estimate  $\pi$  without sampling error. They can then estimate bias as the difference between the respondent mean and the full-sample mean:  $\hat{B}(\bar{y}_R) = \bar{y}_R - \hat{\pi}$ . Equivalently, bias can be estimated as the difference between the mean for respondents and the mean for nonrespondents, multiplied by the weighted nonresponse rate:  $\hat{B}(\bar{y}_R) = \eta(\bar{y}_R - \bar{y}_{NR})$ .

Relative bias provides a measure of the magnitude of the bias relative to the sample mean and is estimated as  $\widehat{RB}(\bar{y}_R) = \hat{B}(\bar{y}_R)/\hat{\pi}$ . Effect size, as defined by Cohen (1988), is another measure of potential nonresponse bias. For continuous variables, it is computed as the estimated bias divided by the estimated standard deviation:  $\hat{B}(\bar{y}_R)/\hat{\sigma}_y$ . For categorical variables, it is computed as  $\sqrt{\sum_i (p_{0i} - p_{1i})^2 / p_{0i}}$ , where  $p_{0i}$  is the proportion of the full sample in category  $i$ , and  $p_{1i}$  is the proportion of respondents in category  $i$ . Effect sizes can be used in combination with bias and relative bias estimates and significance tests to evaluate the potential for nonresponse bias. Cohen classified an effect size as “small” when it is about 0.10, as “medium” when it is about 0.30, and as “large” when it is about 0.50.

BPS staff conducted nonresponse bias analysis at the student level and item level for the overall sample and for each control and level of institution. (Control and level of institution were used for institution stratification, as described in chapter 2.) These analyses are described in the sections below. The student-level results are summarized in tables 59 through 61, and detailed tables are provided in appendix K. The item-level response rates are shown in appendix H, table H-1, and bias results are summarized in appendix K, table K-45.

### 6.3.1 Bias Analysis: Institution Level

An institution respondent is defined as any sampled institution that provided a student enrollment list from which a student sample was selected.

As shown in table 4, the NPSAS:12 institution weighted response rate was 87 percent overall and ranged from 78 percent for 2-year private for-profit institutions to 92 percent for public 4-year, non-doctorate-granting institutions. NPSAS project staff conducted a nonresponse bias analysis during NPSAS:12 for each of these categories. Wine, Bryan, and Siegel (2014) provide more information regarding the institution bias analysis.

### 6.3.2 *Bias Analysis: Student Level*

Student-level bias analysis was conducted using two different definitions of respondents corresponding to the two analytic weights created for BPS:12/17, described in section 6.1. Results for the cross-sectional weight (WTA000) and the panel weight (WTB000) are summarized in section 6.1.4.

For each analysis, nonresponse bias was estimated for characteristics known for most respondents and nonrespondents. Bias estimates for characteristic categories that did not meet reporting requirements (fewer than 30 nonrespondents) were excluded from calculations of summary statistics. The following characteristics were used for the nonresponse bias analysis:<sup>33</sup>

- control and level of institution;
- Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region;
- institution total enrollment;
- age as of December 31, 2011;
- Pell Grant status;
- total Pell Grant amount received;
- Stafford Loan status;
- total Stafford Loan amount received;
- total PLUS amount received;
- federal aid status;

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<sup>33</sup> Pell, Stafford, and federal financial aid variables were updated using CPS through June 2017. Unless indicated, other variables are from NPSAS:12. For continuous variables, categories were formed based on quartiles.

- institution aid status;
- state aid status;
- CPS record available;
- major;
- percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid;
- graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion;
- six-year federal loan default status;
- public institution tuition and fees as percentage of core revenues (Governmental Accounting Standards Board [GASB] reporting);
- public institution instructional expenses per full-time equivalent (FTE) enrollment (GASB reporting);
- private institution tuition and fees as percentage of core revenues (Financial Accounting Standards Board [FASB] reporting); and
- private institution instructional expenses per FTE enrollment (FASB reporting).

First, for the variables listed above, the nonresponse bias was estimated for each category as the weighted difference between the means (proportions) of the respondents and of the full sample, and this estimated nonresponse bias was tested using a *t* test to determine if it differed significantly from zero at the 5-percent level. Relative bias was computed as the ratio of the estimated bias to the weighted full-sample mean. Second, nonresponse adjustments were computed to reduce or eliminate nonresponse bias for key variables. Third, using the weights adjusted for nonresponse, the reestimated nonresponse bias was tested for significance. These tests were complemented by effect size calculations. Finally, to better understand the effect of poststratification on efforts to reduce nonresponse bias, two additional sets of estimates were created. The first set of estimates equals the differences in respondent means before and after poststratification, which corresponds to the effect of poststratification on nonresponse adjustments. The second set of estimates, equal to the difference between base-weighted full-sample means and the



poststratified respondent means, corresponds to the cumulative effects of all weighting and adjustment steps.

**Cross-sectional weight (WTA000) nonresponse bias analysis.** As shown in table 57, the BPS:12/17 weighted survey response rate for students using the cross-sectional weight was 67 percent overall and ranged from 51 percent for private for-profit less-than-2-year institutions to 76 percent for private nonprofit 4-year, doctorate-granting institutions. Therefore, a student-level nonresponse bias analysis was conducted overall and within each institution control and level for BPS:12/17.

As shown in table 58, the student-nonresponse weighting adjustment eliminated some, but not all, significant bias on the observable characteristics for sectors that met reporting requirements (i.e., had at least 30 nonrespondents). Before weighting, the median effect size for all institutions was 0.08, ranging from 0.03 for students in public 2-year institutions to 0.20 for students in private nonprofit less-than-4-year institutions. The percentage of characteristics that were significantly biased for study members was 70 percent overall, ranging from 12 percent for students in private nonprofit less-than-4-year institutions to 40 percent for students in private nonprofit 4-year, non-doctorate-granting institutions. After the nonresponse weight adjustment, the median effect size for all study members was zero, ranging from 0.02 for students in public 2-year institutions to 0.12 for students in private nonprofit less-than-4-year institutions. The percentage of characteristics that remained significantly biased was 9 percent overall and ranged from 1 percent for students in private for-profit 4-year institutions to 22 percent for students in private nonprofit 4-year, doctorate-granting institutions.

**Table 58. Summary of student nonresponse bias analysis using weight WTA000 to define response status, by control and level of institution: 2017**

Nonresponse bias statistics <sup>1</sup>	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
Before nonresponse weight adjustments <sup>2</sup>											
Mean percent relative bias across characteristics	8.38	5.42	6.62	5.89	4.36	11.69	8.75	6.20	10.08	7.67	8.34
Median percent relative bias across characteristics	7.10	3.70	3.69	4.57	2.77	9.07	5.67	4.47	6.60	5.11	6.32
Percentage of characteristics with significant bias	70.41	20.00	38.57	36.21	33.33	12.20	40.00	28.33	21.15	18.75	18.67
Median effect size	0.08	0.10	0.03	0.06	0.04	0.20	0.08	0.05	0.11	0.06	0.07
After nonresponse weight adjustments <sup>3</sup>											
Mean percent relative bias across characteristics	1.34	4.47	2.81	3.30	2.98	6.70	6.55	3.98	8.73	6.69	5.18
Median percent relative bias across characteristics	0.01	1.51	1.66	2.58	1.74	4.36	3.20	2.44	5.35	5.51	3.47
Percentage of characteristics with significant bias	9.18	13.33	8.57	1.72	13.64	2.44	21.67	5.00	17.31	15.63	1.33
Median effect size	#	0.09	0.02	0.04	0.03	0.12	0.05	0.03	0.11	0.06	0.05

# Rounds to zero.

<sup>1</sup> Relative bias and effect size are calculated using the weighted differences between respondent and full-sample means. Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean. Effect size is calculated as the square root of the sum over categories of the squared differences over full-sample means.<sup>2</sup> Respondent and full-sample means are weighted using the student base weight.<sup>3</sup> Full-sample means are weighted using the student base weight, and the respondent means are weighted using the base weight adjusted for nonresponse.

NOTE: Variables and characteristics that did not meet reporting standards were excluded from calculation of summary statistics. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

As shown in table 59, the mean absolute difference between means for respondents before and after poststratification adjustment was 0.96 for students overall and ranged from 0.72 for students in public 4-year, doctorate-granting institutions to 5.76 for students in public less-than-2-year institutions. The median difference was 0.71 for students overall and ranged from 0.35 for students in public 4-year, doctorate-granting institutions to 4.90 for students in private nonprofit less-than-4-year institutions. For the absolute differences between means for the full sample and respondents after poststratification adjustment, the mean difference was 0.90 for students overall and ranged from 0.67 for students in public 4-year, doctorate-granting institutions to 5.70 for students in private nonprofit less-than-4-year institutions. The median difference was 0.65 for students overall and ranged from 0.42 for students in public 4-year, doctorate-granting institutions to 5.03 for students in private nonprofit less-than-4-year institutions.

Detailed summaries are provided in appendix K, tables K-1–K-11 and K-23–K-33.

**Table 59. Summary of student-level differences between means using weight WTA000 to define response status, by control and level of institution: 2017**

Summary statistics	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less-than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less-than- 2-year	Private for-profit 2-year	Private for-profit 4-year
Difference between means for respondents before and after poststratification adjustment <sup>1</sup>											
Mean absolute difference across characteristics	0.96	5.76	1.20	1.55	0.72	4.78	1.04	0.98	3.54	2.41	1.75
Median absolute difference across characteristics	0.71	4.62	0.49	1.24	0.35	4.90	0.60	0.73	2.45	1.12	1.24
Difference between means for full sample and respondents after poststratification adjustment <sup>2</sup>											
Mean absolute difference across characteristics	0.90	5.64	1.28	1.44	0.67	5.70	1.11	1.20	2.92	2.38	1.52
Median absolute difference across characteristics	0.65	2.88	0.65	1.22	0.42	5.03	0.95	0.71	2.15	1.40	1.19

<sup>1</sup> Respondent means before poststratification adjustment are weighted using the student base weight adjusted for nonresponse. Respondent means after poststratification adjustment are weighted using the student base weight adjusted for nonresponse and poststratification.

<sup>2</sup> Full-sample means are weighted using the student base weight, and respondent means are weighted using the student base weight adjusted for nonresponse and poststratification.

NOTE: Variables and characteristics that did not meet reporting standards were excluded from calculation of summary statistics. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Panel weight (WTB000) nonresponse bias analysis.** As shown in table 57, the BPS:12/17 weighted survey response rate for students using the panel weight was 58 percent overall and ranged from 42 percent for private for-profit less-than-2-year institutions to 70 percent for private nonprofit 4-year, doctorate-granting institutions. Therefore, a student-level nonresponse bias analysis was conducted overall and within each institution control and level for BPS:12/17.

As shown in table 60, the student-nonresponse weighting adjustment eliminated some, but not all, significant bias on the observable characteristics for sectors that met reporting requirements (i.e., had at least 30 nonrespondents). Before weighting, the median effect size for all institutions was 0.09, ranging from 0.05 for students in public 2-year institutions; public 4-year, doctorate-granting institutions; and private nonprofit 4-year, doctorate-granting institutions to 0.23 for students in private nonprofit less-than-4-year institutions. The percentage of characteristics that were significantly biased for study members was 73 percent overall, ranging from zero percent for students in public less-than-2-year institutions to 37 percent for students in public 4-year, non-doctorate-granting institutions. After the nonresponse weight adjustment, the median effect size for all study members was zero, ranging from 0.03 for students in public 2-year institutions; public 4-year, doctorate-granting institutions; and private nonprofit 4-year, doctorate-granting institutions to 0.16 for students in private for-profit less-than-4-year institutions. The percentage of characteristics that remained significantly biased was 11 percent overall and ranged from zero percent for students in public less-than-2-year institutions and private nonprofit less-than-4-year institutions to 21 percent for students in private for-profit 2-year institutions.

**Table 60. Summary of student nonresponse bias analysis using weight WTB000 to define response status, by control and level of institution: 2017**

		Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, non- doctorate- granting	Private nonprofit less-than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, non- doctorate- granting	Private for-profit less-than- 2-year	Private for-profit 2-year	Private for-profit 4-year
Nonresponse bias statistics <sup>1</sup>	Overall										
Before nonresponse weight adjustments <sup>2</sup>											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	#	30.99	36.67	31.82	15.91	34.33	25.40	19.23	18.18	17.33
Median effect size	0.09	0.17	0.05	0.08	0.05	0.23	0.10	0.05	0.13	0.06	0.07
After nonresponse weight adjustments <sup>3</sup>											
Mean percent relative bias across characteristics	1.75	8.39	3.22	4.01	3.34	10.35	8.12	4.83	11.58	9.62	7.39
Median percent relative bias across characteristics	0.01	8.05	2.65	2.78	2.28	9.04	5.73	3.86	9.35	7.96	5.39
Percentage of characteristics with significant bias	11.22	#	8.45	5.00	10.61	#	20.90	4.76	19.23	21.21	1.33
Median effect size	#	0.15	0.03	0.04	0.03	0.16	0.06	0.03	0.12	0.08	0.07

# Rounds to zero.

<sup>1</sup> Relative bias and effect size are calculated using the weighted differences between respondent and full-sample means. Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean. Effect size is calculated as the square root of the sum over categories of the squared differences over full-sample means.<sup>2</sup> Respondent and full-sample means are weighted using the student base weight.<sup>3</sup> Full-sample means are weighted using the student base weight, and the respondent means are weighted using the base weight adjusted for nonresponse.

NOTE: Variables and characteristics that did not meet reporting standards were excluded from calculation of summary statistics. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

As shown in table 61, the mean absolute difference between means for respondents before and after poststratification adjustment was 1.10 for students overall and ranged from 0.91 for students in public 4-year, doctorate-granting institutions to 8.47 for students in public less-than-2-year institutions. The median difference was 0.80 for students overall and ranged from 0.47 for students in public 2-year institutions to 4.12 for students in private nonprofit less-than-4-year institutions. For the absolute differences between means for the full sample and respondents after poststratification adjustment, the mean difference was 1.04 for students overall and ranged from 0.86 for students in public 4-year, doctorate-granting institutions to 6.87 for students in public less-than-2-year institutions. The median was 0.72 for students overall and ranged from 0.56 for students in private nonprofit 4-year, doctorate-granting institutions to 5.26 for students in private nonprofit less-than-4-year institutions.

Detailed summaries are provided in appendix K, tables K-12–K-22 and K-34–K-44.

**Table 61. Summary of student-level differences between means using weight WTB000 to define response status, by control and level of institution: 2017**

Summary statistics	Overall	Public	Public	Public	Public	Private	Private	Private	Private	Private	Private
		less- than- 2-year	Public 2-year	4-year, non- doctorate- granting	4-year, non- doctorate- granting	less-than- 4-year	nonprofit 4-year, non- doctorate- granting	nonprofit 4-year, non- doctorate- granting	for-profit less-than- 2-year	for-profit 2-year	for-profit 4-year
Difference between means for respondents before and after poststratification adjustment <sup>1</sup>											
Mean absolute difference across characteristics	1.10	8.47	1.31	1.72	0.91	4.45	2.20	0.95	3.14	2.69	2.03
Median absolute difference across characteristics	0.80	3.61	0.47	1.37	0.66	4.12	1.44	0.48	1.67	1.48	1.44
Difference between means for full sample and respondents after poststratification adjustment <sup>2</sup>											
Mean absolute difference across characteristics	1.04	6.87	1.42	1.36	0.86	5.49	1.86	1.03	2.69	2.59	1.63
Median absolute difference across characteristics	0.72	3.78	0.68	1.10	0.63	5.26	1.50	0.56	2.15	1.71	1.34

<sup>1</sup> Respondent means before poststratification adjustment are weighted using the student base weight adjusted for nonresponse. Respondent means after poststratification adjustment are weighted using the student base weight adjusted for nonresponse and poststratification.

<sup>2</sup> Full-sample means are weighted using the student base weight, and respondent means are weighted using the student base weight adjusted for nonresponse and poststratification.

NOTE: Variables and characteristics that did not meet reporting standards were excluded from calculation of summary statistics. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



### 6.3.3 Bias Analysis: Item Level

NCES Statistical Standard 4-4-3A states: “For an item with a low total response rate, respondents and nonrespondents can be compared on sampling frame and/or questionnaire variables for which data on respondents and nonrespondents are available. Base weights must be used in such analysis. Comparison items should have very high response rates. A full range of available items should be used for these comparisons. This approach may be limited to the extent that items available for respondents and nonrespondents may not be related to the low response rate item being analyzed” (Seastrom 2014).

Moreover, NCES Statistical Standard 1-3-5 states: “Item response rates (RRI) are calculated as the ratio of the number of respondents for whom an in-scope response was obtained ( $I^x$  for item  $x$ ) to the number of respondents who are asked to answer that item. The number asked to answer an item is the number of unit-level respondents ( $I$ ) minus the number of respondents with a valid skip for item  $x$  ( $V^x$ ). When an abbreviated questionnaire is used to convert refusals, the eliminated questions are treated as item nonresponse.... In longitudinal analyses, the numerator of an item response rate includes cases that have data available for all waves included in the analysis and the denominator includes the number of respondents eligible to respond in all waves included in the analysis. In the case of constructed variables, the numerator includes cases that have available data for the full set of items required to construct the variable, and the denominator includes all respondents eligible to respond to all items in the constructed variable” (Seastrom 2014). The RRI is calculated as

$$RRF^x = I^x / (I - V^x).$$

A nonresponse bias analysis was conducted for all imputed items<sup>34</sup> and select analysis variables with a weighted response rate less than 85 percent for students overall or for students in a particular sector. The BPS:12/17 cross-sectional weight (WTA000) was used for computing item response rates, shown in appendix H, table H-1. The procedures and variables used for the item-level nonresponse bias analysis are the same as those used for the student-level nonresponse bias analysis presented above. A student was defined to be an item respondent for a variable if that student had data for that variable from any source, including logical imputation.

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<sup>34</sup> Variables with only logical imputations (defined in section 5.4) are not included. Some of the imputed items were used to derive analysis variables but are not analysis variables themselves. For a full list of analysis variables, see appendix I. All nonimputed variables either have no missing data or are derived from variables that are imputed or have no missing data.

As shown in appendix H, table H-1, the weighted item response rates for imputed and select analysis variables, for all students, ranged from 0.1 percent for *Jobs while enrolled: hours worked for job 8 at year 1* (HRSWKJ8Y1) to 100 percent. A number of variables from BPS:12/14 that were not part of the BPS:12/17 data collection have been included in the BPS:12/17 restricted-use file. Some of these variables were collected in BPS:12/14 but not released, while others were rederived for the BPS:12/17 restricted-use file using updated enrollment and attainment information. Approximately 2,700 students responded to BPS:12/17 but not BPS:12/14 and hence are unit respondents for BPS:12/17 but item nonrespondents for all BPS:12/14 variables in the BPS:12/17 restricted-use file, lowering item response rates for these variables. Further, the number of students known to be eligible for some items tends to be small compared to the number of students whose eligibility is unknown, and unknown eligibility is considered to be nonresponse. For example, few students have eight jobs and thus few students are eligible to answer HRSWKJ8Y1; however, for students who do not provide employment information, including the aforementioned 2,700 BPS:12/14 nonrespondents, eligibility for HRSWKJ8Y1 is unknown. These factors are responsible for some items in appendix H, table H-1 having very low response rates.

Of 298 imputed items and select derived analysis variables, 276 had a sufficient number of eligible students (at least 30) to permit estimation of response rates for students overall. Of these, 134 had an overall weighted response rate below 85 percent. An additional 79 items had an overall response rate greater than 85 percent but had a weighted response rate below 85 percent for at least one institution type, yielding a total of 213 items for which nonresponse bias analyses were conducted. The results of the nonresponse bias analyses varied across items. Appendix K, table K-45 provides a summary of the item nonresponse bias analysis for each item analyzed.

Imputation procedures (described in section 5.4) were conducted with a goal of reducing or eliminating item nonresponse bias. Although bias after imputation is not directly measurable, it is possible to compare estimates before and after imputation to determine whether the imputation changed the estimates. Changes are generally indicative of a reduction in bias, whereas no change suggests bias was not reduced or was not present.

For continuous variables, the difference between the preimputation mean and postimputation mean was computed; for categorical variables, the difference between the weighted preimputation and postimputation mean (proportion) was computed for each category. Student cross-sectional weights were used for these comparisons. All differences were tested for statistical significance using *t* tests. For

categorical variables, the differences reported in appendix K, table K-45 are size-weighted means of category-level differences<sup>35</sup> and are labeled as significant if any category-level difference is significant. These tests were complemented by effect size calculations. Effect sizes for categorical variables are calculated as  $\sqrt{\sum_i (p_{0i} - p_{1i})^2 / p_{0i}}$ , where  $p_{0i}$  is the proportion of respondents in category  $i$  after imputation, and  $p_{1i}$  is the proportion of respondents in category  $i$  before imputation. For continuous variables, effect size is the difference in preimputation and postimputation means, divided by the postimputation standard deviation.

For students overall, statistically significant differences between the pre- and postimputation means were found for 39 percent of the variables (excluding those that did not meet reporting standards). Effect sizes for these differences range from 0.01 to 0.13. About 34 percent of the differences reported by sector were found to be statistically significant, with effect sizes for these differences ranging from 0.02 to 1.90.

## 6.4 Variance Estimation

Every estimate calculated from a probability-based sample survey, such as a mean, a percentage, or a regression coefficient, has an associated variance. Hypothesis testing, calculation of confidence intervals, and modeling that use complex survey data all require the calculation of variances using appropriate methods that account for the sampling design. Complex sample designs, like those used for NPSAS:12 and BPS:12/17, result in data that violate the assumptions that are normally required to assess the statistical significance of results. The variances of the estimates from complex surveys may vary from those that would be expected if the sample were a simple random sample and the observations were independent and identically distributed random variables. Two procedures for estimating variances of statistics from complex surveys are the Taylor-series linearization procedure and the bootstrap replication procedure, which are both available for the NPSAS data files. The analysis strata and PSUs created for the Taylor-series procedure are discussed in section 6.4.1, and section 6.4.2 contains a discussion of the replicate weights created for the bootstrap procedure. Use of software packages for proper variance estimation is discussed in section 6.4.3.

The survey design effect for a statistic is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that sample had been selected). It is often

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<sup>35</sup> The size-weighted means are weighted using the unweighted count of eligible students in each category for the variable.

used to measure the effects that sample design features have on the precision of survey estimates. For example, stratification tends to decrease the variance, but multistage sampling and unequal sampling rates usually increase the variance. In addition, weight adjustments for nonresponse (performed to reduce nonresponse bias) and poststratification increase the variance by increasing the weight variation. Design effects are discussed in section 6.4.4.

### 6.4.1 Taylor Series

The Taylor-series variance estimation procedure is a well-known technique used to estimate the variances of nonlinear statistics. The procedure takes the first-order Taylor-series approximation of the nonlinear statistic and substitutes the linear representation into the appropriate variance formula based on the sample design (Woodruff 1971).

For stratified multistage surveys, the Taylor-series procedure requires variance estimation strata and variance estimation PSUs, also called replicates, defined from the sampling strata and PSUs used in the first stage of sampling. Because BPS:12/17 is a follow-up study of NPSAS:12, the variance estimation strata and PSUs for BPS:12/17 were derived from those developed for NPSAS:12. The steps used in the construction of the NPSAS:12 strata and PSU variables are described in chapter 6 of the NPSAS:12 data file documentation (Wine, Bryan, and Siegel 2014). The variance estimation formulas require at least two PSUs in each stratum. The NPSAS:12 variance estimation strata and PSUs were examined for the BPS:12/17 sample, and strata with only one PSU were combined with other strata to obtain at least two PSUs. The following three rules were used: variance estimation strata were combined with other variance estimation strata within the original NPSAS:12 sampling strata, certainty schools were combined with other certainty schools, and noncertainty schools were combined with other noncertainty schools. In addition, the original sort order that was used for constructing the NPSAS:12 variance estimation strata and PSUs was used. A variance estimation stratum was combined with the next stratum in the sorted list. If the stratum was the first in the sorted list, then it was combined with the next stratum in the list. The single PSU then became an additional PSU in the new variance estimation strata.

The NPSAS:12 restricted-use data file provided two sets of variables for Taylor-series variance estimation, and BPS:12/17 also provides two sets of variables. One set of variables is used in software that assumes that the first-stage sampling units (institutions) were sampled with replacement (or with small selection probabilities) and does not account for the finite population correction (FPC) at the institution level of sampling. The other set of variables is used in software that assumes

sampling of institutions without replacement in the calculation of variances and does account for the FPC. Both sets of variables are provided because not all survey data analysis packages have the option to incorporate the FPC in the variance calculations. When the first-stage units are sampled with very small probabilities, the estimated variances using the with-replacement variance formulas and the without-replacement variance formulas are the same.

The set of variables used when assuming the first-stage units were sampled with replacement includes the analysis stratum (ANALSTR) and analysis PSU (ANALPSU). The set of variables used when assuming the first-stage units were sampled without replacement, and that account for the FPC, includes the analysis stratum (FANALSTR), analysis PSU (FANALPSU), analysis secondary sampling unit (SSU) (FANALSSU), and the count of PSUs in an analysis stratum (PSUCOUNT). Ultimately, FANALSTR equals the institutional variance estimation stratum ANALSTR, FANALPSU equals ANALPSU. FANALSSU was created by randomly dividing the NPSAS:12 analysis PSUs into two parts. These variables are a by-product of the bootstrap variance estimation weights (described in section 6.4.2), and the justification for using the without-replacement variance formulas follows from the assumptions described in Kott 1988. Some values of the variance estimation strata, PSU, and SSU variables were combined in order to have at least 2 SSUs in each PSU, and at least 2 PSUs in each stratum. The same stratum and PSU terms, under with-replacement and without-replacement assumptions, are used for analysis with both the cross-sectional and panel weights.

## 6.4.2 *Bootstrap Replicate Weights*

The replication variance estimation strategy that was chosen for BPS:12/17 is the same as that used for NPSAS:12 and BPS:12/14 and accounts for the following in order to produce accurate variance estimates:

1. stratification at all stages of sampling;
2. unequal weighting;
3. sample clustering;
4. weight adjustments for nonresponse and for poststratification of selected total estimates to known external totals;
5. nonlinear statistics and percentages, as well as for linear statistics;

6. FPCs at the institution stage of sampling and high sampling rates in some first-stage sampling strata; and
7. the ability to test hypotheses about students based on normal distribution theory by ignoring the FPCs at the student level of sampling.

Commonly applied bootstrap variance estimation techniques account for 1 through 5 listed above; however, to account for 6 and 7 above, NPSAS staff applied a method adapted from Kott (1988) and Flyer (1987). The following notation is used in the steps delineated below:

- $n_h$  = the number of institutions selected and responding from stratum  $h$ ,
- $\hat{N}_h$  = the frame count of institutions in stratum  $h$ ,
- $m_{hi}$  = the number of SSUs or students selected from institution  $i$  in stratum  $h$ ,
- $n_h^*$  = the bootstrap sample size of PSUs in stratum  $h$  when bootstrap sampling is at the PSU level in stratum  $h$ ,
- $n_{hi}^*$  = the number of times PSU  $hi$  is selected in the bootstrap sample when bootstrap sampling is at the PSU level,
- $m_{hi}^*$  = the bootstrap sample size of SSUs in PSU  $hi$  when bootstrap sampling is at the SSU level in stratum  $h$ ,
- $m_{hij}^*$  = the number of times SSU  $j$  is selected within stratum  $h$  in institution  $i$  in the bootstrap sample when bootstrap sampling is at the SSU level, and
- $w_{hijk}^*$  = the additional weight-adjustment factor for student  $k$ , due to bootstrap sampling.

The process of forming replicates and computing replicate weights follows:

1. Approximate the stratum-level first-stage FPC for the selected stratum sample using Kott's model-based approximation (Kott 1988).

$$\text{FPC}_h = \frac{\hat{N}_h - n_h}{\hat{N}_h}.$$

2. Generate a uniform (0, 1) random number  $R_h$  for each stratum  $h$ .

3. If  $R_h \leq \text{FPC}_h$ , form a replicate sample in stratum  $h$  by randomly selecting  $n_h^* = n_h - 1$  institutions with equal probability and with replacement after each selection. When  $n_h^*$  is greater than 1, a PSU may be selected more than once; in essence,  $n_{hi}^*$  may take on values of  $0, 1, \dots, n_h^*$ . Adjust the weights by the factor

$$w_{hijk}^* = n_{hi}^* \frac{n_h}{n_h^*}.$$

4. Otherwise, form a replicate sample in stratum  $h$  by randomly selecting  $m_{hi}^* = m_{hi} - 1$  second-stage units within each institution in stratum  $h$ . In this case,  $m_{hij}^*$  may take on values of  $0, 1, \dots, m_{hi}^*$ . Adjust the weights by the factor

$$w_{hijk}^* = m_{hij}^* \frac{m_{hi}}{m_{hi}^*}.$$

5. Repeat steps 3 and 4 in all strata to form one replicate sample.
6. Steps 1 through 5 should then be repeated 200 times to form 200 replicate samples.

This method uses random switching between PSU bootstrap sampling and SSU bootstrap sampling to represent the proper mix (in expectation) of the first- and second-stage variance components when an FPC is applied at the first stage of sampling. It extends the general method described by Flyer (1987) for half-sample replication to a more general bootstrap.

This method incorporated the FPC factor only at the first stage, where sampling fractions were generally high. At the second stage, where the sampling fractions were generally low, the FPC factor was set to 1.00.

Staff used the Flyer-Kott methodology to develop a vector of bootstrap sample weights that they added to the analysis file. These weights are zero for units not selected in a particular bootstrap sample; weights for other units are inflated for the bootstrap subsampling.

The final student weight (WTA000) described in section 6.1 is used for computing estimates, such as means, percentages, and regression coefficients; and the vector of replicate weights allows for computation of additional estimates for the sole purpose

of estimating variances. Assuming  $B$  sets of replicate weights, analysts can estimate the variance of any estimate,  $\hat{\theta}$ , by replicating the estimation procedure for each replicate and computing a simple variance of the replicate estimates, as follows:

$$\text{var}(\hat{\theta}) = \frac{\sum_{b=1}^B (\hat{\theta}_b^* - \hat{\theta})^2}{B},$$

where  $\hat{\theta}_b^*$  is the estimate based on the  $b$ th replicate weight (where  $b = 1$  to the number of replicates) and  $B$  is the total number of sets of replicate weights. The standard error for  $\hat{\theta}$  can be calculated as the square root of the estimate of variance,  $\text{var}(\hat{\theta})$ .

The number of replicate weights was set to 200 to ensure stable variance estimates for a variety of estimates. The unknown eligibility, nonresponse, and poststratification adjustments described in section 6.1 were applied to each replicate to create the 200 replicate weights included on the analysis file (WTA001–WTA200) so that the variances would be estimated to account for these weight adjustments. For some of the replicates, the bounds on the nonresponse and poststratification adjustment factors had to be loosened or model variables had to be collapsed because of model convergence problems (i.e., there was no solution to satisfy all model equations simultaneously). However, the model adjustments were not necessary for many replicates, and when it was necessary, the adjustments were minimal. Therefore, this approach worked well for BPS:12/17 to achieve model convergence for all replicates and to minimize the effect of different models on the variance estimates.

### 6.4.3 Software Use for Variance Estimation

Table 62 and table 63 summarize the weight and variance estimation variables and how they are used in selected software packages that allow for Taylor-series variance estimation with replacement (SUDAAN, Stata, the SAS survey data analysis procedures, IBM SPSS Complex Samples, and the R survey package), Taylor-series variance estimation without replacement (SUDAAN, Stata, and the R survey package), and bootstrap variance estimation (SUDAAN, Stata, the SAS survey data analysis procedures, WesVar, and the R survey package). The code shown in the table is intended for use within respective program statements or procedures and cannot be used alone as shown in the table. The code may need to be revised to be appropriate for a user's specific data file and coding decisions, and for that reason, the provided code may not work for all users and may require editing before it is implemented. Table 62 details the code for analyses using the cross-sectional weight, and table 63 shows the code for analyses using the panel weight.



**Table 62. Use of cross-sectional analysis weights, replicate weights, and variance estimation strata and primary sampling unit (PSU) variables available from BPS:12/17 in selected survey data analysis software: 2017**

Analysis weight for estimates	WTA000
<b>Taylor-series variance estimation (with replacement)</b>	
Variance estimation strata and PSU variables	ANALSTR and ANALPSU
Software: statements, parameters, and keywords for Taylor-series variance estimation (with replacement)	
SUDAAN	DESIGN = WR WEIGHT WTA000; NEST ANALSTR ANALPSU;
Stata	svyset ANALPSU [pweight = wta000], strata (ANALSTR) vce(linearized)
SAS survey analysis procedures	VARMETHOD = JACKKNIFE; WEIGHT WTA000; STRATA ANALSTR; CLUSTER ANALPSU;
IBM SPSS complex samples <sup>1</sup>	CSPLAN ANALYSIS /PLAN FILE='myfile.csaplan' /PLANVARS ANALYSISWEIGHT=WTA000 /DESIGN STRATA=ANALSTR CLUSTER=ANALPSU /ESTIMATOR TYPE=WR.
R survey package <sup>2</sup>	mydesign <- svydesign(id=~ANALPSU, strata=~ANALSTR, weights=~WTA000, data=mydata)
<b>Taylor-series variance estimation (without replacement)</b>	
Variance estimation strata, PSU, SSU, and count variables	FANALSTR, FANALPSU, FANALSSU, and PSUCOUNT
Software: statements, parameters, and keywords for Taylor-series variance estimation (without replacement)	
SUDAAN	DESIGN = WOR WEIGHT WTA000; NEST FANALSTR FANALPSU FANALSSU; TOTCNT PSUCOUNT _minus1_ _zero_;
Stata	svyset FANALPSU [pweight=wta000], strata(FANALSTR) fpc(PSUCOUNT)    FANALSSU, vce(linearized)
R survey package <sup>2</sup>	mydesign <- svydesign(id=~FANALPSU, strata=~FANALSTR, weights=~WTA000, fpc=~PSUCOUNT, data=mydata)
<b>Bootstrap variance estimation</b>	
Replicate weight variables	WTA001 - WTA200
Software: statements, parameters, and keywords for bootstrap variance	
SUDAAN	DESIGN = BRR WEIGHT WTA000; REPWGT WTA001 -WTA200;
Stata	svyset [pweight=wta000], brrweight(wta001 - wta200) vce(brr) mse
SAS survey data analysis procedures	VARMETHOD = BRR; WEIGHT WTA000; REPWEIGHTS WTA001-WTA200;
WesVar	Method: BRR Full sample weight: WTA000 Replicates: WTA001-WTA200
R survey package <sup>2</sup>	mydesign <- svrepdesign(type="BRR", weights=~WTA000, repweights="WTA00[1-200]", combined.weights=FALSE, data=mydata)

<sup>1</sup> The name "myfile" should be replaced with the desired file name.

<sup>2</sup> For the R survey package (Lumley 2014), "mydesign" can be renamed to any name for an R object to hold the specification of the survey design, and "mydata" is the name of the current dataset. For the without-replacement design, the R survey package does not account for the second stage of sampling.

NOTE: The survey data analysis software specifications are given for the following versions of the software packages: SUDAAN 11.0.1, Stata 12 and newer, SAS 9.3 and newer, IBM SPSS complex samples 20, and WesVar 4.3 and newer.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table 63. Use of panel analysis weights, replicate weights, and variance estimation strata and primary sampling unit (PSU) variables available from BPS:12/17 in selected survey data analysis software: 2017**

Analysis weight for estimates	WTB000
<b>Taylor-series variance estimation (with replacement)</b>	
Variance estimation strata and PSU variables	ANALSTR and ANALPSU
Software: statements, parameters, and keywords for Taylor-series variance estimation (with replacement)	
SUDAAN	DESIGN = WR WEIGHT WTB000; NEST ANALSTR ANALPSU;
Stata	svyset ANALPSU [pweight = WTB000], strata (ANALSTR) vce(linearized)
SAS survey analysis procedures	VARMETHOD = JACKKNIFE; WEIGHT WTB000; STRATA ANALSTR; CLUSTER ANALPSU;
IBM SPSS complex samples <sup>1</sup>	CSPLAN ANALYSIS /PLAN FILE='myfile.csaplan' /PLANVARS ANALYSISWEIGHT=WTB000 /DESIGN STRATA=ANALSTR CLUSTER=ANALPSU /ESTIMATOR TYPE=WR.
R survey package <sup>2</sup>	mydesign <- svydesign(id=~ANALPSU, strata=~ANALSTR, weights=~WTB000, data=mydata)
<b>Taylor-series variance estimation (without replacement)</b>	
Variance estimation strata, PSU, SSU, and count variables	FANALSTR, FANALPSU, FANALSSU, and PSUCOUNT
Software: statements, parameters, and keywords for Taylor-series variance estimation (without replacement)	
SUDAAN	DESIGN = WOR WEIGHT WTB000; NEST FANALSTR FANALPSU FANALSSU; TOTCNT PSUCOUNT _minus1_ _zero_;
Stata	svyset FANALPSU [pweight=WTB000], strata(FANALSTR) fpc(PSUCOUNT)    FANALSSU, vce(linearized)
R survey package <sup>2</sup>	mydesign <- svydesign(id=~FANALPSU, strata=~FANALSTR, weights=~WTB000, fpc=~PSUCOUNT, data=mydata)
<b>Bootstrap variance estimation</b>	
Replicate weight variables	WTB001 - WTB200
Software: statements, parameters, and keywords for bootstrap variance	
SUDAAN	DESIGN = BRR WEIGHT WTB000; REPWGT WTB001 -WTB200;
Stata	svyset [pweight=WTB000], brrweight(WTB001 - WTB200) vce(brr) mse
SAS survey data analysis procedures	VARMETHOD = BRR; WEIGHT WTB000; REPWEIGHTS WTB001-WTB200;
WesVar	Method: BRR Full sample weight: WTB000 Replicates: WTB001-WTB200
R survey package <sup>2</sup>	mydesign <- svrepdesign(type="BRR", weights=~WTB000, repweights="WTB001-200", combined.weights=FALSE, data=mydata)

<sup>1</sup> The name "myfile" should be replaced with the desired file name.<sup>2</sup> For the R survey package (Lumley 2014), "mydesign" can be renamed to any name for an R object to hold the specification of the survey design, and "mydata" is the name of the current dataset. For the without-replacement design, the R survey package does not account for the second stage of sampling.

NOTE: The survey data analysis software specifications are given for the following versions of the software packages: SUDAAN 11.0.1, Stata 12 and newer, SAS 9.3 and newer, IBM SPSS complex samples 20, and WesVar 4.3 and newer.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

#### 6.4.4 Variance Approximation

The survey design effect (DEFF) for a given estimate,  $\hat{\theta}$ , is defined as

$$\text{DEFF}(\hat{\theta}) = \frac{\text{Var}_{\text{design}}(\hat{\theta})}{\text{Var}_{\text{srs}}(\hat{\theta})}.$$

The square root of the design effect (DEFT) is another measure that analysts can express as the ratio of the standard errors, or

$$\text{DEFT}(\hat{\theta}) = \frac{\text{SE}_{\text{design}}(\hat{\theta})}{\text{SE}_{\text{srs}}(\hat{\theta})}.$$

Most complex multistage sampling designs, like NPSAS:12 and BPS:12/17, result in design effects greater than 1.0. That is, the design-based variance is larger than the simple random sample variance. Appendix J provides design effect estimates for important survey domains and estimates for undergraduate and graduate students to summarize the effects of stratification, multistage sampling, unequal probabilities of selection, and the weight adjustments. These design effects were estimated using SUDAAN and the bootstrap variance estimation procedure described above.

Large design effects imply large standard errors and relatively poor precision. Small design effects imply small standard errors and good precision. In general terms, a design effect less than 2.0 is low, from 2.0 to 3.0 is moderate, and greater than 3.0 is high. Moderate and high design effects often occur in complex surveys such as NPSAS and BPS. Unequal weighting causes large design effects and is often due to nonresponse and poststratification adjustments; however, in NPSAS and BPS, the unequal weighting is also due to the sample design and different sampling rates among institutional strata, as well as to the different sampling rates among student strata.

As discussed above, Taylor-series linearization and replication techniques can be used to compute more precise standard errors for data from complex surveys. If statistical analyses are conducted using software packages that assume the data were collected using simple random sampling (i.e., adjustments are not made using the Taylor-series or bootstrap replication methods), the standard errors will be calculated under this assumption and will be incorrect. They can be adjusted using the average DEFT, although this method is less precise than Taylor-series or replication techniques. Analysts who must perform an analysis of BPS:12/17 data without using one of the software packages for analysis of complex survey data can use the design

effect tables in appendix J to make approximate adjustments to the standard errors of survey statistics computed with the standard software packages that assume simple random-sampling designs.

As the first step in the approximation of a standard error, the analyst should normalize the overall sample weights for packages that use the weighted population size ( $N$ ) in the calculation of standard errors (SPSS but not SAS). The normalized weight will sum to the sample size ( $n$ ) and is calculated as

$$\text{Normalized weight} = \text{weight} \times n/N,$$

where  $n$  is the sample size (i.e., the number of cases with a valid main sampling weight) and  $N$  is the sum of weights.

As the second step in the approximation, the standard errors produced by the statistical software, the test statistics, or the sample weight used in analysis can be adjusted to reflect the actual complex design of the study. To adjust the standard error of an estimate, the analyst should multiply the standard error produced by the statistical software by the square root of the DEFF or the DEFT. The DEFF and DEFT used to make adjustments can be calculated for specific estimates, can be the median DEFF and DEFT across a number of variables, or can be the median DEFF and DEFT for a specific subgroup in the population. Adjusted standard errors can then be used in hypothesis testing, for example, when calculating  $t$  and  $F$  statistics.

A second option is to adjust the  $t$  and  $F$  statistics produced by statistical software packages using unadjusted (i.e., SRS) standard errors. To do this, first conduct the desired analysis weighted by the normalized weight and then divide a  $t$  statistic by the DEFT or divide an  $F$  statistic by the DEFF. A third alternative is to create a new analytic weight variable in the data file by dividing the normalized analytic weight by the DEFF and using the adjusted weight in the analyses.

## References

- Becker, G.S. (1975). *Human Capital: A Theoretical and Empirical Analysis, With Special Reference to Education*. 2nd ed. New York: Columbia University Press.
- Box, G.E.P., and Cox, D.R. (1964). An Analysis of Transformations. *Journal of the Royal Statistics Society, Series B*, 26: 211–234.
- Breiman, L., Friedman, J.H., Olshen, R.A., and Stone, C.J. (1984). *Classification and Regression Trees*. Toronto: Chapman and Hall.
- Chromy, J.R. (1979). Sequential Sample Selection Methods. In *Proceedings of the Survey Research Methods Section of the American Statistical Association* (pp. 401–406). Alexandria, VA: American Statistical Association.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cominole, M, Siegel, P., Dudley, K., Roe, D., and Gilligan, T. (2006). *2004 National Postsecondary Student Aid Study (NPSAS:04) Full-Scale Methodology Report* (NCES 2006-180). U.S. Department of Education. Washington, DC: National Center for Education Statistics, Institute of Education Sciences. Retrieved August 20, 2019, from <https://nces.ed.gov/pubs2006/2006180.pdf>.
- Cominole, M, Wheelless, S., Dudley, K., Franklin, J., and Wine, J. (2007). *2004/06 Beginning Postsecondary Students Longitudinal Study (BPS:04/06) Methodology Report* (NCES 2008-184). U.S. Department of Education. Washington, DC: National Center for Education Statistics, Institute of Education Sciences. Retrieved August 20, 2019, from <https://nces.ed.gov/pubs2008/2008184.pdf>.
- Cox, B.G. (1980). The Weighted Sequential Hot Deck Imputation Procedure. *Proceedings of the Survey Research Methods Section of the American Statistical Association* (pp. 721–726). Alexandria, VA: American Statistical Association.
- Flyer, P.A. (1987). Finite Population Correction for Replication Estimates of Variance. In *Proceedings of the Survey Research Methods Section of the American Statistical Association* (pp. 732–736). Alexandria, VA: American Statistical Association.

- Folsom, R.E., Potter, F.J., and Williams, S.R. (1987). Notes on a Composite Size Measure for Self-Weighting Samples in Multiple Domains. In *Proceedings of the Survey Research Methods Section of the American Statistical Association* (pp. 792–796). Alexandria, VA: American Statistical Association.
- Folsom, R.E., and Singh, A.C. (2000). The Generalized Exponential Model for Sampling Weight Calibration for Extreme Values, Nonresponse, and Poststratification. In *Proceedings of the Survey Research Methods Section of the American Statistical Association* (pp. 598–603). Alexandria, VA: American Statistical Association.
- Ginder, S.A., Kelly-Reid, J.E., and Mann, F.B. (2016). *2015-16 Integrated Postsecondary Education Data System (IPEDS) Methodology Report* (NCES 2016-111). U.S. Department of Education. Washington, DC: National Center for Education Statistics, Institute of Education Sciences. Retrieved August 20, 2019, from <https://nces.ed.gov/pubs2016/2016111.pdf>.
- Hanley, J.A., and McNeil, B.J. (1982). The Meaning and Use of the Area Under a Receiver Operating Characteristic Curve. *Diagnostic Radiology*, 143: 29–36.
- Hill, J., Smith, N., Wilson, D., and Wine, J. (2016). *2012/14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14): Data File Documentation* (NCES 2016-062). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved December 3, 2018, from <https://nces.ed.gov/pubsearch>.
- Iannacchione, V. (1982, February). *Weighted Sequential Hot Deck Imputation Macros*. Paper presented at the Seventh Annual SAS Users Group International Conference, San Francisco, CA.
- Iannacchione, V. (2003). Sequential Weight Adjustments for Location and Cooperation Propensity for the 1995 National Survey of Family Growth. *Journal of Official Statistics*, 16: 31–43.
- Judkins, D.R. (1997). Imputing for Swiss Cheese Pattern of Missing Data. In *Proceedings of the Statistics Canada Symposium 97, New Directions in Surveys and Censuses*, 143–148.
- Kass, G.V. (1980). An Exploratory Technique for Investigating Large Quantities of Categorical Data. *Applied Statistics*, 29(2): 119–127.
- Kott, P.S. (1988). Model-Based Finite Population Correction for the Horvitz-Thompson Estimator. *Biometrika*, 75(4): 797–799.

- Krotki, K., Black, S., and Creel, D. (2005). Mass Imputation. In *Proceedings of the Survey Research Methods Section of the American Statistical Association* [CD-ROM], Alexandria, VA: American Statistical Association.
- Little, R.J., and Vartivarian, S. (2005). Does Weighting for Nonresponse Increase the Variance of Survey Means? *Survey Methodology*, 31(2): 161–168.
- Lumley, T. (2014). *Survey: Analysis of Complex Survey Samples*. R package version 3.30.
- Marker, D.A., Judkins, D.R., and Winglee, M. (2002). Large-Scale Imputation for Complex Surveys. In R. Groves, D. Dillman, J. Eltinge, and R. Little (Eds.), *Survey Nonresponse* (pp. 329–341). New York: John Wiley & Sons, Inc.
- RTI International. (2012). *SUDAAN User's Manual, Release 11.0*. Research Triangle Park, NC: RTI International.
- Satterthwaite, F.E. (1946). An Approximate Distribution of Estimates of Variance Components. *Biometrics Bulletin*, 2(6): 110–114.
- Seastrom, M. (2014). *NCES Statistical Standards* (NCES 2014-097). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved January 30, 2018, from <https://nces.ed.gov/statprog/2012/>.
- Tukey, J.W. (1977). *Exploratory Data Analysis*. Reading, MA: Addison-Wesley.
- Wine, J., Bryan, M., and Siegel, P. (2014). *2011–12 National Postsecondary Student Aid Study (NPSAS:12) Data File Documentation* (NCES 2014-182). U.S. Department of Education. Washington, DC: National Center for Education Statistics, Institute of Education Sciences. Retrieved November 30, 2018, from <https://nces.ed.gov/pubsearch>.
- Woodruff, R.S. (1971). A Simple Method for Approximating the Variance of a Complicated Estimate. *Journal of the American Statistical Association*, 66: 411–414.





## Appendix A. Acronyms and Abbreviations



<b>Acronym/Abbreviation</b>	<b>Name</b>
BPS	Beginning Postsecondary Students Longitudinal Study
BPS:12/14	2012/14 Beginning Postsecondary Students Longitudinal Study
BPS:12/17	2012/17 Beginning Postsecondary Students Longitudinal Study
CATI	computer-assisted telephone interviewing
CHAID	Chi-squared automatic interaction detection
CIP	Classification of Instructional Programs
CMS	case management system
COD	common origination and disbursement
CPS	Central Processing System
DCI	data collection interviewer
DEFF	design effect
DEFT	square root of the design effect
FAFSA	Free Application for Federal Student Aid
FAQ	frequently asked question
FASB	Financial Accounting Standards Board
FPC	finite population correction
FSA	Federal Student Aid
FTB	first-time beginning
FTE	full-time equivalent
GASB	Governmental Accounting Standards Board
HSI	Hispanic-Serving Institution
IC	Institution Characteristics
IDR	income-driven repayment
IES	Institute of Education Sciences
IPEDS	Integrated Postsecondary Education Data System
NCES	National Center for Education Statistics
NCOA	National Change of Address
NPSAS:12	2011–12 National Postsecondary Student Aid Study
NSC	National Student Clearinghouse
NSLDS	National Student Loan Data System
O*NET OnLine	Occupational Information Network Online
OBE	Office of Business Economics
PLUS	Parent Loan for Undergraduate Students
PMR	probability minimum replacement
PSE	postsecondary education
PSU	primary sampling unit
PTL	performance team leader
QE	quality expert

<b>Acronym/Abbreviation</b>	<b>Name</b>
ROC	Receiver Operating Characteristic
RRI	item response rates
SQL	structured query language
SSL	Secure Sockets Layer
SSN	Social Security number
SSU	secondary sampling unit
STEM	science, technology, engineering, and mathematics
TRP	Technical Review Panel
USPS	U.S. Postal Service
UWE	unequal weighting effect
VBA	Veterans Benefits Administration
WSHD	weighted sequential hot deck

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# **Appendix C. 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test**



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## Section C.1. Overview of Pilot Test

This report documents the methodology and evaluations of data quality of the 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) pilot test. As an appendix to the Data File Documentation report, the following sections summarize information unique to the pilot test.

This section briefly presents an overview of the BPS:12/17 pilot-test design, including experiments conducted that informed the design of the full-scale data collection. Section 2 details the sampling design, including criteria for sampling institutions and students in the 2011–12 National Postsecondary Student Aid Study (NPSAS:12), eligibility criteria used for the BPS:12/14 sample, and selection of the sample to field in BPS:12/17.<sup>1</sup> Section 3 describes the details of the data-collection outcomes. Section 4 gives recommendations for the BPS:12/17 full-scale collection.

The purpose of the BPS:12/17 pilot test was to assess new survey items, improve item wording, and estimate response burden. Rather than fielding the full instrument planned for the BPS:12/17 full-scale collection, the pilot test fielded a subset of items that were new, experimental, or of interest to the Technical Review Panel (TRP). Because of the limited scope of the pilot test, a subset of the BPS:12/14 field test sample was selected for the BPS:12/17 pilot test.

The pilot test included methodological experiments in the survey instrument to test new approaches to assisted coding systems, or “coders,” used to identify standardized codes, such as major/field of study. Using an experimental design, the pilot test included a predictive search algorithm that provides potential matching results in real time, in contrast to the traditional method in which respondents manually type an entire entry before querying the system. The pilot test also included an experiment to test new language for asking sensitive questions about students’ grade point average (GPA). Findings from both experiments are presented in section 3.

The data-collection period lasted approximately 5 weeks (March 9 through April 15, 2016), and focused primarily on encouraging sample members to complete the survey on the Web. Nonresponse conversion was limited to written communication and did not include telephone follow-up. No intensive tracing operations were

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<sup>1</sup> The BPS:12/17 pilot-test sample came from the NPSAS:12 and BPS:12/14 field test samples.

employed, and contacting efforts consisted of e-mails and mailings. If a sample member preferred to complete the survey by telephone, he or she could contact the BPS help desk to speak with a data collection interviewer (DCI).

After data collection was completed, the data were processed and compiled into a dataset. Staff conducted analyses to identify potential data quality problems, refine implementation procedures, and learn how respondents were likely to answer new questions in the full-scale collection.

## Section C.2. Pilot-Test Sampling Design

This section provides a detailed summary of the sampling design and methods implemented for the BPS:12/17 pilot test. The BPS:12/17 pilot sample was a subset of the BPS:12/14 field test sample, which was taken from the NPSAS:12 field test sample of students who were confirmed or potential first-time beginning (FTB) students. This section also defines the target population for the BPS:12/17 pilot test, and describes the universe and sampling procedures for the NPSAS:12 and BPS:12/14 field test, including methods for identifying FTB students.

### C.2.1 Target Population

The target population for the BPS:12/17 pilot test was all students who began their postsecondary education for the first time during the 2010–11 academic year at any Title IV eligible postsecondary institution in the United States. The BPS:12/17 pilot sample was a subset of the BPS:12/14 field test sample, which was taken from the NPSAS:12 field test sample of students who were confirmed or potential FTB students. Because the sample members in the BPS:12/17 pilot-test sample come from the NPSAS:12 and BPS:12/14 field test samples, this section also describes the NPSAS:12 field test and BPS:12/14 field test sample design.

#### C.2.1.1 *Institution Universe for NPSAS:12*

To be eligible for the NPSAS:12 field test, students must have been enrolled at a NPSAS-eligible institution for a term or in a course of instruction at any time during the 2010–11 academic year. Institutions must have also met the following requirements:

- offer an educational program designed for persons who have completed secondary education;
- offer at least one academic, occupational, or vocational program of study lasting at least 3 months or 300 clock hours;
- offer courses that were open to more than the employees or members of the company or group (e.g., union) that administers the institution;
- be located in the 50 states or the District of Columbia;

- not be a U.S. service academy institution; and
- have signed the Title IV participation agreement with the Department of Education.<sup>2</sup>

NPSAS-excluded institutions that provided only avocational, recreational, or remedial courses or only in-house courses for their own employees or members. U.S. service academies were excluded because of their unique funding/tuition base. Institutions in Puerto Rico were not included in the 2012 administration of NPSAS. Puerto Rican institutions enrolled only 1 percent each of undergraduate and graduate students nationally. These institutions have unique aid, enrollment, and demographic patterns that distinguish them from institutions in the 50 states and the District of Columbia.

The institution sampling frame for the NPSAS:12 field test was constructed using the 2009 Integrated Postsecondary Education Data System (IPEDS) header, Institution Characteristics (IC), Fall and 12-Month Enrollment, and Completions files. All eligible students from sampled institutions constituted the student sampling frame.<sup>3</sup> The institution samples for the NPSAS:12 field test and full-scale collections were selected simultaneously, prior to the field test, using stratified random sampling with probabilities proportional to a composite measure of size (Folsom, Potter, and Williams 1987). Institution measure of size was determined using annual enrollment data from the most recent IPEDS 12-Month Enrollment component and FTB student enrollment data from the most recent IPEDS Fall Enrollment component. Composite measure of size sampling was used to ensure that target sample sizes were achieved within institution and student sampling strata and that approximately equal student weights were achieved across institutions.

The field test institution sample for NPSAS:12 was selected using statistical procedures (i.e., simple random sampling within strata) rather than purposive sampling as was done in past NPSAS cycles. This provided more control to ensure that the field test and the full-scale institution samples had similar characteristics. It also allowed inferences to be made to the target population, supporting the analytic needs of the field test experiments and instrument. This ability to make analytic inferences extends to the BPS:12/14 field test sample and the BPS:12/17 pilot-test sample.

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<sup>2</sup> A Title IV eligible institution is an institution that has a written agreement (program participation agreement) with the U.S. Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs other than the State Student Incentive Grant and the National Early Intervention Scholarship and Partnership programs.

<sup>3</sup> See section 2.1.2 for complete details on student eligibility criteria.



A total of 1,970 institutions from the stratified frame were selected to participate in either the NPSAS:12 field test or the full-scale collection. From the 1,970 institutions selected, a subsample of 300 institutions was selected using simple random sampling within institution strata to make up the field test sample. The sample for the full-scale study comprised the remaining 1,670 institutions. This sampling process eliminated the possibility that an institution would be burdened with participation in both the field test and full-scale collections, yet maintained the representativeness of the full-scale sample.

The following institution strata used for the sampling design were based on institution control, level, and highest level of offering:

- public less-than-2-year;
- public 2-year;
- public 4-year, non-doctorate-granting;
- public 4-year, doctorate-granting;
- private nonprofit less-than-4-year;
- private nonprofit 4-year, non-doctorate-granting;
- private nonprofit 4-year, doctorate-granting;
- private for-profit less-than-2-year;
- private for-profit 2-year; and
- private for-profit 4-year.

Due to the growth of the private for-profit sector, private for-profit 4-year and private for-profit 2-year institutions were separated into their own strata in NPSAS:12, unlike in previous administrations of NPSAS.

Within each institution stratum, additional implicit stratification for the full-scale collection was accomplished by sorting the sampling frame within stratum by the following classifications:<sup>4</sup> (1) Historically Black Colleges and Universities status; (2) Hispanic-Serving Institutions (HSI) indicator;<sup>5</sup> (3) Carnegie classifications of degree-granting postsecondary institutions;<sup>6</sup> (4) 2-digit Classification of Instructional Programs (CIP) code of the largest program for less-than-2-year institutions; (5) the

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<sup>4</sup> *Implicit stratification* is the process in which strata are created during the sampling process by sorting the data, rather than creating the strata prior to sampling and selecting an independent sample from each stratum.

<sup>5</sup> The HSI indicator no longer exists in IPEDS. An HSI proxy was created using IPEDS Hispanic enrollment data.

<sup>6</sup> NPSAS collapsed some Carnegie categories for the purposes of implicit stratification.

Office of Business Economics Region from the IPEDS IC file (Bureau of Economic Analysis of the U.S. Department of Commerce Region); (6) state and system, for states with large systems, e.g., the SUNY and CUNY systems in New York, the state and technical colleges in Georgia, and the California State University and University of California systems in California; and (7) the institution measure of size. The objective of this implicit stratification was to approximate proportional representation of institutions on these measures.

The NPSAS:12 field test sampled 300 institutions. Overall, almost 100 percent of the sampled institutions met the eligibility requirements; of those, about 51 percent (150 institutions) provided enrollment lists.

### **C.2.1.2 Eligible Student Universe for NPSAS:12**

Students eligible for the NPSAS:12 field test were those who attended a NPSAS-institution during the 2010–11 academic year and who were

- enrolled in *either* (1) an academic program; (2) at least one course for credit that could be applied toward fulfilling the requirements for an academic degree; (3) exclusively noncredit remedial coursework but determined by the institution to be eligible for Title IV aid; *or* (4) an occupational or vocational program that required at least 3 months or 300 clock hours of instruction to receive a degree, certificate, or other formal award;
- not currently enrolled in high school; and
- not solely enrolled in a high school completion program.

The NPSAS:12 field test institution sample included all levels (less-than-2-year, 2-year, and 4-year) and controls (public, private nonprofit, and private for-profit) of Title IV eligible postsecondary institutions in the United States. The field test student sample was randomly selected from lists of students enrolled at sampled institutions between July 1, 2010, and April 30, 2011.

The NPSAS:12 field test study year covered the time period between July 1, 2010, and June 30, 2011, to coincide with the federal financial aid award year. To facilitate timely completion of data collection and data file preparation, institutions were asked to submit enrollment lists for all eligible students enrolled at any time between July 1 and April 30 or, for institutions with continuous enrollment, between July 1 and March 31. The March 31 deadline for continuous enrollment institutions was used for the field test due to the compressed data-collection schedule and was not used in the full-scale collection.

Because previous cycles of NPSAS have shown that the terms beginning in May and June added little to enrollment and aid totals, May–June starters were excluded to allow institutions to provide enrollment lists earlier, which in turn allowed the student survey process to begin earlier. In the full-scale collection, poststratification of survey estimates based on IPEDS records on enrollment and National Student Loan Data System (NSLDS) records on financial aid distributed were used to adjust for the data-collection period’s inclusion of any terms that begin by April 30 and the consequent exclusion of a small number of students newly enrolled in May or June.

To create the student sampling frame, each participating institution was asked to submit a list of eligible students. The requests for student enrollment lists specifically indicated how institutions should handle special cases, such as students taking only correspondence or distance learning courses, and foreign exchange, continuing education, extension division, and nonmatriculated students. The following data were required for each enrollee:

- student’s name;
- student ID;
- Social Security number;
- date of birth;
- date of high school graduation (month and year);
- degree level during the last term of enrollment (undergraduate, master’s, doctoral-research/scholarship/other, doctoral-professional practice, or other graduate);
- class level if undergraduate (first, second, third, fourth, or fifth year or higher);
- major;
- CIP code;
- indicator of whether the institution received an Institutional Student Information Record (an electronic record summarizing the results of the student’s Free Application for Federal Student Aid processing) from the Central Processing System (CPS);
- FTB student status; and
- contacting information, such as cell phone number, local telephone number and address, permanent telephone number and address, campus e-mail address, and permanent e-mail address.

Requesting contact information for eligible students prior to sampling allowed for student record abstraction and the student survey to begin shortly after sample selection, which helped to ensure the management of the field test schedule for data collection, data processing, and file development.

Student sample sizes for the NPSAS:12 field test were formulated to ensure representation of various types of students. Specifically, the sample included a large number of potential FTB students, to provide a sufficient sample size to obtain a yield of at least 1,000 students for the BPS field test. The NPSAS:12 field test sample included 4,530 students, of whom 4,130 were potential FTB students, 200 were other undergraduate students, and 200 were graduate students.

Students were sampled at fixed rates according to student education level and institution sampling strata. Sample yield was monitored, and sampling rates were adjusted when necessary, resulting in a statistical sample of the required sample size for the field test. The same approach was used for the full-scale collection. Student enrollment lists provided by the institutions were reviewed to make sure that required elements were included, and were also compared for consistency with counts from the 2009 IPEDS 12-Month Enrollment component.

### **C.2.1.3 Identification of FTB Students in NPSAS:12**

To be eligible for BPS:12/14 or BPS:12/17, students must have begun their postsecondary education for the first time, after completing high school, between July 1, 2010 and June 30, 2011. Inaccurate identification of FTB students in the NPSAS field test could lead to unacceptably high rates of misclassification (e.g., false positives [students who had been identified as potential FTBs but were found to have prior enrollment]), which could result in (1) excessive cohort loss, (2) excessive cost to “replenish the sample,” and (3) an inefficient sample design (excessive oversampling of “potential” FTB students). Therefore, close attention was paid to accurately identify FTB students in the NPSAS field test in an effort to mitigate anticipated misclassification error. To address this concern, participating institutions were asked to provide additional information for all eligible students, and student names were matched to administrative databases to further eliminate false positives prior to sample selection.

Participating institutions were asked to provide the FTB student status and high school graduation date for every listed student. High school graduation date was used to remove students from the frame who were dually enrolled in high school. FTB student status, along with class level and student level, were used to exclude misclassified FTB students in their third year or higher or those who were not

undergraduate students, or both. FTB student status, along with date of birth, was also used to identify students older than 18 to send for presampling matching to administrative databases.

If the FTB student indicator was not provided for a student on the list, but the student was 18 years of age or younger and did not appear to be enrolled in high school, the student was sampled as an FTB student. Otherwise, if the FTB student indicator was not provided for a student on the list and the student was over the age of 18, then the student was sampled as “other undergraduate,” but would be included in the BPS cohort if identified during the student survey as an FTB student.

Prior to sampling, students over the age of 18 listed as potential FTB students were matched to NSLDS records to determine if any had a federal financial aid history predating the NPSAS year (earlier than July 1, 2010, for the field test). Because NSLDS maintains current records of all Title IV federal grant and loan funding, any student with disbursements from the prior year or earlier could be reliably excluded from the sampling frame of FTB students. Given that 60 percent of FTB students receive some form of Title IV aid in their first year, this matching process could not exclude all listed FTB students with prior enrollment; however, this process significantly improved the accuracy of the list prior to sampling, yielding fewer false positives. After NSLDS matching, students over the age of 18 still listed as potential FTB students were matched to the National Student Clearinghouse (NSC) for further narrowing of potential FTB students based on evidence of earlier enrollment.

Matching to NSLDS identified 19 percent of cases as false positives, and NSC matching identified 14 percent of cases as false positives (table C-1). In addition to NSLDS and NSC, a subset of potential FTB students on the student sampling frame was sent to CPS to evaluate the benefit of the CPS match for the full-scale study. Of the 58,690 students sent, CPS matching identified 10 percent of cases as false positives. Overall, matching to all sources identified 32 percent of potential FTB students over the age of 18 as false positives, with many of the false positives identified by CPS also identified by NSLDS or NSC. The matching appeared most effective among public less-than-2-year and private for-profit institutions. Although public less-than-2-year institutions have a high percentage of false positives, they represent a small percentage of the total sample.

Because this presampling matching was new to NPSAS:12, the FTB student sample size was set high to ensure that a sufficient number of true FTB students would be surveyed. In addition, the enlarged FTB student sample size took into account the error rates observed in the 2004 National Postsecondary Student Aid Study (NPSAS:04) and BPS:04/06 within each sector. These rates were adjusted to reflect

the improvement in the accuracy of the frame from the NSLDS and NSC record matching. Sector-level FTB student error rates from the field test were used to help determine the rates necessary for full-scale student sampling.

**Table C-1. False positive rates for matching of potential first-time beginning (FTB) students, by administrative database and institution control and level: 2012**

Institution control and level	Total			Administrative database								
	Sent for matching	False positives	Percent false positive	NSLDS			NSC			CPS		
				Sent for matching	False positives	Percent false positive	Sent for matching	False positives	Percent false positive	Sent for matching	False positives	Percent false positive
<b>Total</b>	<b>143,650</b>	<b>46,090</b>	<b>32.1</b>	<b>143,650</b>	<b>27,550</b>	<b>19.2</b>	<b>116,100</b>	<b>16,430</b>	<b>14.1</b>	<b>58,690</b>	<b>5,980</b>	<b>10.2</b>
Public												
Less-than-2-year	720	360	50.2	720	220	29.8	510	150	29.1	#	#	#
2-year	48,090	16,790	34.9	48,090	10,600	22.0	37,490	5,150	13.7	22,210	3,300	14.9
4-year, non-doctorate-granting	9,910	1,540	15.6	9,910	670	6.7	9,240	650	7.0	5,650	540	9.5
4-year, doctorate-granting	38,200	6,970	18.2	38,200	1,610	4.2	36,590	4,750	13.0	19,160	1,230	6.4
Private nonprofit												
Less-than-4-year	520	140	26.3	520	50	8.7	470	80	16.3	300	40	14.0
4-year, non-doctorate-granting	5,770	1,800	31.2	5,770	1,160	20.1	4,610	570	12.3	4,150	250	6.0
4-year, doctorate-granting	14,170	3,730	26.3	14,170	1,840	13.0	12,340	1,740	14.1	6,580	550	8.4
Private for-profit												
Less-than-2-year	2,180	1,100	50.4	2,180	730	33.6	1,450	370	25.4	#	#	#
2-year	4,320	1,770	41.0	4,320	1,100	25.5	3,220	670	20.8	#	#	#
4-year	19,770	11,890	60.2	19,770	9,580	48.4	10,190	2,310	22.7	640	60	9.1

# Rounds to zero.

NOTE: CPS = Central Processing System; NSC = National Student Clearinghouse; NSLDS = National Student Loan Data System. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12) Field Test.

## C.2.2 First Follow-up Data Collection (BPS:12/14)

At the conclusion of the NPSAS:12 field test, 2,000 students had been surveyed and confirmed to be FTB students. All were included in the BPS:12/14 field test. In addition, the BPS:12/14 field test sample included the 1,490 students who did not respond in the NPSAS:12 field test but were potential FTB students according to student records or enrollment lists. The distribution of the BPS:12/14 field test sample is shown in table C-2, by institution control and level.

**Table C-2. Number of BPS:12/14 field test sample members, by whether confirmed or potential first-time beginning (FTB) students and institution control and level: 2012**

Institution control and level	Total	Confirmed FTB student	Potential FTB student
<b>Total</b>	<b>3,500</b>	<b>2,000</b>	<b>1,490</b>
Public			
Less-than-2-year	20	10	10
2-year	1,530	830	700
4-year, non-doctorate-granting	200	140	60
4-year, doctorate-granting	440	320	120
Private nonprofit			
Less-than-4-year	40	20	10
4-year, non-doctorate-granting	210	160	50
4-year, doctorate-granting	140	110	30
Private for-profit			
Less-than-2-year	140	70	70
2-year	210	70	140
4-year	580	280	300

NOTE: Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2011–12 National Postsecondary Student Aid Study (NPSAS:12) Field Test.

## C.2.3 Second Follow-up Data Collection (BPS:12/17)

Of the 3,500 students in the field test sample in BPS:12/14, about 150 were found to be ineligible (100 NPSAS study members<sup>7</sup> and 50 NPSAS nonstudy members). Of the remaining eligible sample members (3,350), an additional 320 sample members were nonstudy members in the NPSAS:12 field test, and 740 were NPSAS:12 study

<sup>7</sup> NPSAS:12 staff identified key variables across the various NPSAS:12 data sources—student records; student surveys; and administrative federal and private databases such as Central Processing System (CPS), National Student Loan Data System (NSLDS), National Student Clearinghouse (NSC), ACT files, and SAT files—to define a minimum set of data points necessary to support the analytic objectives of the study. Sample members for whom those key variables were available were classified as study members—the NPSAS:12 unit of analysis.



members who were nonrespondents in both the NPSAS:12 and BPS:12/14 student surveys.

Of the 3,500 BPS:12/14 sample members, 3,350 were eligible for inclusion in the BPS:12/17 pilot test. Approximately 2,300 sample members were fielded, to limit burden to sample members while still meeting the limited scope of the pilot test. The disposition of the BPS:12/14 sample members for fielding in the BPS:12/17 pilot test is provided in table C-3.

**Table C-3. BPS:12/14 field test sample member disposition for fielding in BPS:12/17 pilot test: 2016**

Study member and prior-round response status	Number in sample	Number fielded in BPS:12/17 pilot test
<b>Total</b>	<b>3,500</b>	<b>2,310</b>
NPSAS:12 Nonstudy member	350	†
NPSAS:12 Nonrespondent	340	†
BPS:12/14 Ineligible	50	†
BPS:12/14 Nonrespondent	230	†
BPS:12/14 Respondent	70	†
NPSAS:12 Respondent	†	†
BPS:12/14 Nonrespondent	†	†
NPSAS:12 Study member	3,150	2,310
NPSAS:12 Nonrespondent	1,150	310
BPS:12/14 Ineligible	100	†
BPS:12/14 Nonrespondent	740	†
BPS:12/14 Respondent	310	310
NPSAS:12 Respondent	2,000	2,000
BPS:12/14 Nonrespondent	490	490
BPS:12/14 Respondent	1,510	1,510

† Not applicable.

NOTE: Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

Sample members for the BPS:12/17 pilot test consisted of approximately 2,300 of the 3,500 BPS:12/14 study members. The pilot test consisted of NPSAS:12 study members who were surveyed in NPSAS:12, BPS:12/14, or both. Table C-4 shows the distribution of the fielded BPS:12/17 pilot-test sample by institution control and level.

**Table C-4. Number of sample members fielded in BPS:12/17 pilot test, by institution control and level: 2015**

Institution control and level		Number fielded in BPS:12/17 pilot test
<b>Total</b>		<b>2,310</b>
Public		
Less-than-2-year		10
2-year		970
4-year, non-doctorate-granting		160
4-year, doctorate-granting		360
Private nonprofit		
Less-than-4-year		30
4-year, non-doctorate-granting		170
4-year, doctorate-granting		130
Private for-profit		
Less-than-2-year		90
2-year		90
4-year		320

NOTE: Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

## Section C.3. Pilot-Test Student Survey Data-Collection Outcomes and Evaluation

Section 3 outlines the data-collection process for the BPS:12/17 pilot-test student survey and discusses the following: (1) data-collection rates, including statistics such as the proportion of NPSAS:12 (base-year) and first follow-up study members who were located and surveyed; (2) outcomes from both completed interviews and incentive choice, by method of tracing and prior-round response status; and (3) outcomes from an evaluation of student survey items such as timing burden, help texts, item response rates, and cognitive interviews.

### C.3.1 Pilot-Test Student Survey Data-Collection Outcomes

This section summarizes the results of the BPS:12/17 pilot-test student survey data collection, including located and interviewed rates, completed surveys by mode of administration, and incentive choice by prior-round response status.

#### C.3.1.1 *Student Locating Results and Survey Response Rates*

Limited locating efforts occurred before BPS:12/17 pilot-test data collection. All sampled cases were available for batch tracing efforts and sample members were contacted via the initial contact e-mail and asked to update their contact information before the start of data collection. The pilot test did not employ locating efforts, such as outbound calling, batch tracing, or intensive tracing concurrent with data collection.

**Located rates by source of batch tracing.** Depending on the source (i.e., the U.S. Postal Service's National Change of Address database, the PhoneAppend telephone number lookup service, or administrative databases from U.S. Department of Education's Federal Student Aid office), a matched record could have included a new or confirmed address, e-mail address, or phone number for the sample member. As shown in table C-5, batch tracing successfully confirmed existing contact information, or provided additional contacting information, for 95 percent (2,190 records) of cases sent to all tracing sources.

**Table C-5. Number of cases sent for matching and number and percentage matched, by tracing source: 2016**

Tracing source	Number sent	Number matched <sup>1</sup>	Percent matched
<b>Total</b>	<b>2,310</b>	<b>2,190</b>	<b>94.8</b>
CPS	2,210	520	23.5
NCOA	2,300	810	35.2
PhoneAppend	2,300	1,700	73.9
NSLDS	2,210	1,660	75.1

<sup>1</sup> Number of cases matched includes cases that were matched to at least one of the tracing sources listed. Matched cases defined as those in which sample member contact information was confirmed and when new information was provided.

NOTE: CPS = Central Processing System; NCOA = National Change of Address; NSLDS = National Student Loan Data System. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Located and interviewed rates by prior-round response status.** Staff located and surveyed 51 percent of BPS:12/17 pilot-test sample members (table C-6). Sample members who completed both the NPSAS:12 and BPS:12/14 surveys were more likely to be located and to complete the BPS:12/17 pilot-test survey (63 percent) than sample members who completed only one survey during the two previous rounds of data collection ( $\chi^2 = 284.5, p < .001$ ). Furthermore, sample members who completed only the BPS:12/14 survey were more likely to be located and complete the BPS:12/17 pilot-test survey (37 percent) than sample members that completed only the NPSAS:12 survey (20 percent) ( $\chi^2 = 28.1, p < .001$ ).

**Table C-6. Number and percentage of cases located and surveyed status, by prior-round response status: 2016**

Prior-round response status	Total sample	Located <sup>1</sup>		Surveyed <sup>2</sup>	
		Number	Percent of total	Number	Percent of total
<b>Total</b>	<b>2,310</b>	<b>1,180</b>	<b>51.1</b>	<b>1,170</b>	<b>50.6</b>
NPSAS:12 and BPS:12/14 respondent	1,510	960	63.8	960	63.4
NPSAS:12 respondent only	490	100	20.7	100	19.6
BPS:12/14 respondent only	310	110	36.9	110	36.6

<sup>1</sup> Sample members are counted as located if they were ever located at some point during data collection.

<sup>2</sup> Sample members are counted as surveyed if they completed at least a partial survey.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Completed surveys by mode of administration.** For BPS:12/17, a single survey instrument was administered in two user modes: web (mobile and nonmobile) and telephone. Web mobile surveys were completed on mobile devices such as smartphones or tablets, while web nonmobile surveys were completed on nonmobile devices such as desktop or laptop computers. To complete by telephone, sample members had to call the help desk and speak with project staff; no outbound calls

were made to sample members. Thirty-eight percent of the surveys were completed by web mobile (table C-7). Completion by mobile device was more popular among sample members who were respondents in only one of the prior rounds (i.e., either NPSAS:12 or BPS:12/14, but not both) than among double respondents (i.e., those who completed both the NPSAS:12 and BPS:12/14 surveys ( $\chi^2 = 12, p < .01$ )).

**Table C-7. Number and percentage of respondents, by mode of administration and prior-round response status: 2016**

Prior-round response status	Total sample	Total respondents <sup>1</sup>		Mode of administration					
		Number	Percent of total	Web nonmobile		Web mobile		Telephone	
				Number	Percent	Number	Percent	Number	Percent
<b>Total</b>	<b>2,310</b>	<b>1,120</b>	<b>48.4</b>	<b>690</b>	<b>61.7</b>	<b>420</b>	<b>37.6</b>	<b>10</b>	<b>0.7</b>
NPSAS:12 and BPS:12/14 respondent	1,510	930	61.7	600	64.1	330	35.4	#	0.4
NPSAS:12 respondent only	490	80	16.4	30	40.0	50	57.5	#	2.5
BPS:12/14 respondent only	310	110	34.6	60	57.0	40	41.1	#	1.9

# = Rounds to zero.

<sup>1</sup> In this table, sample members are counted as respondents if they completed the full survey (partials are excluded).

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Incentive choice by prior-round response status.** All sample members who completed the BPS:12/17 pilot-test survey were eligible to receive a \$30 incentive. The BPS:12/17 pilot test offered three incentive options to sample members: check, PayPal, or eGift card. Checks were processed weekly at RTT's Research Operations Center. PayPal payments were immediately paid electronically to study participants upon completion of the survey. An eGift card option was offered for the first time in order to increase electronic incentive options for study participants and increase response rates. The eGift card option allowed sample members to use a redemption code, sent to their e-mail address, that allowed them to select from nine vendor options including Amazon, Walmart, Starbucks, Chili's, Dunkin Donuts, Panera Bread, Domino's Pizza, Barnes and Noble, and CVS. As shown in table C-8, overall, checks were the most popular incentive choice among study participants compared to PayPal ( $\chi^2 = 84.2, p < .001$ ) and eGift card ( $\chi^2 = 281.4, p < .001$ ).

**Table C-8. Number and percentage of respondents, by incentive choice and prior-round response status: 2016**

Prior-round response status	Total sample	Total respondents <sup>1</sup>		Percent of respondents			
		Number	Percent of total	Check	PayPal	eGift card	Declined
<b>Total</b>	<b>2,310</b>	<b>1,120</b>	<b>48.4</b>	<b>55.5</b>	<b>30.1</b>	<b>13.8</b>	<b>0.4</b>
NPSAS:12 and BPS:12/14 respondent	1,510	930	61.7	56.7	30.1	12.7	0.5
NPSAS:12 respondent only	490	80	16.4	48.8	31.3	20.0	#
BPS:12/14 respondent only	310	110	34.6	50.5	29.9	18.7	#

# Rounds to zero.

<sup>1</sup> Sample members are counted as respondents if they completed the full survey (partial surveys did not receive incentives and are excluded from this table).

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

## C.3.2 Evaluation of the Pilot-Test Student Survey

This section provides an evaluation of the student survey items, such as timing burden, help text, and item response rates. This section also includes the results from the evaluation of the predictive coders and results from cognitive testing.

### C.3.2.1 Survey Timing Burden

To assess the burden associated with completing the BPS:12/17 pilot-test survey, the time required for each respondent to complete the survey was collected and analyzed. Special attention was paid to differences in the time required to navigate particular survey routing (i.e., paths through the instrument) and items with consistently high administration times.

A time stamp was embedded on each form (web screen) to be used in calculating the time required to complete the survey. A start timer recorded the clock time on a respondent's or DCI's computer when a form was first loaded to get the *start time*; and an end timer recorded the clock time when the *Next* button on the form was clicked to get the *end time*. The time for each form was calculated by subtracting the *start time* from the *end time*. Total instrument time was calculated by summing the times recorded for each form.

Overall, 1,170 surveys were completed in the BPS:12/17 pilot test. Surveys completed in more than one session, partial surveys, and total time outliers were excluded from timing calculations. To detect total time outliers, the distribution of survey times (highly right skewed) was first normalized using a Box-Cox power transformation (Box and Cox 1964). Cases were then excluded using an interquartile

range formula (adopted from Tukey 1977) with a multiplier of 1.5.<sup>8</sup> Given these parameters, 950 cases (81 percent of the total completed surveys) were included in the timing analyses reported here. Table C-9 shows the number and percentage of surveys included in and excluded from the analyses in the timing report.

**Table C-9. Number and percentage of surveys included in and excluded from the timing report: 2016**

Surveys included in and excluded from timing report	Number of cases	Percent
<b>Total surveys</b>	<b>1,170</b>	<b>100.0</b>
Surveys included in timing report	950	81.2
Control group (with traditional question set)	480	41.0
Experimental group (with new item formats to be tested)	470	40.2
Surveys excluded from timing report	220	18.8
Completed in more than one session	150	12.8
Total time outliers	20	1.7
Partial surveys	50	4.3

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Timing by prior-round response status.** Average completion times for the full survey and for sections by prior-round response status are shown in table C-10. NPSAS:12 and BPS:12/14 respondents took longer overall, at 23.4 minutes to complete, compared with NPSAS:12-only respondents, who took 20.8 minutes ( $t(856), 199, p < .05$ ). With regard to survey section timing, sample members who responded to both NPSAS:12 and BPS:12/14 took more time in the Enrollment and Employment sections (3.5 and 9.5 minutes per section, respectively) than sample members who only responded to NPSAS:12 (2.9 and 7.7 minutes per section respectively) ( $t(114.88), 2.43, p < .05$ ;  $t(93.67), 2.91, p < 0.01$ ).<sup>9</sup> Though statistically significant, these differences are numerically minor and may be due to the selection and configuration of forms for the pilot test.

<sup>8</sup> Excluded as outlier if total time > 75th percentile + (1.5 \* interquartile range) or if total time < 25th percentile - (1.5 \* interquartile range).

<sup>9</sup> Satterthwaite (1946) approximation was used in tests with unequal variances.

**Table C-10. Average survey completion time in minutes, by prior-round response status and survey section: 2016**

Survey section	NPSAS:12 respondents only		BPS:12/14 respondents only		NPSAS:12 and BPS:12/14 respondents	
	Number of cases	Average time	Number of cases	Average time	Number of cases	Average time
<b>Total full survey</b>	<b>70</b>	<b>20.8</b>	<b>90</b>	<b>23.1</b>	<b>790</b>	<b>23.4</b>
Enrollment	70	2.9	90	3.4	790	3.5
Education experiences	70	3.5	90	3.7	790	3.5
Financial aid	70	0.7	90	0.9	790	0.9
Employment	70	7.7	90	9.4	790	9.5
Income and expenses	70	0.5	90	0.3	790	0.4
Background	70	2.8	90	2.7	790	2.9

NOTE: The timing analysis excluded partial surveys, outliers, and surveys completed in more than one session. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Longest form times.** Average times to administer each form (web screen) were examined across all forms in the survey. The forms with the highest average administration times are listed in table C-11. Among the highest average form times were the coders (in decreasing length of time): most recent employer occupation (B17DOCC); original NPSAS major (B17BOMJ1A); and postsecondary institutions attended (B17AOTSCH01). The time required to complete these forms is not unexpected given that coders required the respondent to (1) enter text strings on the form, (2) hit “Enter” to conduct a keyword search of an underlying database, and (3) select a response from the returned list of possible matches. The other longest forms were the calendar forms, in which a respondent was asked to select a month or set of months from a calendar. Given that these forms required detailed recall of prior dates, their longer completion time was expected.

**Table C-11. Ten longest average form times observed in the survey in seconds: 2016**

Form name	Form description	Type	Number of cases	Average time
B17DOCC	Most recent employer: occupation coder	Coder	860	63.7
B17BOMJ1A	Original NPSAS major: major coder	Coder	480	40.0
B17AOTSCH01	Other school enrollment 1: school coder	Coder	170	39.0
B17ANPENRL01	Other NPSAS enrollment 1: months enrolled in Years 4–6	Calendar	80	36.8
B17AOTENRL01	Other NPSAS enrollment 1: months enrolled in Years 4–6	Calendar	310	34.7
B17DJOBBSA	Job satisfaction	Radio buttons	860	33.3
B17ANENRL	NPSAS enrollment: months enrolled in Years 4–6	Calendar	380	31.8
B17DEDBENFTS	Choosing job: factors of importance when choosing job	Radio buttons	950	28.4
B17CLNICA	Undergraduate student loan debt influenced life situation	Radio buttons	430	28.0
B17BIMPACT	Participated in high-impact activities	Radio buttons	950	27.1

NOTE: The timing analysis excluded partial surveys, outliers, and surveys completed in more than one session. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.



**Timing by use of mobile device.** Average completion times and average section completion times by web mobile and web nonmobile modes are shown in table C-12. Although not statistically significantly different, pilot-test surveys completed by web mobile took an average of 22.8 minutes overall, compared with 23.5 minutes for web nonmobile. This finding was a departure from prior rounds in which web mobile surveys took significantly longer than web nonmobile surveys. The small sample size could contribute to the lack of significant differences, as could further improvements to optimize functionality on mobile devices. With regard to sections, there were no significant differences in survey completion times between surveys completed by web mobile and web nonmobile mode except in the Background section.

**Table C-12. Average survey completion time in minutes, by web nonmobile and web mobile mode and survey section: 2016**

Survey section	Web nonmobile		Web mobile	
	Number of cases	Average time	Number of cases	Average time
<b>Total full survey</b>	<b>590</b>	<b>23.5</b>	<b>360</b>	<b>22.8</b>
Enrollment	590	3.6	360	3.3
Education experiences	590	3.6	360	3.5
Financial aid	590	0.8	360	0.9
Employment	590	9.4	360	9.3
Income and expenses	590	0.4	360	0.3
Background	590	3.0	360	2.6

NOTE: The timing analysis excluded partial surveys, outliers, and surveys completed in more than one session. Sample sizes rounded to the nearest 10. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

### **C.3.2.2 Pilot-Test Experiments**

Several experiments were included in the BPS:12/17 pilot-test student survey to evaluate alternative methods to administer questions. Three experiments tested new designs for assisted coding forms, or coders, used to identify standardized codes for text string responses. A fourth experiment tested revised question wording, using “forgiving” introductory language that could mitigate social desirability bias on a question intended to collect data on academic performance through GPA.

**Evaluation of predictive search coders.** Predictive search tools, sometimes called predictive text or suggestive searches, have become commonplace for online search engines and websites. When this style of query is used, potential results appear as the user begins to type a search word. Coders in prior BPS student survey instruments have required the user to completely type the query and then click “enter” to begin the search.

Sample members were randomized to either a treatment ( $n = 580$ ) or control ( $n = 590$ ) group. Members of the treatment group were eligible to receive all four experimental forms, and the control group was administered the nonpredictive search forms.

Predictive search methods for survey coders were tested in the BPS:12.17 pilot test for the potential to reduce survey burden by decreasing the time required to code data, including major/field of study, postsecondary institutions, and zip codes. Evaluation of predictive search coders included comparing administration times for forms using predictive searches with times for traditional, nonpredictive searches, and comparing substantive (i.e., nonmissing) responses, measured as an item's percentage of missing data. Evaluation also examined the need for post-data-collection upcoding, in which expert coding staff attempt to identify an appropriate standardized response option for any text strings entered by a respondent for which a code was not selected. The remainder of this section summarizes the experimental forms, the results of the experiments, and the recommendations for the full-scale study.

**Major/field of study.** The traditional major coder (figure C-1) required respondents to enter text strings that were used to perform a keyword search linked to an underlying database. After the respondent typed and submitted the string, the coder returned a series of possible matches for the respondent to review and select from.

**Figure C-1. Traditional major coder: 2016**

**School Focus**  
Duke University

What was your original declared major at Duke University?

If you originally declared a double major, tell us about only one of them here.

Please type the information requested in the box provided and then click the "Enter" button. A list of categories that match your entry will be displayed for you to choose from.

1. **FIRST** - type in your major or field of study:

2. **THEN** - click :

General Description	Specific Description	
Psychology	Psychology, General	<input type="button" value="Select"/>
Psychology	Applied Psychology	<input type="button" value="Select"/>
Psychology	Clinical Child Psychology	<input type="button" value="Select"/>
Psychology	Clinical Psychology	<input type="button" value="Select"/>

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

Using the new predictive major coder (figure C-2), when respondents entered three or more characters into the search field, the form immediately displayed potential matching results beneath the search field.

**Figure C-2. Predictive major coder: 2016**

**School Focus**  
Duke University

What was your original declared major at Duke University?

If you originally declared a double major, tell us about only one of them here.

(Enter your original major and select from the resulting options.)

Psy

- Psychology, General
- Applied Psychology
- Clinical Child Psychology
- Clinical Psychology
- Clinical, Counseling and Applied Psychology, Other

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

The mean time to complete the experimental form (40.5 seconds) was less than the mean time for the control form (54.3 seconds) ( $t(835.9) = 3.59, p < .001$ ). The percentage of missing data was not significantly different between the control (3 percent) and treatment (2 percent) groups ( $\chi^2(1, n = 1,163) = 0.24, p = .62$ ). As shown in table C-13, about 12 percent of the predictive major experimental coder responses required upcoding, compared with 4 percent for the traditional major control coder. However, after upcoding, 1 percent of text strings in each group could not be upcoded.

**Table C-13. Summary of upcoding results for major coder, by coder type and response outcome: 2016**

Response outcome	Coder type	
	Traditional major coder	Predictive major coder
<b>Total (number)</b>	<b>550</b>	<b>540</b>
Needed upcoding (percent)	4.2	11.5
Successfully upcoded (percent)	3.7	10.4
Could not be upcoded (percent)	0.5	1.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Postsecondary institution coder.** Similar to the major/field of study coder, the traditional postsecondary institution coder (figure C-3) required respondents to enter text strings that were used to perform a keyword search linked to an underlying database. The coder then returned a series of possible matches for the respondent to review and select from. Using the new predictive postsecondary institution coder

(figure C-4), after respondents entered three or more characters into the search field, potential matching results were displayed immediately in the search field.

**Figure C-3. Traditional postsecondary institution coder: 2016**

What is the name of another school you have attended?

(If you have attended more than one other school since July 2013, tell us about only one of them now. We'll ask you about all schools you have attended later in the survey.)

1. **FIRST** type in school name:

2. **THEN** choose state:

3. **NEXT** type in city:

OR click:

4. **LAST** click:

School Name	City	State
American University	Washington	DC

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Figure C-4. Predictive postsecondary institution coder: 2016**

What is the name of another school you have attended?

(If you have attended more than one other school since July 2013, tell us about only one of them now. We'll ask you about all schools you have attended later in the survey.)

- ☐ Allied **American** University
- ☐ **American** Academy McAllister Institute of Funeral Service
- ☐ **American** Academy of Acupuncture and Oriental Medicine
- ☐ **American** Academy of Art
- ☐ **American** Academy of Cosmetology
- ☐ **American** Academy of Dramatic Arts-Los Angeles
- ☐ **American** Academy of Dramatic Arts-New York
- ☐ **American** Academy of Hair Design

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

The mean time for the experimental postsecondary institution coder (34.5 seconds) was less than the mean time for the traditional item (54.7 seconds) ( $t(242.48) = 2.67$ ,  $p < .01$ ). Among cases in this analysis of timing difference between the control and experimental groups, there were not enough missing responses in either group to test for reduction in missingness. Only one respondent in each group skipped the institution coder form. Fourteen percent of the experimental predictive coder

responses required upcoding, compared with 13 percent for the control coder (table C-14). However, after upcoding, 5 percent of remaining text strings for the predictive coder, and 6 percent of text strings for the traditional coder, could not be upcoded.

**Table C-14. Summary of upcoding results for postsecondary institution coder, by coder type and response outcome: 2016**

Response outcome	Coder type	
	Traditional major coder	Predictive major coder
<b>Total (number)</b>	<b>220</b>	<b>180</b>
Needed upcoding (percent)	12.9	14.4
Successfully upcoded (percent)	6.6	9.4
Could not be upcoded (percent)	6.3	5.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Zip code coder.** For the traditional zip code coder, a 5-digit numeric code was entered by the respondent and matched to a zip code database. The traditional form (figure C-5) required that all five digits be entered before executing a search. The experimental zip code coder (figure C-6) provided the ability to match a partially entered zip code to city and state names, resulting in a list of matched zip codes from which respondents could more easily select a response.

**Figure C-5. Traditional zip code coder: 2016**

What is the 5-digit ZIP code of the city, town, or municipality in which RTI International is located? If you do not know the ZIP code of your place of work, please enter the city and state in which your place of work is located.

If your employer has multiple offices or locations of business, please indicate the ZIP code where your work activities are primarily conducted.

ZIP Code:  [AutoFill City and State from ZIP Code](#)

City:	State:	Select:
Durham	NC	<input type="button" value="Select"/>
Research Triangle Park	NC	<input type="button" value="Select"/>

City:

State:

☐ Check here instead if address is outside the United States

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Figure C-6. Experimental zip code coder: 2016**

What is the 5-digit ZIP code of the city, town, or municipality in which RTI International is located? If you do not know the ZIP code of your place of work, please enter the city and state in which your place of work is located.

If your employer has multiple offices or locations of business, please indicate the ZIP code where your work activities are primarily conducted.

277

- 27701 - Durham, NC
- 27701 - East Durham, NC
- 27702 - Durham, NC
- 27703 - Durham, NC
- 27703 - East Durham, NC
- 27704 - Durham, NC
- 27705 - Durham, NC
- 27706 - Durham, NC

in the United States or a US territory.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

The mean time for the experimental, predictive zip code coder (24.3 seconds) was less than that of the control form (33.1 seconds) ( $t(727.92) = 4.49, p < .001$ ). The percentage of missing data was less for the experimental, predictive zip code coder (7 percent) compared with that of the traditional coder (12 percent) ( $\chi^2(1, n = 1,961) = 4.20, p < .0001$ ). Upcoding was not performed on partial zip codes. However, with the predictive search coder, if a respondent entered an entire 5-digit zip code but did not click “enter” to submit the zip code, the user-submitted data were added to the data file. Table C-15 shows the distribution of zip code results.

**Table C-15. Summary of zip code coder results, by coder type and response outcome: 2016**

Response outcome	Coder type	
	Traditional zip code coder	Predictive zip code coder
<b>Total (number)</b>	<b>900</b>	<b>1,060</b>
Valid zip code provided (percent)	78.3	86.6
Missing zip code (percent)	12.2	6.6
Invalid zip code provided (percent)	9.5	6.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Evaluation of revised question wording for GPA.** Given the sensitive nature of questions related to academic performance and the social desirability of a higher GPA, survey respondents with lower grades may be motivated to inflate their GPAs when self-reporting. One approach to mitigate social desirability bias uses a “forgiving” introduction before the question, suggesting normative or otherwise comprehensible behavior (Sudman, Bradburn, and Wansink 2004). As mentioned by Tourangeau and Yan (2007), few studies have examined the validity of data reported

using forgiving wording, and results from those have been mixed, showing no difference or small increases in response to sensitive questions (Abelson, Loftus, and Greenwald 1992; Catania et al. 1996; Holtgraves, Eck, and Lasky 1997).

In this experiment, the control group was administered a GPA question, structured similarly to that used in the prior-round BPS:12/14, and the treatment group was administered the same question with a forgiving introduction in question wording. Examples of both the control and treatment question are provided in figures C-7 and C-8.

**Figure C-7. Traditional grade point average item: 2016**

Which best describes your overall grades at from the date you started there through the end of your most recent term there before July 2016?

- ☐ Mostly A's (3.75 and above)
- ☐ A's and B's (3.25-3.74)
- ☐ Mostly B's (2.75-3.24)
- ☐ B's and C's (2.25-2.74)
- ☐ Mostly C's (1.75-2.24)
- ☐ C's and D's (1.25-1.74)
- ☐ Mostly D's or below (1.24 or below)
- ☐ Don't know my grades
- ☐ I would describe my grades differently than what is listed here

Next ➔

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Figure C-8. Experimental grade point average item: 2016**

Adjusting to the demands of college can make it harder to earn high grades. Which best describes your overall grades at from the date you started there through the end of your most recent term there before July 2016?

- ☐ Mostly A's (3.75 and above)
- ☐ A's and B's (3.25-3.74)
- ☐ Mostly B's (2.75-3.24)
- ☐ B's and C's (2.25-2.74)
- ☐ Mostly C's (1.75-2.24)
- ☐ C's and D's (1.25-1.74)
- ☐ Mostly D's or below (1.24 or below)
- ☐ Don't know my grades
- ☐ I would describe my grades differently than what is listed here

**Next** ➤

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

The research questions for the GPA experiment were (1) what impact will the addition of forgiving language have on GPAs reported; (2) will the addition of forgiving language increase the amount of substantive (i.e., nonmissing) responses; and (3) will timing be increased due to the addition of forgiving language?

Table C-16 displays the response distribution among the control and treatment groups. To address the research question regarding impacts on reported GPAs, analyses were restricted to GPA responses on the 0–4.0 scale (i.e., excluding missing, “Don’t know my grades,” and “Describe grades differently”). Value means were found to be lower, but not significantly so, among cases administered the experimental form compared with nonexperimental cases ( $t(1057.84) = .49, p = .63$ ). An ordered probit model was also investigated, although no significant differences were detected between the treatment and control groups.



**Table C-16. Number and percentage of responses to grade point average questions, by control and treatment group: 2016**

Grade point average	Control		Treatment	
	Number	Percent	Number	Percent
<b>Total</b>	<b>560</b>	<b>100</b>	<b>560</b>	<b>100</b>
Missing	#	#	#	#
Mostly As (3.75 and above)	110	18.8	100	18.7
As and Bs (3.25–3.74)	180	33.0	170	30.4
Mostly Bs (2.75–3.24)	120	21.7	130	22.5
Bs and Cs (2.25–2.74)	90	16.0	100	18.5
Mostly Cs (1.75–2.24)	20	3.9	20	2.9
Cs and Ds (1.25–1.74)	10	1.8	10	1.4
Mostly Ds or below (1.24 or below)	#	#	#	#
Don't know my grades	10	2.5	20	3.2
Describe grades differently	10	2.0	10	1.8

# Rounds to zero.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

Staff also constructed an indicator variable for values corresponding to a GPA at or above 3.25 to analyze the impact that the addition of forgiving language had on reported GPAs. This cut point was chosen to ensure the lower grade boundary included Bs. A logistic regression model was then used to examine the likelihood of a student being in the treatment group using the indicator, specified by

$$Pr(treatment_i = 1) = \beta_0 + \beta_1 \cdot grade_i,$$

where grade is a binary indicator for a student reporting a GPA of 3.25 or higher. Results, however, indicated that there was no statistically discernible difference between the treatment and control groups. Table C-17 shows the results of this model.

**Table C-17. Logistic regression estimates and odds ratios for treatment group: 2016**

Model parameter	Estimate	95% confidence interval		z score	p value
GPA 3.25 or higher = 1	-0.11	[-.35, .14]		-.85	.39
Intercept	0.05	[-.13, .22]		.54	.59

NOTE: GPA = grade point average.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

There were insufficient missing data to compare the control and experimental forms; only one respondent (in the control group) skipped the GPA form. No significant difference was found between the mean time to complete the control form (16.3 seconds) and the treatment form (18.0 seconds) ( $t(903.99) = 1.36, p = .18$ ).

### C.3.2.3 Help Text

During the BPS:12/17 pilot-test survey, respondents were able to click a help button provided on each survey screen to obtain question-specific help text. In addition, some questions included embedded hyperlinks to the help text on specific terms in the question itself. Whether accessed through the help button or through a hyperlink, each question had unique help text that provided definitions of key terms and phrases used in question wording and response options, and provided any other explanations thought to help clarify and standardize meaning for respondents.

The number of times that respondents clicked the help button on each screen relative to the number of respondents who were administered the question determined the rate of help text access for that screen. Staff analyzed the screen-level rate of help text access overall and by mode of survey administration to identify screens that may have been problematic for respondents.

Eight interview questions (forms) were administered to at least 10 respondents and had an overall help text access rate of 1 percent or greater (table C-18). *Ever taken out undergraduate private loans* (B17CEVRPRVLN) had the highest rate of overall help text access, at 6 percent. This form asked respondents if they had ever taken out any private loans for undergraduate education. However, help text access rates did not differ significantly between web or mobile modes for this form. Three forms, including *Employer 1: ZIP code of employer* (B17DJOBZIP01), at 2.2 percent access overall; *Estimate of grades at primary school* (B17BGPAEST), at 2.0 percent overall; and *Employer 1: Months worked for pay in Years 4–6* (B17DWKMON01), at 1.4 percent overall all showed significantly more help text access on web platforms compared to mobile devices ( $\chi^2(1, N = 516) = 5.72, p < .05$ ;  $\chi^2(1, N = 569) = 5.8, p < .05$ ; and  $\chi^2(1, N = 505) = 5.91, p < .05$ , respectively). All of the remaining forms did not differ significantly in help text access rates between web and mobile devices.

**Table C-18. Forms with highest rates of help text access, by mode of administration: 2016**

Form	Form description	Overall		Web nonmobile		Web mobile	
		Number admin-istered to	Percent of help text access	Number admin-istered to	Percent of help text access	Number admin-istered to	Percent of help text access
B17CEVRPRVLN	Ever taken out undergraduate private loans	700	6.3	430	7.0	270	5.1
B17DJOBZIP01	Employer 1: ZIP code of employer	510	2.2	330	3.3	170	#
B17AOTCMPD01	Other school 1: date awarded degree/certificate	330	2.1	190	3.6	130	#
B17BGPAEST	Estimate of grades at primary school	560	2.0	360	3.0	190	#
B17ANPCMPD01	Other NPSAS enrollment: completed degree/certificate requirements	120	1.7	80	2.7	40	#
B17AOTFRDG01	Other school enrollment for degree or certificate at other school 1	510	1.6	310	1.0	200	2.5
B17DWKMON01	Employer 1: months worked for pay in Years 4–6	1,020	1.4	630	1.9	380	0.5
B17CEVRRCVLN	Ever taken out undergraduate student loans	1,120	1.1	700	0.9	420	1.4

# Rounds to zero.

NOTE: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding. Table is based on the rates of help text access for forms administered to at least 10 respondents in which help text was accessed at an overall rate of at least 1 percent. Partial surveys were excluded from the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students (BPS:12/17) Pilot Test.

### C.3.2.4 Item-Level Nonresponse

Staff used the rate of nonresponse to individual items to identify potentially troublesome items and better understand the experiences of sample members in completing the survey. Staff calculated total nonresponse rates for items with missing data (including *don't know* responses) that were administered to at least 10 respondents. Overall, the item-level nonresponse analysis showed that, of 960 items, seven items had more than 10 percent missing data.<sup>10</sup> Table C-19 summarizes the item-level nonresponse for items administered to at least 10 respondents with a rate of more than 10 percent missing data.

<sup>10</sup> Partial surveys and items not available for public review (e.g., respondent contact information) were excluded from this analysis.

**Table C-19. Number administered and item nonresponse percentages for items with more than 10 percent of data missing, by mode of administration and item: 2016**

Item	Item label	Overall		Web nonmobile		Web mobile	
		Number admin-istered to	Percent missing	Number admin-istered to	Percent missing	Number admin-istered to	Percent missing
B17DEARNAMT	Reference employer: ending earnings amount	20	77.3	10	83.3	10	70.0
B17DEARNTIM	Reference employer: ending earnings time frame	20	72.7	10	75.0	10	70.0
B17CSPLNPY	Spouse's monthly student loan payment: amount	50	30.8	30	28.6	20	33.3
B17DJOBZIPEX	Reference employer: employer zip code (experiment)	120	18.8	70	12.7	50	28.3
B17DJOBZIP03	Employer 3: employer zip code	90	16.3	60	7.9	30	34.5
B17DJOBZIP04	Employer 4: employer zip code	30	14.8	20	5.3	10	37.5
B17DJOBZIP02	Employer 2: employer zip code	260	13.3	180	12.9	90	14.0

NOTE: This table only includes those items that were administered to at least 10 respondents. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students (BPS:12/17) Pilot Test.

### C.3.2.5 Cognitive Testing

In addition to the metrics used in this section to analyze the performance of the survey instrument, cognitive testing was conducted to collect information on users' interactions with the survey instrument, with a particular emphasis on new or modified items. Cognitive testing provides insights on the cognitive processes of respondents with characteristics similar to BPS respondents. Respondents provided feedback on their comprehension of questions, retrieval of relevant information, decision processes for answering questions, navigation through the instrument and interface with response options, and ability to align their responses to each question's response options.

Two rounds of cognitive testing were conducted. The first round was completed using a reduced set of questions in a pen-and-paper format. The second round was conducted with the complete web-based pilot-test instrument on either a personal computer or handheld device. No telephone interviews were conducted. Respondents provided informed consent before beginning the process. They then participated in cognitive interviews that lasted 90 minutes and were given \$40 upon completion.

In both rounds, interviewers used scripted cognitive probes during the interview process to elicit information about items of interest. Scripted probes were refined as needed throughout cognitive interviewing based on the responses. Spontaneous probes were also used at the interviewer's discretion when the respondent asked

questions, seemed hesitant to provide a confident answer, or made comments regarding the items being tested.

Recruitment for cognitive interviewing was targeted to reach, screen, and enroll enough respondents to complete 40 interviews over two rounds of interviewing. Effort was made to accurately replicate the experience that respondents would have in the full-scale collection, and to elicit feedback from students with experiences like those of BPS:12/17 full-scale sample members. Thus, to reflect the types of students participating in the BPS:12/17 full-scale collection, respondents were recruited from three institution levels—4-year, 2-year, and less-than 2-year institutions—and from different enrollment statuses. Table C-20 shows the final status of the 280 participants who were recruited for cognitive interviews.

**Table C-20. Number and percentage of participants recruited for cognitive interviews, by recruitment status: 2015**

Recruitment status	Number of participants	Percent
<b>Total</b>	<b>280</b>	<b>100.0</b>
Eligible participants	180	68.3
Recruited subjects	50	17.2
Scheduled but not interviewed (cancelations and “no-shows”)	10	1.9
Completed interview	40	15.3

NOTES: Categories are mutually exclusive. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

Table C-21 shows the total number of completed interviews by institution level and enrollment status.

**Table C-21. Number of completed cognitive interviews, by institution level and enrollment status: 2015**

Institution level and enrollment status	Number
<b>Total</b>	<b>40</b>
Institution level	
Less-than-2-year	10
2-year	20
4-year	10
Enrollment status	
Completed	20
Left before completion	10
Still enrolled	10

NOTES: Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

Input from cognitive interview subjects was used for decisionmaking regarding several items that had not been included in prior BPS surveys. This input was presented to members of the TRP and considered when making decisions about the contents of the full-scale survey. In particular, a question regarding high-impact activities was removed from the survey in part due to cognitive interview subjects' lack of familiarity with the response options, lack of ability to distinguish between response options, and high likelihood of false positive responses (i.e., high likelihood that respondents would incorrectly report participating in such activities). Cognitive interview subjects also provided comments that influenced decisions not to include questions about a spouse's student loans. Several respondents indicated that they were uncomfortable answering these questions about their spouse or were not confident recalling the details of their loans. A cognitive interview question about various dimensions of job satisfaction also yielded useful feedback for the full-scale survey.

Predictive search coders were also tested during the second round of cognitive interviews. Subjects were given the opportunity to view both predictive and nonpredictive coders. Subjects were split on their preferences for one coder type versus the other, but neither coder type presented problems or misunderstandings for respondents. Cognitive interview subjects understood what information the coders were asking for and were able to respond accordingly.

## Section C.4. Student Survey Data-Collection

### Recommendations for BPS:12/17 Full-Scale Study

The BPS:12/17 pilot test was conducted to test and refine data-collection procedures, assess new survey items, improve item wording, and estimate response burden. Lessons learned from the pilot test were used to inform plans for the full-scale study, including plans for data-collection procedures and instrumentation, which are summarized below.

#### C.4.1 Data-Collection Procedures

Pilot-test batch tracing successfully confirmed existing contact information, or provided additional contacting information, for 95 percent of cases sent to all tracing sources. Although limited locating efforts occurred before pilot-test data collection, staff located and surveyed approximately 51 percent of BPS:12/17 pilot-test sample members.

The pilot test offered respondents a choice of three incentive options: check, PayPal, or eGift card. The eGift card option was offered for the first time in order to increase electronic incentive options for study participants and increase response rates. However, as discussed in section 3.1, checks were the most popular incentive choice (56 percent) among study participants, followed by PayPal (30 percent). The percentage of participants who chose the eGift card option was small (14 percent overall). Given the cost to provide this incentive option, project staff recommend offering only checks and PayPal as incentive options during the full-scale study.

The pilot test incorporated three experiments to test new designs for assisted coding forms, used to identify standardized codes for text string responses. Based on evaluation of pilot-test results—including comparison of administration times, substantive (i.e., nonmissing) responses, and the need for upcoding—for predictive and traditional coders, the decision was made to use only predictive coders in the full-scale collection. A fourth experiment tested the effect of using forgiving wording in a question about GPAs on GPAs reported, the number of substantive responses, and timing. Because the forgiving wording did not result in significantly different

substantive responses and did not demonstrate faster administration time, and because there was no significant difference in the amount of missing data between the forms, it was not adopted for the full-scale collection.

## C.4.2 Student Survey

Based on analysis of timing burden and item response rates, cognitive testing, and input from the TRP, some pilot-test items were removed or modified for the full-scale survey, as shown in table C-22 and table C-23. Table C-22 lists each item in the pilot test that was removed or substantially modified, along with the corresponding section name and item label. This table also provides a brief description of the extent and rationale for the change. Table C-23 shows item detail for the added, removed, or modified items, including question wording and response options.



**Table C-22. Summary list of pilot-test items revised in the full-scale survey, by section and item name: 2016**

Section in pilot test	Item name in pilot-test survey	Label in pilot-test survey	Revision in full-scale survey
Front end	B17RESPCONF2	Security question: respondent verifies last 4 digits of SSN	Added: provides additional security to verify the identity of the respondent.
Front end	B17RESPCONF3	Security question: respondent verifies street address	Added: provides additional security to verify the identity of the respondent.
Front end	B17RESPCONF4	Security question: respondent verifies last 4 digits of phone number	Added: provides additional security to verify the identity of the respondent.
Front end	SECFAILTEXT	Informational screen for respondents who did not pass security check	Added: provides additional security to verify the identity of the respondent.
Front end	INFCON	Shortened Version of Consent	Modified: includes language to clarify the total incentive amount offered to sample members who are in the prepaid data collection incentive condition.
Enrollment	B17AMAJ1	Current/most recent major at NPSAS for base-year degree/certificate major 1	Modified: use of the predictive text search coder.
Enrollment	B17AMAJ2	Current/most recent major at NPSAS for base-year NPSAS degree/certificate major 2	Modified: use of the predictive text search coder.
Enrollment	B17ANPMAJ01	[OTHER NPSAS ENROLLMENT 1]: Major 1 coder	Modified: use of the predictive text search coder.
Enrollment	B17ANPMAJ201	[OTHER NPSAS ENROLLMENT 1]: Major 2 coder	Modified: use of the predictive text search coder.
Enrollment	B17AOTSCH01	[OTHER SCHOOL ENROLLMENT 1]: School coder	Modified: use of the predictive text search coder.
Education experiences	B17AOMJ1A	Original primary school major: Major coder	Modified: use of the predictive text search coder.
Education experiences	B17BIMPACT	Participated in high-impact activities <ul style="list-style-type: none"> <li>- Research project with a faculty member</li> <li>- Community-based project</li> <li>- Culminating senior experience</li> <li>- Program in which you were mentored</li> <li>- Learning community</li> </ul>	Removed: item requires recall over 6 years; better suited for earlier in postsecondary enrollment. Validity of item also questionable.
Education experiences	B17BPLA	Received credit for Prior Learning Experience (PLA)	Removed: item requires recall over 6 years; better suited for earlier in postsecondary enrollment. Validity of item also questionable.
Education experiences	B17BFEWERCBS	Reasons for taking fewer classes or time off school	Removed: item requires recall over 6 years; better suited for earlier in postsecondary enrollment.
Education experiences	B17BMORECRS	Reasons for taking more courses than expected	Removed: item requires recall over 6 years; better suited for earlier in postsecondary enrollment.
Education experiences	B17BEVRONLIN	Ever taken fully online course	Removed: item was not considered analytically useful for the BPS:12/17 full-scale survey. The technical review panelists were interested in programs that were entirely online, not individual courses.

See notes at end of table.

**Table C-22. Summary list of pilot-test items revised in the full-scale survey, by section and item name: 2016—Continued**

Section in pilot test	Item name in pilot-test survey	Label in pilot-test survey	Revision in full-scale survey
Financial aid	B17CWHYPRV	Reasons for taking out undergraduate private loans <ul style="list-style-type: none"> <li>- Needed more money</li> <li>- Federal loans were not offered by my school</li> <li>- Did not qualify for other loan aid</li> <li>- Private loan application process was fast and easy</li> <li>- Loan repayment could be deferred until after graduation</li> <li>- Private education loan checks are issued directly to the student rather than distributed by institution's aid office</li> <li>- School was not authorized to receive federal loans</li> <li>- Other reason</li> </ul>	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Financial aid	B17CBPSFEDLN	Verification that respondent took out undergraduate federal student loans in 2012-13	Removed: comparable data can be gathered from administrative sources; removal of the question reduces respondent burden.
Financial aid	B17CEVRFEDLN	Ever taken out undergraduate federal student loans	Removed: comparable data can be gathered from administrative sources; removal of the question reduces respondent burden.
Financial aid	B17CFDRYST	Currently repaying undergraduate federal student loan	Removed: comparable data can be gathered from administrative sources; removal of the question reduces respondent burden.
Financial aid	B17CFLNMOS	Monthly undergraduate federal student loan payment	Removed: comparable data can be gathered from administrative sources; removal of the question reduces respondent burden.
Financial aid	B17CFAMLN	Anyone helping to repay loans	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Financial aid	B17CLNINC	Have loans influenced life situation or decisions	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Financial aid	B17CLNICA	How student loans have influenced life situation or decisions <ul style="list-style-type: none"> <li>- Took job outside of field of study or training</li> <li>- Had to work more hours than desired</li> <li>- Had to work more than one job at the same time</li> <li>- Postponed attending graduate program in effort to being paying off loans</li> <li>- Could not afford to buy or keep a car</li> <li>- Had to delay purchasing a home</li> <li>- Had to move back in with parents or other family members</li> <li>- Other reason</li> <li>- None of the above</li> </ul>	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Financial aid	B17CSPLN	Spouse taken out student loans	Removed: item does not provide adequate analytic utility to offset respondent burden, and cognitive interviews indicated that respondents were uncomfortable giving this information about their spouse.

See notes at end of table.

**Table C-22. Summary list of pilot-test items revised in the full-scale survey, by section and item name: 2016—Continued**

Section in pilot test	Item name in pilot-test survey	Label in pilot-test survey	Revision in full-scale survey
Financial aid	B17CSPAMT	Spouse's total student loan amount	Removed: item does not provide adequate analytic utility to offset respondent burden, and cognitive interviews indicated that respondents were uncomfortable giving this information about their spouse.
Financial aid	B17CSPOWE	Amount of spouse's loans still owed	Removed: item does not provide adequate analytic utility to offset respondent burden, and cognitive interviews indicated that respondents were uncomfortable giving this information about their spouse.
Financial aid	B17CSPLNPY	Spouse's monthly student loan payment	Removed: item does not provide adequate analytic utility to offset respondent burden, and cognitive interviews indicated that respondents were uncomfortable giving this information about their spouse.
Employment	B17DFIRSTEMP	Employed within one month of completing degree/leaving enrollment?	Removed: the information desired from this item can be derived using previously collected data and by adjusting data collected for all jobs in the BPS:12/17 full-scale instrument.
Employment	B17DFIRSTPAY	Pay in first job after enrollment	Removed: the information desired from this item can be derived using previously collected data and by adjusting data collected for all jobs in the BPS:12/17 full-scale instrument.
Employment	B17DFIRSTHRS	Hours worked in first job after enrollment	Removed: the information desired from this item can be derived using previously collected data and by adjusting data collected for all jobs in the BPS:12/17 full-scale instrument.
Employment	B17DCAREER	Consider first job part of career	Removed: the information desired from this item can be derived using previously collected data and by adjusting data collected for all jobs in the BPS:12/17 full-scale instrument.
Employment	B17DWRKSTD01	Employer 1: work-study job	Removed: information can be gathered from administrative data; removal of the question reduces respondent burden.
Employment	B17DEMPLOY (renamed as B17DJOBZIP)	5-digit zip code of the city, town, or municipality in which job is located	Modified: use of the predictive text search coder.
Employment	B17DPREFT	Prefer more hours at job	Removed: item was not considered analytically useful; it was unclear if it would meet the objective of collecting data on underemployment.
Employment	B17DJBREAB	Job responsibilities - Supervision - Hiring and firing	Removed: item was not considered analytically useful; it was unclear if it would meet the objective of collecting data on the level of employment.

See notes at end of table.

**Table C-22. Summary list of pilot-test items revised in the full-scale survey, by section and item name: 2016—Continued**

Section in pilot test	Item name in pilot-test survey	Label in pilot-test survey	Revision in full-scale survey
Employment	B17DJOBSA	Satisfaction with job <ul style="list-style-type: none"> <li>- Your pay</li> <li>- Fringe benefits</li> <li>- Importance and challenge of work</li> <li>- Opportunities for promotion and advancement</li> <li>- Opportunities to use your training and education</li> <li>- Job security</li> <li>- Opportunities for further training and education</li> </ul>	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Employment	B17DSEARCH	Searching for job	Removed: item was not considered analytically useful; it was unclear if it would meet the objective of collecting data on the job satisfaction or other considerations for looking for another job while actively employed.
Employment	B17DMNRSN	Main reason for working during enrollment <ul style="list-style-type: none"> <li>- To pay living expenses such as housing, utilities, and transportation</li> <li>- To pay educational expenses such as tuition, fees, books, and supplies</li> <li>- To earn spending money</li> <li>- To minimize the amount of debt you have</li> <li>- To gain job experience</li> <li>- Other</li> </ul>	Removed: item requires recall over 6 years; better suited for earlier in postsecondary enrollment.
Income and expenses	B17EFAMHELP	Help from other family/friends for education or living expenses in 2015-16 school year	Removed: analytical value is diminished in the second follow-up, when most of the cohort will no longer be enrolled; removal also reduces respondent burden.
Income and expenses	B17EFAMGATE	Amount of help from other family/friends for education or living expenses in 2015-16 school year	Removed: analytical value is diminished in the second follow-up, when most of the cohort will no longer be enrolled; removal also reduces respondent burden.
Income and expenses	B17EFAMLOAMT	Amount of help from other family/friends for education or living expenses in 2015-16 school year	Removed: analytical value is diminished in the second follow-up, when most of the cohort will no longer be enrolled; removal also reduces respondent burden.
Income and expenses	B17EFAMHIAMT	Amount of help from other family/friends for education or living expenses in 2015-16 school year	Removed: analytical value is diminished in the second follow-up, when most of the cohort will no longer be enrolled; removal also reduces respondent burden.
Background	B17FDISTNC	Zip code when enrolled at [PRIMARY SCHOOL]	Modified: use of the predictive text search coder.
Background	B17FACS16A	Deaf or serious difficulty hearing	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Background	B17FACS16B	Blind or serious difficulty seeing	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Background	B17FACS17A	Difficulty concentrating, remembering, or making decision	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.

See notes at end of table.

**Table C-22. Summary list of pilot-test items revised in the full-scale survey, by section and item name: 2016—Continued**

Section in pilot test	Item name in pilot-test survey	Label in pilot-test survey	Revision in full-scale survey
Background	B17FACS17B	Serious difficulty walking or climbing stairs	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Background	B17FMAIN	Main type of condition or impairment	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Background	B17FVOTE	Currently registered to vote in U.S. Elections	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Background	B17FEVRVT	Ever voted in any national, state, or local election	Removed: item was not considered to be analytically valuable enough to justify burden on the respondent.
Background	B17FMATH	Math course-taking	Removed: item was included in the pilot test without intention of including it in the full-scale survey. For methodological analyses, pilot-test data collected with this form may be compared to student transcripts to learn more about administering coursetaking questions.
Incentives	GIFTCRD	Gift card e-mail address collection	Removed: response to the gift card incentive option in the pilot test was trivial; it will not be offered for full-scale.

NOTES: SSN = Social Security number; NPSAS = National Postsecondary Student Aid Study.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016**

Section and item name	Description
<b>Front end</b>	
B17RESPCONF2 (added for additional security)	<p>In order to verify that you are the [FIRST NAME] [MIDDLE NAME] [LAST NAME] [SUFFIX] who was enrolled at [NPSAS] at some point during the 2011-2012 school year, you must correctly answer a security question.</p> <p>Please enter the last four digits of your Social Security Number.</p> <p>1 =Yes 2 =No</p>
B17RESPCONF3 (added for additional security)	<p>In order to verify that you are the [FIRST NAME] [MIDDLE NAME] [LAST NAME] [SUFFIX] who was enrolled at [NPSAS] at some point during the 2011-2012 school year, you must correctly answer a security question.</p> <p>Have you lived on any of the following streets? Or Have you in the past or do you currently live on any of the following streets?</p> <p>1 =TRUE PRELOADED ADDRESS 2 =[random address] 3 =[random address] 4 =[random address]</p>
B17RESPCONF4 (added for additional security)	<p>In order to verify that you are the [FIRST NAME] [MIDDLE NAME] [LAST NAME] [SUFFIX] who was enrolled at [NPSAS] at some point during the 2011-2012 school year, you must correctly answer a security question.</p> <p>From the list below, please select the option that correctly reflects the last four digits of your phone number:</p> <p>1 =TRUE PRELOADED PHONE 2 =[random phone] 3 =B17[random phone] 4 =[random phone]</p>
SECFAILTEXT (added for additional security)	<p>Unfortunately, that response does not match our records.</p>
INFCON (item revised)	<p>Recently, we sent you material about a study we're conducting for the U.S. Department of Education about the education and employment of students who began their postsecondary education during the 2011-2012 school year. [if Y_DCGroup = 1 and Y_PREPAY = 1] You've already received \$10 via PayPal or check. The survey takes about [if ABBREV = 1] 10 {else} 30 minutes and as a token of our appreciation, you will receive an additional [INC_AMOUNT] for participating. {else if Y_DCGroup = 1 and Y_PREPAY = 2} We've already offered you \$10 via PayPal or check. If you have not received the \$10, please check your email notification from PayPal or call our Help Desk toll-free at 1-866-214-2043 if you have not already requested a check. The survey takes about [if ABBREV = 1] 10 {else} 30 minutes and as a token of our appreciation, you will receive an additional [INC_AMOUNT] for participating. {else} The survey takes about [if ABBREV = 1] 10 {else} 30 minutes and as a token of our appreciation, you will receive an additional [INC_AMOUNT] for participating.] You may decline to answer any question or stop the survey at any time.</p> <p>If you have any questions about this study, you may contact the study's director, Jason Hill, at 1-800-647-9657. For questions about your rights as a study participant, you may contact RTI's Office of Research Protection at 1-866-214-2043. (To learn more about your rights as a participant, [help text] click here. [end help text])</p> <p>To review the letter we mailed, click here (PDF letter).</p> <p>To review the study brochure, click here (PDF brochure).</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
INFCON (item revised)—Continued	<p>Do you want to begin the survey now?</p> <p>1 =Yes, I agree to participate now 2 =Not now, but I will participate at a later time 0 =No, I do not want to participate at all</p>
<b>Enrollment section</b>	
B17AMAJ1 (item revised)	<p>Create t_fill1, t_fill2, t_fill3, and t_fill4: {if CURRENTLY ENROLLED AT NPSAS} t_fill1=is {else} t_fill1=was {if CURRENTLY ENROLLED AT NPSAS} t_fill2=have {else} t_fill2=had { B17ADBLMAJ=3} t_fill3=intended {else} t_fill3=no words {if CURRENTLY ENROLLED AT NPSAS} t_fill4=intend {else} t_fill4=intended {if B17ADBLMAJ =3 or (if NOT CURRENTLY ENROLLED AT NPSAS and B17ACMPDGN=1)} t_fill5- no words {else if CURRENTLY ENROLLED AT NPSAS} t_fill5=current {else} t_fill5=most recent If B17ADBLMAJ=2 and (B17ANPMJ1STG=1 or B17ANPMJ2STG=1): You just told [if TIO: me/Else: us] you [if CURRENTLY ENROLLED AT NPSAS: are still/Else: were] majoring in [if B17ANPMJ1STG=1: NPSAS MAJOR 1/Else: NPSAS MAJOR 2] [if NOT CURRENTLY ENROLLED AT NPSAS: when you last attended [NPSAS]. Since you [if CURRENTLY ENROLLED AT NPSAS: are/Else: were] no longer majoring in [if B17ANPMJ1STG ne 1: NPSAS MAJOR 1/Else: NPSAS MAJOR 2], what [if CURRENTLY ENROLLED AT NPSAS: is/Else: was] your other major? [else if B17ADBLMAJ=2]: What [t_fill1] your [t_fill5] major or field of study for your [NPSAS DEGREE] at [NPSAS]? Since you [t_fill2] a double-major, please indicate only one major here. You will have an opportunity next to provide your other major. [Else]: What [t_fill1] your [t_fill3] [t_fill5] major or field of study for your [NPSAS DEGREE] at [NPSAS]? [If B17ADBLMAJ=3]:(If you [t_fill4] to double-major, tell [if TIO: me/else: us] only about the major most closely related to the job you hope to have after college.) Please do not enter a minor or concentration in the textbox. If you indicated earlier that you have formally declared a double major, enter only one major here. You will have an opportunity to provide your other major next. If you have not yet declared any major, choose only one intended major to tell us about. To enter your major (or field of study): First type your major at [NPSAS] into the textbox, then click "ENTER" and a list of majors that most closely matches your entry will be displayed. From the responses displayed, click "Select" next to the major that most closely matches your entry and click "Keep answer and continue" on the confirmation box if this is your major. You will then be taken to the next question in the survey. Click "Change answer" on the confirmation box if the description of the major does not closely match the major you entered and review the other options that were returned. If your major is not listed in the list of majors displayed, click "None of the above" at the bottom of the list of majors and choose descriptions of the major from the dropdown boxes that appear. B17AMJ1AST [If WEB] Please click on the entry in the list below that most closely describes your field of study: [B17AMAJ1]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices. [If TIO] Please bear with me while I code this... (Please click on the entry in the list below that most closely describes the respondent's field of study: [B17AMAJ1]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices.)  B17AMJ1GEN B17AMAJ1 B17AMJ1SPE</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17AMAJ2 (item revised)	<p>[If CURRENTLY ENROLLED AT NPSAS]: What is your other major or field of study for your [NPSAS DEGREE] at [NPSAS]?</p> <p>[Else]: What was your other major or field of study for your [NPSAS DEGREE] at [NPSAS]?</p> <p>[If WEB] Please click on the entry in the list below that most closely describes your field of study: [B17AMAJ2]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices. [If TIO] Please bear with me while I code this... (Please click on the entry in the list below that most closely describes the respondent's field of study: [B17AMAJ2]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices.)</p> <p>B17AMJ2GEN Wording</p> <p>B17AMAJ2 Wording</p> <p>B17AMJ2SPE Wording</p> <p>[If WEB] Please help us categorize [B17BMAJ2] using the dropdown boxes displayed. Using the arrow at the right side of the first dropdown box, you can display the general areas. Please click to select the desired general area, then select your specific discipline from the second dropdown box. [If TIO] Please bear with me while I code this... (Please help us categorize [B17BMAJ2] using the dropdown boxes displayed. Using the arrow at the right side of the first dropdown box, you can display the general areas. Please click to select the desired general area, then select your specific discipline from the second dropdown box.)</p>
B17ANPMAJ01 (item revised)	<p>Header: All programs at [NPSAS] [NPSAS DEGREE] [OTHER NPSAS DEGREE]</p> <p>[If CURRENTLY ENROLLED AT NPSAS and B17ANPDBLM01 = 2] What is your major or field of study for [{if iteration = 1 and B17ANPOTHSM = 1} this additional {else} your] [OTHER NPSAS DEGREE] at [NPSAS]?</p> <p>Since you have a double-major, please indicate only one major here. You will have an opportunity next to provide your other major.</p> <p>[else if CURRENTLY ENROLLED AT NPSAS] What is your [{if B17ANPDBLM01=3 and B17ANPDEC01=1} intended] major or field of study for [{if iteration = 1 and B17ANPOTHSM = 1} this additional {else} your] [OTHER NPSAS DEGREE] at [NPSAS]?</p> <p>[{if B17ANPDBLM01 = 3 and B17ANPDEC01 = 1} (If you intend to double-major, tell [{if TIO} me {else} us] only about the major most closely related to the job you hope to have after college.)]</p> <p>[else if NOT CURRENTLY ENROLLED AT NPSAS and B17ANPDBLM01=2] What was your major or field of study for [{if iteration = 1 and B17ANPOTHSM = 1} this additional {else} your] [OTHER NPSAS DEGREE] at [NPSAS] [{if AFTER JULY 1 } when you last attended there before July 2017]?</p> <p>Since you had a double-major, please indicate only one major here. You will have an opportunity next to provide your other major.</p> <p>[else] What was your [{if B17ANPDBLM01 = 3 and B17ANPDEC01 = 1} intended] major or field of study for [{if iteration = 1 and B17ANPOTHSM = 1} this additional {else} your] [OTHER NPSAS DEGREE] at [NPSAS] [{if AFTER JULY 1 } when you last attended there before July 2017]?</p>

See notes at end of table.



**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17ANPMAJ01 (item revised)—Continued	<p>B17ANPDBLM01 = 3 and B17ANPDEC01 = 1} (If you intended to double-major, tell [{if TIO} me {else} us] only about the major most closely related to the job you hope to have after college.)</p> <p>[If WEB] Please click on the entry in the list below that most closely describes your field of study: [B17BMAJ1]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices. [If TIO] Please bear with me while I code this... (Please click on the entry in the list below that most closely describes the respondent's field of study: [B17BMAJ1]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices.)</p> <p>B17ANP1GEN01 Wording</p> <p>B17ANP1MAJ01 Wording</p> <p>B17ANP1SPE01 Wording</p>
B17ANPMAJ201 (item revised)	<p>Header: All programs at [NPSAS] [NPSAS DEGREE] [OTHER NPSAS DEGREE]</p> <p>[If CURRENTLY ENROLLED AT NPSAS] What is your other major or field of study for [{if iteration = 1 and B17ANPOTHSM = 1} this additional {else} your] [OTHER NPSAS DEGREE] at [NPSAS]?</p> <p>[else] What was your other major or field of study for [{if iteration = 1 and B17ANPOTHSM = 1} this additional {else} your] [OTHER NPSAS DEGREE] at [NPSAS] [{IF AFTER JULY 1 } when you last attended there before July 2017]?</p> <p>[If WEB] Please click on the entry in the list below that most closely describes your field of study: [B17BMAJ2]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices. [If TIO] Please bear with me while I code this... (Please click on the entry in the list below that most closely describes the respondent's field of study: [B17BMAJ2]. If your field is not listed, click on the "None of these" button at the bottom of the screen to see more choices.)</p> <p>B17ANP2GEN01 Wording</p> <p>B17ANP2MAJ01 Wording</p> <p>B17ANP2SPE01 Wording</p> <p>[If WEB] Please help us categorize [B17BMAJ2] using the dropdown boxes displayed. Using the arrow at the right side of the first dropdown box, you can display the general areas. Please click to select the desired general area, then select your specific discipline from the second dropdown box. [If TIO] Please bear with me while I code this... (Please help us categorize [B17BMAJ2] using the dropdown boxes displayed. Using the arrow at the right side of the first dropdown box, you can display the general areas. Please click to select the desired general area, then select your specific discipline from the second dropdown box.)</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17AOTSCH01 (item revised)	<p>Header</p> <p>SCHOOLS YOU HAVE ATTENDED/ENROLLED FOR</p> <p>[NPSAS] [NPSAS DEGREE]</p> <p>[NPSAS] [OTHER NPSAS DEGREE]</p> <p>[OTHER SCHOOL][OTHER SCHOOL DEGREE]</p> <p>What is the name of another school you have attended [if TIO mode]: and in what city and state is it located?</p> <p>(If you have attended more than one other school since July [(If (BPS:12/14 NONRESPONDENT)) 2011 {else} 2014], tell [if TIO: me/else: us] about only one of them now. [If TIO: I'll/else: We'll] ask you about all schools you have attended later in the survey.)</p> <p>B17AOTIPED01</p> <p>Wording</p> <p>B17AOTSCH01</p> <p>School Name:</p> <p>B17AOTCT01</p> <p>City</p> <p>B17AOTST01</p> <p>State</p> <p>B17AOTLEVL01</p> <p>Wording</p> <p>B17AOTCTRL01</p> <p>Wording</p>
<b>Education experiences</b>	
B17AOMJ1A (item revised)	<p>Header:</p> <p>School Focus</p> <p>[PRIMARY SCHOOL]</p> <p>What was your original declared major at [PRIMARY SCHOOL]?</p> <p>If you originally declared a double major, tell [if TIO mode: me/Else: us] about only one of them here.</p> <p>(Enter your original major and select from the resulting options.)</p> <p>B17AOM1AST</p> <p>Wording</p> <p>B17AOM1GEN</p> <p>Wording</p> <p>B17AOMJ1</p> <p>Wording</p> <p>B17AOM1SPE</p> <p>Wording</p> <p>B17AOMJ1AXST</p> <p>Wording</p> <p>B17AOMJ1NOE</p> <p>Major not found in results</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17BIMPACT (removed for full-scale)	<p>Have you participated in any of the following as part of your undergraduate education?</p> <p>B17BIMPRSRCH Research project with a faculty member outside of course or program requirements 1 =Yes 0 =No</p> <p>B17BIMPCOMM Community-based project as part of a regular course (for example, service learning) 1 =Yes 0 =No</p> <p>B17BIMPSENR Culminating senior experience, such as capstone course, senior project or thesis, or comprehensive exam 1 =Yes 0 =No</p> <p>B17BIMPMENT Program in which you were mentored 1 =Yes 0 =No</p> <p>B17BIMPLRN Learning community or some other formal program where groups of students take two or more classes together 1 =Yes 0 =No</p>
B17BPLA (removed for full-scale)	<p>Some students receive college credit for knowledge or skills they gain on the job or in the military. "Credits for prior learning" often require a student to take a test or submit a portfolio for review in order to receive credit.</p> <p>B17BPLAMIL Military experience or training</p> <p>B17BPLAJOB Job-related experience or training</p> <p>B17BPLALIFE Life experience</p> <p>B17BPLAHS High school coursework, including Advanced Placement (AP) or International Baccalaureate (IB)</p> <p>B17BPLAOTH Other</p> <p>B17BPLAOTH_other Please specify</p> <p>B17BPLANONE None of the above</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17BFEWERCRS (removed for full-scale)	While working on your degree, did any of these situations cause you to take fewer classes or time off school?
	While working on your degree, did any of the following cause you to take fewer courses or time off from school?
	B17BFEWFIN Financial concerns, including difficulty paying tuition or other expenses
	B17BFEWJOB Job responsibilities required periods with less or no enrollment
	B17BFEWPRSNL Personal reasons, such as medical, family, or other non-financial, non-academic reasons
	B17BFEWSCHED Scheduling, such as not getting the classes you need, when you needed them
	B17BFEWOTH Other
	B17BFEWOTH_other Please specify
	B17BFEWNONE None of the above
B17BMORECRS (removed for full-scale)	While working on your degree, did any of these situations require you to take more courses than you expected?
	B17BMOREREM Remedial or developmental courses, required before taking courses for credit
	B17BMOREMAJ Changing major, requiring additional courses
	B17BMOREACD Academic advising, including difficulty getting guidance on required courses
	B17BMORECRDT Not receiving credit, such as withdrawals or low grades
	B17BMORERPT Repeating courses to get a higher grade
	B17BMORETRNS Transfer issues, with credits lost during transfer between institutions
	B17BMOREACT Extra-curricular activities, such as internships or co-ops
	B17BMOREOTH Other
	B17BMOREOTH_other Please specify
	B17BMORENONE None of the above

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17BEVRONLIN (removed for full-scale)	Have you ever taken a course that was only online, without in-person lectures, tests, or other activities?  1 = Yes 2 = No
<b>Financial aid</b>	
B17CFLNMOS (removed for full-scale)	How much are your monthly federal student loan payments for your undergraduate education?  B17CFLNMOS \$.00
B17CFAMLN (removed for full-scale)	Is anyone, such as a family member or friend, helping you to repay your [(if B17CPRVRYST = 1 and B17CFDRYST = 1} private and federal {else if B17CPRVRYST = 1} private {else} federal] undergraduate student loans?  (If you are married and only your spouse is helping you to repay your undergraduate loans, indicate "no.") 1 =Yes 0 =No
B17CLNINC (removed for full-scale)	Has the amount of student loan debt you have from your undergraduate education influenced your life plans and decisions in any way? 1 =Yes 0 =No
B17CLNICA (removed for full-scale)	Did your student loan debt influence your plans in any of the following ways?  B17COUTFLD Took job outside of field of study or training 1 =Yes 0 =No  B17CMORHRS Had to work more hours than desired 1 =Yes 0 =No  B17CANOTJOB Had to work more than one job at the same time 1 =Yes 0 =No  B17CNOGRAD Postponed attending graduate program in effort to being paying off loans 1 =Yes 0 =No  B17CCAR Could not afford to buy or keep a car 1 =Yes 0 =No  B17CNOHOUSE Had to delay purchasing a home 1 Yes 0 No  B17CMOVEBCK Had to move back in with parents or other family members 1 =Yes 0 =No

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17CLNICA (removed for full-scale)— Continued	<p>B17CANOTHER Other reason 1 =Yes 0 =No</p> <p>B17CNONE None of the above 1 =Yes 0 =No</p>
B17CSPLN (removed for full-scale)	<p>[If B17ASPLV in (missing 8 9 10 11)] Did your spouse take out any student loans for undergraduate or graduate education?</p> <p>[else] Did your spouse take out any student loans for undergraduate education?</p> <p>1 =Yes 0 =No</p>
B17CSPAMT (removed for full-scale)	<p>What is the total amount your spouse has borrowed in student loans?</p> <p>(If you are unsure of the amount, please provide your best estimate.</p> <p>B17CSPAMT =\$.00</p>
B17CSPOWE (removed for full-scale)	<p>[If B17CSPAMT = missing] How much of your spouse's student loans are still owed?</p> <p>[else] How much of the \$[B17CSPAMT] in total student loans does your spouse still owe?</p> <p>B17CSPOWE= \$.00</p>
B17CSPLNPY (removed for full-scale)	<p>How much does your spouse pay each month for his or her student loans?</p> <p>B17CSPLNPY \$.00</p> <p>B17CSPLNIR Not yet in repayment</p>
B17DFIRSTEMP (removed for full-scale)	<p>[If T_ EVERCOMP = 1] Did you begin working for pay within one month of earning your [if one degree earned] degree [else] first degree?</p> <p>[If T_ EVERLEAVE = 1] Did you begin working for pay within one month of leaving the institution where you were most recently enrolled?</p> <p>[If T_ PERSISTER=1] Though you are currently enrolled at another institution, you told us that you have previously earned a degree at [CMPDGN institution]. Did you begin working for pay within one month of earning your degree?</p> <p>1 =Yes 0 =No</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17DFIRSTPAY (removed for full-scale)	How much did you make when you first started working for pay in the month after [if T_B1417LEAVER] leaving your school [else if T_B1417COMP] graduating from your school?  (Please do not include tips, bonuses, or commissions.)  1 =Per hour 2 =Per month 3 =Per year
B17DFIRSTHRS (removed for full-scale)	On average, how many hours per week did you work when you first started working for pay in the month after [if T_B1417LEAVER] leaving your school [else if T_B1417COMP] graduating from your school?  B17DFIRSTHRS   hours per week
B17DCAREER (removed for full-scale)	Did you consider this job to be the start of your career?  1 =Yes 0 =No
<b>Employment</b>	
B17DWRKSTD01 (removed for full-scale)	[If B17DEMPCUR01=2]: Will this be a work-study job?  [Else if B17DEMPCUR01=1]: Is this a work-study job?  [Else]: Was this a work-study job?  1 =Yes 0 =No
B17DEMPLOY (renamed as B17DJOBZIP) (item revised)	What is the 5-digit ZIP code of the city, town, or municipality in which [if REFERENCE EMPLOYER = Employer] your employer [else if SELF-EMPLOYED] your place of self-employment [else] [REFERENCE EMPLOYER] is located? If you do not know the ZIP code of your place of work, please [if TIO] tell us [else] enter the city and state in which your place of work is located.  If your employer has multiple offices or locations of business, please give the ZIP code where your work activities are primarily conducted.  B17DNOTUS Check here if the location is not in the United States or a U.S. territory.  B17DJOBZIP Wording  B17DEMPCTY Wording  B17DEMPST Wording  B17DJOBSTR Wording

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17DPREFT (removed for full-scale)	Header: Employer Focus [REFEMP]  Would you prefer to work more hours in this job? 1 =Yes 0 =No
B17DJBREAB (removed for full-scale)	Please answer the following questions about your [(if T_CUREMPLY = 1) current [else] most recent] job:  B17DJBREA [if T_CUREMPLY = 1] In your current job, do you supervise the work of others? [else] In your most recent job, did you supervise the work of others? 1 =Yes 0 =No  B17DJBREB [if T_CUREMPLY = 1] In your current job, do you participate in hiring or firing decisions? [else] In your most recent job, did you participate in hiring or firing decisions? 1 =Yes 0 =No
B17DJOBSA (removed for full-scale)	Header: Job Focus [JOB TITLE]  [If CURRENTLY EMPLOYED] Please indicate if you are satisfied with each of the following in your current job:  [else] Please indicate if you were satisfied with each of the following in your most recent job: B17DPAY= Your pay?  1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)  B17DFRIDGE Fringe benefits? 1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)  B17DWRKIMP The importance and challenge of your work? 1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)  B17DPROADV Opportunities for promotion and advancement? 1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)

See notes at end of table.



**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17DJOBSA (removed for full-scale)— Continued	<p>B17DTRAIN Opportunities to use your training and education? 1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)</p> <p>B17DJOBSEC Your job security? 1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)</p> <p>B17DMORED Opportunities for further training and education? 1 =1 (Strongly disagree) 2 =2 (Somewhat disagree) 3 =3 (Neither disagree nor agree) 4 =4 (Somewhat agree) 5 =5 (Strongly agree)</p>
B17DSEARCH (removed for full-scale)	<p>Are you currently looking for a different job? (Indicate “yes” if you are looking for full-time, part-time, or graduate school jobs such as assistantships and fellowships.)</p> <p>“Looking for a different job” includes activities such as sending out resumes or filling out job applications, placing or responding to job advertisements, contacting employers or employment agencies, and going on job interviews.</p> <p>1 =Yes 0 =No</p>
B17DMNRSN (removed for full-scale)	<p>[If CURRENTLY ENROLLED] What is your main reason for working during enrollment?</p> <p>[Else] What was your main reason for working during enrollment?</p> <p>1 =To pay living expenses such as housing, utilities, and transportation 2 =To pay educational expenses such as tuition, fees, books, and supplies 3 =To earn spending money 4 =To minimize the amount of debt you have 5 =To gain job experience 6 =Other</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
<b>Income and expenses</b>	
B17EFAMHELP (removed for full-scale)	<p>[Before July 2016 and B17BPARED = 1]  Between July 1, 2015 and June 30, 2016 [(if B17BMARR = 2) , and not including your spouse], will [(if B17AMARR = 2) other] family members or friends have helped you pay for any of your education or living expenses?</p> <p>[else after July 2016 and B17BPARED = 1]  Between July 1, 2015 and June 30, 2016 [(if B17AMARR = 2) , and not including your spouse], did [(if B17AMARR=2) other] family members or friends help you pay for any of your education or living expenses?</p> <p>[else if B17AMARR = 2 and BEFORE JULY 2016]  Between July 1, 2015 and June 30, 2016, and not including your spouse or your parents (or guardians), will other family members or friends have helped you pay for any of your education or living expenses?</p> <p>[else if B17AMARR = 2]  Between July 1, 2015 and June 30, 2016, and not including your spouse or your parents (or guardians), did other family members or friends help you pay for any of your education or living expenses?</p> <p>[else before July 2016]  Between July 1, 2015 and June 30, 2016, and not including your parents (or guardians), will other family members or friends have helped you pay for any of your education or living expenses?</p> <p>[else]  Between July 1, 2015 and June 30, 2016, and not including your parents (or guardians), did other family members or friends help you pay for any of your education or living expenses?</p> <p>[All get the following instruction]  (Tuition and fees or school books are examples of education expenses. Rent and food are examples of living expenses.)</p> <p>1 =Yes  0 =No</p>
B17EFAMGATE (removed for full-scale)	<p>[Before July 2016]  Ok. Is this amount:</p> <p>[else]  Ok. Was this amount:</p> <p>1 =\$2,000 or less  2 =More than \$2,000</p>
B17EFAMLOAMT (removed for full-scale)	<p>[Before July 2016]  Is it...</p> <p>[else]  Was it...</p> <p>1 =Less than \$250  2 =\$250 - \$500  3 =\$501 - \$1,000  4 =\$1,001 - \$1,500  5 =\$1,501 - \$2,000</p>
B17EFAMHIAMT (removed for full-scale)	<p>[Before July 2016]  Is it...</p> <p>[else]  Was it...</p> <p>1 =\$2,001 - \$5,000  2 =\$5,001 - \$10,000  3 =\$10,001 - \$15,000  4 =\$15,001 - \$20,000  5 =\$20,001 - \$25,000  6 =More than \$25,000</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
<b>Background</b>	
B17FDISTNC (item revised)	<p>[If CURRENTLY ENROLLED AT PRIMARY SCHOOL]: What is the 5-digit ZIP code of your permanent address? Your permanent address is usually your legal residence, such as where you maintain your driver's license or are registered to vote.</p> <p>[else] What was the 5-digit ZIP code of your permanent address when you last attended [PRIMARY SCHOOL]? Your permanent address is usually your legal residence, such as where you maintain your driver's license or are registered to vote.</p> <p>B17FNOTUS Check here if the location is not in the United States or a U.S. territory.</p> <p>B17FDISTNC Wording</p> <p>B17FDISTCITY Wording</p> <p>B17FDISTST Wording</p> <p>B17FNOLOC Wording</p>
B17FACS16A (removed for full-scale)	<p>These last few questions will help us better understand the educational services available for people with disabilities.</p> <p>Are you deaf or do you have serious difficulty hearing?</p> <p>1 =Yes 0 =No</p>
B17FACS16B (removed for full-scale)	<p>Are you blind or do you have serious difficulty seeing even when wearing glasses?</p> <p>1 =Yes 0 =No</p>
B17FACS17A (removed for full-scale)	<p>Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?</p> <p>1 = Yes 0= No</p>
B17FACS17B (removed for full-scale)	<p>Do you have serious difficulty walking or climbing stairs?</p> <p>1 =Yes 0 = No</p>
B17FMAIN (removed for full-scale)	<p>What is the main type of condition or impairment that you have?</p> <p>1 =Hearing impairment (for example, deaf or hard of hearing) 2 =Blindness or visual impairment that cannot be corrected by wearing glasses 3 =Speech or language impairment 4 =Orthopedic or mobility impairment 5 =Specific learning disability or dyslexia 6 =Attention deficit disorder (ADD) 7 =Health impairment or problem 8 =Mental, emotional or psychiatric condition 9 =Depression 10 =Developmental disability 11 =Brain injury 12 =Other</p>

See notes at end of table.

**Table C-23. Detail of pilot-test items removed, modified, or added to the full-scale survey, by section and item name: 2016—Continued**

Section and item name	Description
B17FVOTE (removed for full-scale)	Are you currently registered to vote in U.S. elections?  1 =Yes 0 =No 2 =Don't know
B17FEVRVT (removed for full-scale)	Sometimes things come up and people are not able to vote. Have you ever voted in any national, state, or local election?  1 =Yes 0 =No 2 =Don't know
B17FMATH (removed for full-scale)	Indicate if you have ever taken a course that was primarily focused on any of the following since you completed your high school requirements:  B17FPREALG Pre-Algebra, arithmetic, or geometry  B17FELALG Elementary or intermediate algebra  B17FCOLLALG College algebra  B17FPRECALC Pre-calculus or trigonometry  B17FINTCALC Introductory or intermediate calculus  B17FADVCALC Advanced calculus or above (for example, statistics, vector analysis, differential equations, etc.)  B17FNONE None of the above
GIFTCRD (removed for full-scale)	Please provide your e-mail address  GIFTCRD Wording

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) Pilot Test.

## References

- Abelson, R.P., Loftus, E.F., and Greenwald, A.G. (1992). Attempts to Improve the Accuracy of Self-Reports of Voting. In J.M. Tanur (Ed.), *Questions About Survey Questions: Meaning, Memory, Expression, and Social Interactions in Surveys* (pp. 138–153). New York: Russell Sage.
- Box, G.E.P., and Cox, D.R. (1964). An Analysis of Transformations. *Journal of the Royal Statistical Society. Series B (Methodological)*, 26(2), 211–252.
- Catania, J.A., Binson, D., Canchola, J., and Pollack, L.M. (1996). Effects of Interviewer Gender, Interviewer Choice, and Item Wording on Responses to Questions Concerning Sexual Behavior. *Public Opinion Quarterly*, 60(3), 345.
- Folsom, R.E., Potter, F.J., and Williams, S.R. (1987). Notes on a Composite Size Measure for Self-Weighting Samples in Multiple Domains. *Proceedings of the American Statistical Association, Section on Survey Research Methods*, 792–796.
- Holtgraves, T., Eck, J., and Lasky, B. (1997). Face Management, Question Wording, and Social Desirability. *Journal of Applied Social Psychology*, 27, 1650–1671.
- Satterthwaite, F.E. (1946). An Approximate Distribution of Estimates of Variance Components. *Biometrics Bulletin*, 2(6): 110–114.
- Sudman, S., Bradburn, N.M., and Wansink, B. (2004). *Asking Questions: The Definitive Guide to Questionnaire Design* (pp. 109–111). San Francisco: Jossey-Bass.
- Tourangeau, R., and Yan, T. (2007). Sensitive Questions in Surveys. *Psychological Bulletin*, 133(5), 859–883.
- Tukey, J.W. (1977). *Exploratory Data Analysis*. Reading, MA: Addison-Wesley.



## Appendix D. Data Elements for Student Interview





The core data elements used in the 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) full-scale student survey covered general topics that were organized into six key content areas: enrollment, education experiences, financial aid, employment, income and expenses, and background. Table D-1 provides a list of the data elements by section and topic.

Some data elements were only administered to certain subgroups of respondents, as also noted in table D-1. For example, students who were nonrespondents in both the 2011–12 National Postsecondary Student Aid Study full-scale survey and the 2012/14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14) full-scale survey, known as “double nonrespondents,” were required to satisfy eligibility for base-year and first-time beginning students to remain part of the BPS cohort and therefore received additional questions in the survey.

**Table D-1. Student survey data elements, by key content areas and topic: 2017**

Key content area	Topic
Enrollment	<p>Eligibility criteria for NPSAS (double nonrespondents only) and BPS (double nonrespondents and first follow-up nonrespondents)</p> <p>High school completion type and date</p> <p>Date of birth</p> <p>Base-year program information at the NPSAS institution (base-year nonrespondents and double nonrespondents):</p> <ul style="list-style-type: none"> <li>• Enrollment type (degree/nondegree)</li> <li>• Dates of attendance</li> <li>• Enrollment intensity</li> <li>• Degree completion information</li> <li>• Major(s) and original major or field of study</li> </ul> <p>Other attendance at the NPSAS institution for additional programs between July 2014 and June 2017:</p> <ul style="list-style-type: none"> <li>• Enrollment type (degree/nondegree)</li> <li>• Dates of attendance</li> <li>• Enrollment intensity</li> <li>• Degree completion information</li> <li>• Major and original major(s)/field(s) of study</li> </ul> <p>Enrollment information at any other postsecondary institutions between July 2014 and June 2017:</p> <ul style="list-style-type: none"> <li>• Enrollment type (degree/nondegree)</li> <li>• Dates of attendance</li> <li>• Enrollment intensity</li> <li>• Degree completion information</li> <li>• Major and original major(s)/field(s) of study</li> </ul> <p>Expected degree completion date</p> <p>Highest degree ever expected to complete</p> <p>Marital status</p> <p>Spouse's student loans</p>

See notes at end of table.

**Table D-1. Student survey data elements, by key content areas and topic: 2018—Continued**

Key content area	Topic
Education experiences	Took remedial courses since high school
	Overall estimated GPA at most recent postsecondary institution (or primary institution, if more than one)
	Online coursetaking at most recent postsecondary institution (or primary institution, if more than one)
	Residence when last attended most recent postsecondary institution (or primary institution if more than one)
Financial aid	Received grants, scholarships, veterans education benefits in the 2016–17 academic year, and amounts
	Took out any undergraduate student loans for the 2016–17 academic year
	Amount borrowed for the 2016–17 academic year in private loans
	Ever took out any undergraduate student loans
	Ever took out private student loans for undergraduate education
	Total amount borrowed in private student loans for undergraduate education
	Repayment status of loans borrowed in private student loans for undergraduate education
	Monthly payment for loans borrowed in private student loans for undergraduate education
Employment	Ever held a work-study job
	Employment during the 2011–12 academic year
	Information about each paid employer since July 2014:
	<ul style="list-style-type: none"> <li>• Employer name</li> <li>• Dates employed by employer</li> <li>• Worked while attending and/or while not attending</li> <li>• Earnings</li> <li>• Job located on or off campus</li> <li>• Hours worked</li> <li>• Employment related to the kind of work want to do in future</li> </ul>
	Whether primarily student or employee
	Specific information about current or most recent job:
	<ul style="list-style-type: none"> <li>• Zip code</li> <li>• Job title and duties</li> <li>• Employer benefits</li> <li>• Length of time in current or most recent job</li> <li>• Job related to major or field of study</li> </ul>
	Job required professional certification or state or industry license
	Job satisfaction at current or most recent job
	Industry of current or most recent employer
	Months looking for work
	Nonmonetary benefits of education
Income and expenses	Annual income
	Spouse's annual income (married respondents only)
	Number of children and other dependents
	College costs for dependents
	Help from family or friends for college expenses in the 2016–17 academic year
	Use of and amount owed on credit cards
	Rent amount and car loan amount
	Receipt of untaxed benefits
	Parents' marital status, income, and number of dependents supported by parents and in college
	Discount rate

See notes at end of table.

**Table D-1. Student survey data elements, by key content areas and topic: 2018—Continued**

Key content area	Topic
Background	Zip code of permanent residence
	Military service
	Disability status
	Voting behavior
	Financial literacy and fragility

NOTE: NPSAS = National Postsecondary Student Aid Study; BPS = Beginning Postsecondary Students Longitudinal Study; GPA = grade point average. NPSAS institution refers to the institution from which sample members were selected for the survey.  
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



## Appendix E. Facsimile of Full-Scale Instrument



**B17ABASINTR\***

To begin the survey, [{if CATI mode} I {else} we] need to collect some basic high school and background information from you.

**B17ADIPL\***

Which of the following best describes your high school completion?

- 1=Received a high school diploma
- 2=Received a GED (General Educational Development) certificate or other equivalent credential
- 3=Received a high school completion certificate
- 4=Attended a foreign high school
- 6=Home schooled
- 5=Did not complete high school or a high school equivalency program

**B17AHSGRAD\***

[else] In what month and year did you complete high school?

- Month:  
January - December
- Year:  
Before 1980 - 2016

**B17AHSCMP\***

Were you completing high school requirements for the entire time you attended [NPSAS INSTITUTION] between July 1, 2011 and June 30, 2012?

- 1=Yes
- 0=No

**B17ADOB\***

In what month and year were you born?

- Month:  
January - December
- Year:  
1920 - 1996

**B17ALT30\***

What is your age range? Are you...

- 1=Under 24
- 2=24-29
- 3=30 or older

**B17AELIG\***

According to our information, you attended [NPSAS INSTITUTION] at some point between July 1, 2011 and June 30, 2012. Is that correct?

- 1=Yes
- 0=No
- 2=Yes, but left [NPSAS INSTITUTION] before completing any classes

\*Item included in the BPS:12/17 abbreviated survey.

- 3=Yes, but was attending [NPSAS INSTITUTION] while still in high school
- 4=Don't know

### **B17AWHYSM**

Our records seem to be in error. Do you know why you were listed as having attended [NPSAS INSTITUTION] between July 1, 2011 and June 30, 2012? (Please enter any information in the textbox below.)

### **B17ADRPRF\***

Did you receive a full refund of your tuition when you left [NPSAS INSTITUTION]?

- 1=Yes
- 0=No

### **B17ADRPCMP\***

Did you complete a course [{if CONTINUOUS CALENDAR SYSTEM} or term] at [NPSAS INSTITUTION] at any time between July 1, 2011 and June 30, 2012?

- 1=Yes
- 0=No

### **B17ADRPOK**

Because you left [NPSAS INSTITUTION] before completing the term, some questions in this survey may seem awkward. Please answer the questions as best you can. Your answers will help us to better understand why people leave school.

### **B17ABACHENR\***

Were you in a bachelor's degree program at [NPSAS INSTITUTION] in the 2011-2012 academic year (July 1, 2011 - June 30, 2012)?

(A bachelor's degree is usually awarded by a 4-year college or university and usually requires at least 4 years of full-time, college-level work.)

- 1=Yes
- 0=No

### **B17ADEGREE\***

What degree or certificate were you **working on** at [NPSAS INSTITUTION] in the 2011-2012 academic year (July 1, 2011 - June 30, 2012)? Instructions: [{If CATI mode} (I'll ask about your major or field of study later in the survey.)]

(Please choose all that apply)

- Associate's degree (usually a 2-year degree)
- Bachelor's degree (usually a 4-year degree)
- Master's degree
- Doctoral degree--research/scholarship (for example, PhD, EdD, etc.)
- Doctoral degree--professional practice (including: chiropractic, dentistry, law, medicine, optometry, pharmacy, podiatry, or veterinary medicine)
- Doctoral degree--other

\*Item included in the BPS:12/17 abbreviated survey.



- Undergraduate certificate or diploma (usually less than 2 years), including those leading to a license (example: cosmetology)
  - Post-baccalaureate certificate
  - Post-master's certificate
  - Undergraduate level classes
  - Graduate level classes
- 1=Yes  
0=No

**B17AUGSTATVR\***

In the 2011-2012 academic year, were you primarily an undergraduate working toward a bachelor's degree at [NPSAS INSTITUTION]?

- 1=Yes
- 0=No

**B17ACKHOUR\***

Did your certificate or diploma at [NPSAS INSTITUTION] in the 2011-2012 academic year require at least 3 months or 300 hours of instruction?

- 1=Yes
- 0=No

**B17AELCRD\***

When you last attended [NPSAS INSTITUTION] in the 2011-2012 academic year, were you taking at least one course for credit that could be applied toward fulfilling the requirements for an academic degree?

- 1=Yes
- 0=No

**B17APRDG\***

After you completed your high school requirements and before you attended [NPSAS INSTITUTION] in the 2011-2012 academic year, did you earn a degree or certificate at any college, university or trade school?

- 1=Yes
- 0=No

**B17ANFST\***

Was [NPSAS INSTITUTION] the first college, university, or trade school you attended after completing your high school requirements?

- 1=Yes
- 0=No

**B17ASCHSTR\***

In which month and year did you first attend [NPSAS INSTITUTION] after completing your high school requirements?

- Month:  
January - December

\*Item included in the BPS:12/17 abbreviated survey.

– Year:

Before 1980 – 2016

**B17ACDTCHK\***

Did you first attend [NPSAS INSTITUTION] on or after July 1, 2011?

– 1=Yes

– 0=No

**B17ABYE\***

Based on your responses, it seems you may not be eligible for this study. We will review your responses and we may need to contact you again.

– Please provide your e-mail address:

– Please provide an address where you can be contacted: Street Address:

– City

– Zip Code

– State

– -9=-Select one

AK=Alaska

AL=Alabama

AR=Arkansas

AZ=Arizona

CA=California

CO=Colorado

CT=Connecticut

DC=District of Columbia

DE=Delaware

FL=Florida

GA=Georgia

HI=Hawaii

IA=Iowa

ID=Idaho

IL=Illinois

IN=Indiana

KS=Kansas

KY=Kentucky

LA=Louisiana

MA=Massachusetts

MD=Maryland

ME=Maine

MI=Michigan

MN=Minnesota

MO=Missouri

MS=Mississippi

MT=Montana

NC=North Carolina

ND=North Dakota

NE=Nebraska

NH=New Hampshire

NJ=New Jersey

NM=New Mexico

NV=Nevada

NY=New York

OH=Ohio

OK=Oklahoma

OR=Oregon

PA=Pennsylvania

RI=Rhode Island

SC=South Carolina

SD=South Dakota

TN=Tennessee

TX=Texas

UT=Utah

VA=Virginia

VT=Vermont

WA=Washington

WI=Wisconsin

WV=West Virginia

WY=Wyoming

AS=American Samoa

FM=Fed State Micronesia

GU=Guam

MH=Marshall Islands

MP=Northern Mariana Isl

PW=Palau

PR=Puerto Rico

VI=U.S. Virgin Islands

FC=Foreign country

\*Item included in the BPS:12/17 abbreviated survey.

- -1=Don't know
- Phone number:
- Foreign Address:
- Foreign State/Province:
- Foreign City:
- Foreign Zip/Postal Code:
- Foreign Country:
- Please check here if the address is an international address.

### **B17ANPINTRO\***

In the [{If BPS:12/14 NONRESPONDENT} 2011-2012 {else} 2013-2014] academic year, you provided us with information about your attendance at [NPSAS INSTITUTION]. To begin now, we'd like to collect information on any additional attendance you may have had at [NPSAS INSTITUTION]. (Click the "Next" button.)

### **B17ASAMESCH\***

Did you attend [NPSAS INSTITUTION] at any time [{if BEFORE JULY 2017} after June 2014 {else} between July 2014 and June 2017]?

- 1=Yes
- 0=No

### **B17ASAMEDEG\***

Were you continuing at [NPSAS INSTITUTION] after June 2014 for undergraduate classes that were not part of a degree or certificate at [NPSAS INSTITUTION]?

- 1=Yes
- 0=No

### **B17ACURENR\***

Are you currently attending [NPSAS INSTITUTION] for [{if UNDERGRADUATE IN DEGREE PROGRAM} your [DEGREE NAME] {else} [DEGREE NAME] that are not part of a degree or certificate]? (Answer "Yes" if you are on a spring or fall break in the middle of the term or semester. Answer "No" if you completed your [DEGREE NAME] or are on a break between semesters, terms, or quarters, such as on summer break, and not currently attending classes.)

- 1=Yes
- 0=No

### **B17ACMPDGN\***

Did you complete all the requirements at [NPSAS INSTITUTION] for the [DEGREE NAME] you began there in the 2011-2012 academic year? (Answer "No" if you transferred schools and completed your [DEGREE NAME] at a different school. We will ask you about your enrollment at any other schools later.)

- 1=Yes
- 0=No

\*Item included in the BPS:12/17 abbreviated survey.

**B17ADGN\***

In what month and year were you awarded your [DEGREE NAME] from [NPSAS INSTITUTION]?

- Month:  
January - December
- Year:  
2011–2017
- Have not yet been awarded [DEGREE NAME]

**B17ASTDABR\***

Between July 2014 and [{if BEFORE JULY 2017} today {else} June 2017], have you participated in a study abroad program as part of your education at [NPSAS INSTITUTION]?

- 1=Yes
- 0=No

**B17ANENRL\***

Between July 2014 and June 2017, in which months did you attend [NPSAS INSTITUTION] for your [DEGREE NAME]? [{if BEFORE JULY 2017 and B17ACMPDGN ne 1} If you plan to attend [NPSAS INSTITUTION] for your [DEGREE NAME] before June 30, 2017, please indicate the months you plan to attend.] (Do not include any months during which you were not taking classes, such as summer break. If you attended for only a portion of any month, please include that month.) [If USERMODE = WEB get the following instructions] Click on the months of attendance below.

- July 2014 – June 2017

**B17ASTST\***

During your enrollment in [{if years of enrollment = 1} this academic year {else} these academic years] for your [DEGREE NAME], were you mainly full-time, part-time, or an equal mix of full-time and part time?

- 2014–2015
- 2015–2016
- 2016–2017
  - 1=Mainly full-time
  - 2=Mainly part-time
  - 3=Equal mix of full-time and part-time

**B17ACLSDGREE**

Between July 2014 and June 2017, were you taking these [DEGREE NAME] at [NPSAS INSTITUTION] primarily to fulfill a degree requirement or transfer course credit to a degree or certificate program?

- 1=Yes
- 0=No

**B17AREASON**

Which of these reasons best describes why you were enrolled in classes at [NPSAS INSTITUTION] between July 2014 and June 2017?

- 1=To prepare to earn a degree later
- 2=To prepare for a job certification or license
- 3=To gain job or occupational skills
- 4=To take courses solely for recreation, self-improvement, or personal interest

\*Item included in the BPS:12/17 abbreviated survey.

**B17ADBLMAJ**

Did you declare a major for your [DEGREE NAME] at [NPSAS INSTITUTION] [{if BEFORE JULY 2017} after June 2014 {else} between July 2014 and June 2017]?

- 1=Yes, I have declared a major or field of
- 2=Yes, declared a double major or field of study
- 3=No

**B17ADECIDMAJ**

Even though you have not formally declared your major, have you decided what your major will be for your [DEGREE NAME] at [NPSAS INSTITUTION]? (Answer “yes” if you have left [NPSAS INSTITUTION] and do not plan to attend again to earn your [DEGREE NAME] there but you had decided what your major would be prior to leaving.)

- 1=Yes
- 0=No

**B17AVERN2MJ**

[{if IF CURRENTLY ENROLLED AT NPSAS IN BASE-YEAR PROGRAM} Are {else} When you last attended [NPSAS INSTITUTION] for your [DEGREE NAME] were] you still majoring in...

- [BASE-YEAR MAJOR 1]?
- [BASE-YEAR MAJOR 2]?
- 1=Yes
- 0=No

**B17AVERNPMMAJ**

In the [{If BPS:12/14 NONRESPONDENT} 2011-2012 {else} 2013-2014] school year, you told us you were majoring in [{if BASE-YEAR MAJOR 1 not missing} [BASE-YEAR MAJOR 1] {else} [BASE-YEAR MAJOR 2]]. [If B17ACURENR ne 1 and B17ACMPDGN = 1 and B17ADGNMM not missing and B17ADGNYY not missing]: Was [{if BASE-YEAR MAJOR 1 not missing} [BASE-YEAR MAJOR 1] {else} [BASE-YEAR MAJOR 2]] your final major for your [DEGREE NAME] at [NPSAS INSTITUTION]? [{else if IF CURRENTLY ENROLLED AT NPSAS IN BASE-YEAR PROGRAM} Are {else} When you last attended [NPSAS INSTITUTION] for your [DEGREE NAME] were] you still majoring in [{if BASE-YEAR MAJOR 1 not missing} [BASE-YEAR MAJOR 1] {else} [BASE-YEAR MAJOR 2]]? [{If B17ADBLMAJ = 2} (Since you indicated a double-major, we will ask you about your other major next.) {else} no words]

- 1=Yes
- 0=No

**B17AMAJ1**

What was your intended major or field of study for your [DEGREE NAME] at [NPSAS INSTITUTION]? [If B17ADBLMAJ = 3]:(If you intended to double-major, tell [{if USERMODE = CATT} me {else} us] only about the major most closely related to the job you hope to have after college.) What is your major or field of study for your [DEGREE NAME] at [NPSAS INSTITUTION]?

**B17AMAJ2**

What was your other major or field of study for your [DEGREE NAME] at [NPSAS INSTITUTION]?

\*Item included in the BPS:12/17 abbreviated survey.

**B17AMJCHGNUM**

[{if BEFORE JULY 2017} After **June 2014** {else} between July 2014 and June 2017], how many times did you formally change your major at [NPSAS INSTITUTION] for the [DEGREE NAME] you began there in the 2011-2012 academic year?

- 0=Never
- 1=Once
- 2=More than once

**B17AOMJ1A**

What was your original declared major at [NPSAS INSTITUTION]? If you originally declared a double major, tell [{if USERMODE = CATI} me {else} us] about only one of them here. (Enter your original major and select from the resulting options.)

**B17ANPOTHSM\***

[{If degree not completed in base-year and degree not completed in BPS:12/14} So far you have told us about the [DEGREE NAME] you were awarded [{if MAJOR 1 not missing and MAJOR 2 not missing} in [MAJOR 1] and [MAJOR 2] {else if MAJOR 1 not missing} in [MAJOR 1]] at [NPSAS INSTITUTION] [{if B17ADGNMM not missing and B17ADGNYY not missing} in [B17ADGNMM] [B17ADGNYY] {else if B17ADGNYY not missing} in [B17ADGNYY]] {else} no words]. Other than for [{if degree not completed in the base-year and degree not completed in BPS:12/14} that [DEGREE NAME] {else} the [DEGREE NAME] you completed [{if degree completed in base-year} in the 2011-2012 academic year {else} between July 2011 and June 2014]], [{if BEFORE JULY 2017} have you attended {else} did you attend] [NPSAS INSTITUTION] at any time between July [{If (BPS:12/14 NONRESPONDENT)} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for an additional [DEGREE NAME]? [{If associate's or bachelor's degree} For these next questions, changes in major or field of study at [NPSAS INSTITUTION] for your completed [DEGREE NAME] do not count as additional enrollment.]

- 1=Yes
- 0=No

**B17ANPOTHENR\***

Other than for the [DEGREE NAME] [{if certificate or diploma and MAJOR 1 not missing and MAJOR 2 not missing} in [MAJOR 1] and [MAJOR 2] {else if T\_DEGREE = 2 and if MAJOR 1 not missing} in [MAJOR 1]] you began in the 2011-2012 academic year, [{if BEFORE JULY 2017} have you attended {else} did you attend] [NPSAS INSTITUTION] at any time between July [{If (BPS:12/14 NONRESPONDENT)} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for (any of the following): (Bulleted list for both conditions) • {If B17ANPOTHSM ne 0 and certificate or diploma} a different certificate or diploma, including those leading to a license (example: cosmetology or welding) {else if T\_DEGREE in (1 3)} an undergraduate certificate or diploma (usually less than 2 years), including those leading to a license (example: cosmetology or welding) {else if bachelor's degree} an undergraduate certificate or diploma including those leading to a license (example: cosmetology or welding), not earned as part of your bachelor's degree • If Y\_NPLEVL in (1, 2) and T\_DEGREE ne 3: an associate's degree • If Y\_NPLEVL = 1 and T\_DEGREE ne 4: a bachelor's degree • If Y\_NPLEVL=1 and T\_DEGREE in (3, 4): a graduate degree or certificate • If Y\_NPLEVL=1 and [Y\_N12CMPDGN=1 or Y\_B14ACMPDGN=1 or (IF NOT CURRENTLY ENROLLED AT NPSAS IN BASE-YEAR PROGRAM and B17ACMPDGN=1)]: graduate level courses not part of a degree or certificate • If [Y\_N12CMPDGN = 1 or Y\_B14ACMPDGN = 1 or (IF NOT CURRENTLY ENROLLED AT NPSAS IN BASE-YEAR PROGRAM and B17ACMPDGN = 1)]: undergraduate level courses not part of a degree or certificate started [*start italics*] after you completed your

\*Item included in the BPS:12/17 abbreviated survey.

[DEGREE NAME] [end italics] [{if B17ADGNMM not missing and B17ADGNYY not missing} in [B17ADGNMM] [B17ADGNYY] {else if B17ADGNYY not missing} in [B17ADGNYY] {else} no words]

- 1=Yes
- 0=No

### **B17ANPDEG01\***

[else] (If you have more than one other enrollment at [NPSAS INSTITUTION] or if you are in a joint degree program, tell me about only one of these now. You will have an opportunity later to tell me about all enrollment at [NPSAS INSTITUTION]. I'll ask about your major or field of study later in the survey.)

- 1=Undergraduate level classes
- 2=Undergraduate certificate or diploma (usually less than 2 years), including those leading to a license (example: cosmetology)
- 3=Associate's degree (usually a 2-year degree)
- 4=Bachelor's degree (usually a 4-year degree)
- 5=Graduate level classes
- 6=Post-baccalaureate certificate
- 7=Master's degree
- 8=Post-master's certificate
- 9=Doctoral degree--research/scholarship (for example, PhD, EdD, etc.)
- 10=Doctoral degree--professional practice (including: chiropractic, dentistry, law, medicine, optometry, pharmacy, podiatry, or veterinary medicine)
- 11=Doctoral degree--other

### **B17ANPCUR01**

Are you currently attending [NPSAS INSTITUTION] for your [DEGREE NAME]? (Answer "Yes" if you are on a spring or fall break in the middle of the term or semester. Answer "No" if you completed your [DEGREE NAME] or are on a break between semesters, terms, or quarters, such as on summer break, and not currently attending classes.)

- 1=Yes
- 0=No

### **B17ANPCMPD01**

[else] Did you complete all the requirements for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] at [NPSAS INSTITUTION] before July 2017? Answer "No" if you transferred schools and completed your [DEGREE NAME] at a different school. [{if USERMODE = CATI} I'll {else} We will] ask you about your enrollment at any other schools later.

- 1=Yes
- 0=No

### **B17ANPDGN01**

In what month and year were you awarded [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] from [NPSAS INSTITUTION]?

- Month:  
January - December

\*Item included in the BPS:12/17 abbreviated survey.

- Year:  
2011–2017
- Have not yet been awarded [DEGREE NAME]

**B17ANPENR301**

Did you attend [NPSAS INSTITUTION] for your [DEGREE NAME] at any time [{if BEFORE JULY 2017} after June 2014 {else} between July 2014 and June 2017]?

- 1=Yes
- 0=No

**B17ANPENRL01**

Between July 2014 and June 2017, in which months did you attend [NPSAS INSTITUTION] for your [DEGREE NAME]? [{if BEFORE JULY 2017} If you plan to attend [NPSAS INSTITUTION] for your [DEGREE NAME] before June 30, 2017, please indicate the months you plan to attend. (Do not include any months during which you were [{if BEFORE JULY 2017} or will not be {else} not] taking classes, such as summer break. If you attended [{if BEFORE JULY 2017} or will attend] for only a portion of any month, please include that month.)

- July 2014 – June 2017

**B17ANPSTST01**

During your enrollment in [{if years of enrollment = 1} this academic year {else} these academic years] for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME], were you mainly full-time, part-time, or an equal mix of full-time and part time?

- 2014–2015
- 2015–2016
- 2016–2017
  - 1=Mainly full-time
  - 2=Mainly part-time
  - 3=Equal mix of full-time and part-time

**B17ANPCLDG01**

Between July 2014 and June 2017, were you taking these [DEGREE NAME] at [NPSAS INSTITUTION] primarily to fulfill a degree requirement or transfer course credit to a degree or certificate program?

- 1=Yes
- 0=No

**B17ANPCRSN01**

Which of these reasons best describes why you were enrolled in [DEGREE NAME] at [NPSAS INSTITUTION] between July 2014 and June 2017?

- 1=To prepare to earn a degree later
- 2=To prepare for a job certificate or license
- 3=To gain job or occupational skills
- 4=To take courses solely for recreation, self-improvement, or personal interest

\*Item included in the BPS:12/17 abbreviated survey.



**B17ANPDBLM01**

Did you declare a major or field of study at [NPSAS INSTITUTION] [{if BEFORE JULY 2017} after June 2014 {else} between July 2014 and June 2017] for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME]?

- 1= Yes, declared a major or field of study
- 2=Yes, declared a double major or field of study
- 3=No

**B17ANPDEC01**

Even though you have not formally declared your major, have you decided what your major will be for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] at [NPSAS INSTITUTION]? (Answer “Yes” if you have left [NPSAS INSTITUTION] and do not plan to attend again to earn [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] there but you had decided what your major would be prior to leaving.)

- 1=Yes
- 0=No

**B17ANPMLST01**

What was your [{if B17ADBLM01=3 and B17ANPDEC01=1} intended] major or field of study for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] at [NPSAS INSTITUTION] [{if AFTER JULY 2017} when you last attended there before July 2017]? [{If B17ANPDBLM01 = 3 and B17ANPDEC01 = 1} (If you intended to double-major, tell [{if USERMODE = CATI} me {else} us] only about the major most closely related to the job you hope to have after college.)]

- 1=[Fill B17AMAJ1]
- 2=[Fill B17ANP1MAJ01 - from first loop]
- 3=[Fill B17ANP1MAJ01 - from second loop]
- 4=[Fill B17ANP1MAJ01 - from third loop]
- 5=[Fill B17ANP1MAJ01 - from fourth loop]
- 6=[Fill B17ANP1MAJ01 - from fifth loop]
- 7=[Fill B17ANP1MAJ01 - from sixth loop]
- 8=[Fill B17ANP1MAJ01 - from seventh loop]
- 9=[Fill B17AMAJ2]
- 10=[Fill B17ANP2MAJ01-from first loop]
- 11=[Fill B17ANP2MAJ01-from second loop]
- 12=[Fill B17ANP2MAJ01-from third loop]
- 13=[Fill B17ANP2MAJ01-from fourth loop]
- 14=[Fill B17ANP2MAJ01-from fifth loop]
- 15=[Fill B17ANP2MAJ01-from sixth loop]
- 16=[Fill B17ANP2MAJ01-from seventh loop]
- 17=[Fill PRIOR MAJOR 1]
- 18=[Fill PRIOR MAJOR 2]
- 19=[Fill PRIOR MAJOR 3]
- 20=[Fill PRIOR MAJOR 4]
- 21=[Fill PRIOR MAJOR 5]
- 99=Other major

\*Item included in the BPS:12/17 abbreviated survey.

**B17ANPMAJ01**

What was your [{if B17ANPDBLM01 = 3 and B17ANPDEC01 = 1} intended] major or field of study for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] at [NPSAS INSTITUTION] [{if AFTER JULY 2017} when you last attended there before July 2017]? [{If B17ANPDBLM01 = 3 and B17ANPDEC01 = 1} (If you intended to double-major, tell [{if USERMODE = CATI} me {else} us] only about the major most closely related to the job you hope to have after college.)]

**B17ANPM2LT01**

What was your other major or field of study for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] at [NPSAS INSTITUTION] [{if AFTER JULY 2017} when you last attended there before July 2017]?

- 1=[Fill B17AMAJ1]
- 2=[Fill B17ANP1MAJ01 - from first loop]
- 3=[Fill B17ANP1MAJ01 - from second loop]
- 4=[Fill B17ANP1MAJ01 - from third loop]
- 5=[Fill B17ANP1MAJ01 - from fourth loop]
- 6=[Fill B17ANP1MAJ01 - from fifth loop]
- 7=[Fill B17ANP1MAJ01 - from sixth loop]
- 8=[Fill B17ANP1MAJ01 - from seventh loop]
- 9=[Fill B17AMAJ2]
- 10=[Fill B17ANP2MAJ01-from first loop]
- 11=[Fill B17ANP2MAJ01-from second loop]
- 12=[Fill B17ANP2MAJ01-from third loop]
- 13=[Fill B17ANP2MAJ01-from fourth loop]
- 14=[Fill B17ANP2MAJ01-from fifth loop]
- 15=[Fill B17ANP2MAJ01-from sixth loop]
- 16=[Fill B17ANP2MAJ01-from seventh loop]
- 17=[Fill PRIOR MAJOR 1]
- 18=[Fill PRIOR MAJOR 2]
- 19=[Fill PRIOR MAJOR 3]
- 20=[Fill PRIOR MAJOR 4]
- 21=[Fill PRIOR MAJOR 5]
- 99=Other major

**B17ANPMAJ201**

What was your other major or field of study for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] at [NPSAS INSTITUTION] [{if AFTER JULY 2017} when you last attended there before July 2017]?

**B17ANPMJCH01**

[{if BEFORE JULY 2017} After June 2014 {else} Between July 2014 and June 2017], how many times did you formally change your major at [NPSAS INSTITUTION] for [{if loop = 1 and B17ANPOTHSM = 1} this additional {else} your] [DEGREE NAME] [{if AFTER JULY 2017} when you last attended there before July 2017]?

- 0=Never
- 1=Once

\*Item included in the BPS:12/17 abbreviated survey.

- 2=More than once

**B17ANPOTSM01\***

You just told [{If USERMODE = CATI} me {else} us] about the [DEGREE NAME] you were awarded in [MAJOR 1]] at [NPSAS INSTITUTION] [{if B17ANPDGMM01 not missing and B17ANPDGYY01 not missing} in [B17ANPDGMM01] [B17ANPDGYY01] {else if B17ANPDGYY01 not missing} in [B17ANPDGYY01]]. **Other than for that [DEGREE NAME],** [{if BEFORE JULY 2017} have you attended {else} did you attend] [NPSAS INSTITUTION] at any time between July [{If BPS:12/14 NONRESPONDENT})} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for an **additional** [DEGREE NAME] you have not yet told [{if USERMODE = CATI} me {else} us about? [{If bachelor's or associate's degree} Changes in major or field of study at [NPSAS INSTITUTION] for your [{if bachelor's degree} bachelor's {else} associate's} degree do not count as additional enrollment.]

- 1=Yes
- 0=No

**B17ANPOTDG01\***

[If USERMODE = WEB] Besides the enrollment at [NPSAS INSTITUTION] listed above, [{if BEFORE JULY 2017} have you attended {else} did you attend] [NPSAS INSTITUTION] at any time between July [{If BPS:12/14 NONRESPONDENT})} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for anything else? Besides this enrollment, [{if BEFORE JULY 2017} have you attended {else} did you attend] [NPSAS INSTITUTION] at any time between July [{If BPS:12/14 NONRESPONDENT})} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for anything else?

- 1=Yes
- 0=No

**B17AOTSCHINT**

Thank you for providing your attendance information at [NPSAS INSTITUTION]. Next, [(if USERMODE = CATI} I {else} we] will be asking you about any other colleges, universities, or trade schools you may have attended for any reason.

**B17AOTSCHENR\***

**Other than [NPSAS INSTITUTION],** have you attended another college, university, or trade school at any time between July [{If (BPS:12/14 NONRESPONDENT})} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017]?

- 1=Yes
- 0=No

**B17AOTSCLT01\***

What is the name of that school? (If you have attended more than one other school, tell [if TIO: me/else: us] about only one of them now. [{If USERMODE = CATI} I'll {else} We'll] ask you about all schools you have attended later in the survey.)

- 1=[fill Y\_BYOTSCL1]
- 2=[fill Y\_BYOTSCL2]
- 3=[fill Y\_B14OTSCL1]
- 4=[fill Y\_B14OTSCL2]
- 5=[fill Y\_B14OTSCL3]
- 6=[fill Y\_B14OTSCL4]

\*Item included in the BPS:12/17 abbreviated survey.

- 7=[fill B17AOTSCL01 - from first loop]
- 8=[fill B17AOTSCL01 - from second loop]
- 9=[fill B17AOTSCL01 - from third loop]
- 10=[fill B17AOTSCL01 - from fourth loop]
- 11=[fill B17AOTSCL01 - from fifth loop]
- 12=[fill B17AOTSCL01 - from sixth loop]
- 13=[fill B17AOTSCL01 - from seventh loop]
- 99=Other school

#### **B17AOTSCH01\***

What is the name of another school you have attended? (If you have attended more than one other school since July [{If (BPS:12/14 NONRESPONDENT)} 2011 {else} 2014], tell [{if USERMODE = CATI} me {else} us] about only one of them now. [{If USERMODE = CATI} I'll {else} We'll] ask you about all schools you have attended later in the survey.)

- School name
- IPEDS UnitID
- City
- State
- Level
- Control
- Entered text string
- School not found in results

#### **B17AOTFRDG01\***

Is this enrollment specifically to earn a degree **from** [OTHER POSTSECONDARY INSTITUTION]?

- 1=Yes
- 0=No

#### **B17AOTTYP01**

Is this enrollment for mostly undergraduate-level classes or for mostly graduate-level classes at [OTHER POSTSECONDARY INSTITUTION]?

- 1=Mostly undergraduate-level classes
- 2=Mostly graduate-level classes

#### **B17AOTDEG01\***

What is the type of degree or certificate program for this enrollment at [OTHER POSTSECONDARY INSTITUTION]? (If you have more than one enrollment at [OTHER POSTSECONDARY INSTITUTION] or if you are in a joint degree program, tell [{if USERMODE = CATI} me {else} us] about only one of these now. You will have an opportunity later to tell [{if USERMODE = CATI} me {else} us] about all enrollment at [OTHER POSTSECONDARY INSTITUTION].)

(Please choose all that apply)

- 2=Undergraduate certificate or diploma (usually less than 2 years), including those leading to a license (example: cosmetology)
- 3=Associate's degree (usually a 2-year degree)
- 4=Bachelor's degree (usually a 4-year degree)

\*Item included in the BPS:12/17 abbreviated survey.

- 6=Post-baccalaureate certificate
- 7=Master's degree
- 8=Post-master's certificate
- 9=Doctoral degree—research/scholarship (for example, PhD, EdD, etc.)
- 10=Doctoral degree—professional practice (including: chiropractic, dentistry, law, medicine, optometry, pharmacy, podiatry, or veterinary medicine)

**B17AOTTNS01**

Did you attempt to transfer any credits from [NPSAS INSTITUTION] to [OTHER POSTSECONDARY] for this [DEGREE NAME]?

- 1=Yes
- 0=No

**B17AOTCUR01\***

Are you currently attending [OTHER POSTSECONDARY INSTITUTION] for this [DEGREE NAME]? (Answer “Yes” if you are on a spring or fall break in the middle of the term or semester. Answer “No” if you completed your [DEGREE NAME] or are on a break between semesters, terms, or quarters, such as on summer break, and not currently attending classes.)

- 1=Yes
- 0=No

**B17AOTCPD01\***

Have you completed all the requirements for this [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL]? [All conditions receive the following instruction] (Answer “No” if you transferred schools and completed your [DEGREE NAME] at a different school. [{If USERMODE = CATI} I'll {else} We will] ask you about your enrollment at any other schools later.)

- 1=Yes
- 0=No

**B17AOTDGN01\***

In what month and year were you awarded your [DEGREE NAME] from [OTHER POSTSECONDARY SCHOOL]?

- Month:  
January - December
- Year:  
2011–2017
- Have not yet been awarded [DEGREE NAME]

**B17AOTENR301**

Did you attend [OTHER POSTSECONDARY SCHOOL] for your [DEGREE NAME] at any time [{if BEFORE JULY 2017} after June 2014 {else} between July 2014 and June 2017]?

- 1=Yes
- 0=No

\*Item included in the BPS:12/17 abbreviated survey.

**B17AOTENRL01\***

Between July 2014 and June 2017, in which months did you attend [OTHER POSTSECONDARY SCHOOL] for your [DEGREE NAME]? [{if BEFORE JULY 2017} If you plan to attend [OTHER POSTSECONDARY SCHOOL] for your [DEGREE NAME] before June 30, 2017, please indicate the months you plan to attend. (Do not include any months during which you were [{if BEFORE JULY 2017} or will not be {else} not] taking classes, such as summer break. If you attended [{if BEFORE JULY 2017} or will attend] for only a portion of any month, please include that month.)

- July 2014 – June 2017

**B17AOTSTS01\***

During your enrollment in [{if years of enrollment = 1} this academic year {else} these academic years] for your [DEGREE NAME], were you mainly full-time, part-time, or an equal mix of full-time and part time?

- 2014–2015
- 2015–2016
- 2016–2017
  - 1=Mainly full-time
  - 2=Mainly part-time
  - 3=Equal mix of full-time and part-time

**B17AOTCLDG01**

Between July 2014 and June 2017, were you taking these [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL] primarily to transfer course credit to a degree or certificate?

- 1=Yes
- 0=No

**B17AOTCRSN01**

Which of these reasons best describes why you were enrolled in [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL] between July 2014 and June 2017?

- 1=To prepare to earn a degree later
- 2=To prepare for a professional certification or industry license
- 3=To gain job or occupational skills
- 4=To take courses solely for recreation, self-improvement, or personal interest

**B17AOTDBLM01**

Did you declare a major or field of study at [OTHER POSTSECONDARY SCHOOL] [{if AFTER JULY 2017} before July 2017] for your [DEGREE NAME]?

- 1=Yes, declared a major or field of study
- 2=Yes, declared a double major or field of study
- 3=No

**B17AOTDEC01**

Even though you have not formally declared your major, have you decided what your major will be for your [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL]? (Answer “Yes” if you have left [OTHER POSTSECONDARY SCHOOL] and do not plan to attend again to earn your [DEGREE NAME] there but you had decided what your major would be prior to leaving.)

- 1=Yes

\*Item included in the BPS:12/17 abbreviated survey.

- 0=No

### B17AOTMLST01

What was your [{if B17AOTDBLM01 = 3 and B17AOTDEC01 = 1} intended] major or field of study for your [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL] [{if AFTER JULY 2017} when you last attended there before July 2017]? [{If B17AOTDBLM01 = 3 and B17AOTDEC01 = 1} (If you intended to double-major, tell [{if USERMODE = CATI} me {else} us] only about the major most closely related to the job you hope to have after college.)]

- 1=[Fill B17AMAJ1]
- 2=[Fill B17ANP1MAJ01 - from first loop of NPSAS\_OTH\_loop]
- 3=[Fill B17ANP1MAJ01 - from second loop of NPSAS\_OTH\_Loop]
- 4=[Fill B17ANP1MAJ01 - from third loop of NPSAS\_OTH\_Loop]
- 5=[Fill B17ANP1MAJ01 - from fourth loop of NPSAS\_OTH\_Loop]
- 6=[Fill B17ANP1MAJ01 - from fifth loop of NPSAS\_OTH\_Loop]
- 7=[Fill B17ANP1MAJ01 - from sixth loop of NPSAS\_OTH\_Loop]
- 8=[Fill B17ANP1MAJ01 - from seventh loop of NPSAS\_OTH\_Loop]
- 9=[Fill B17AOT1MAJ01 - from first loop]
- 10=[Fill B17AOT1MAJ01 - from second loop]
- 11=[Fill B17AOT1MAJ01 - from third loop]
- 12=[Fill B17AOT1MAJ01 - from fourth loop]
- 13=[Fill B17AOT1MAJ01 - from fifth loop]
- 14=[Fill B17AOT1MAJ01 - from sixth loop]
- 15=[Fill B17AOT1MAJ01 - from seventh loop]
- 16=[Fill B17AMAJ2]
- 17=[Fill B17ANP2MAJ01-from first loop of NPSAS\_OTH loop]
- 18=[Fill B17ANP2MAJ01-from second loop of NPSAS\_OTH loop]
- 19=[Fill B17ANP2MAJ01-from third loop of NPSAS\_OTH loop]
- 20=[Fill B17ANP2MAJ01-from fourth loop of NPSAS\_OTH loop]
- 21=[Fill B17ANP2MAJ01-from fifth loop of NPSAS\_OTH loop]
- 22=[Fill B17ANP2MAJ01-from sixth loop of NPSAS\_OTH loop]
- 23=[Fill B17ANP2MAJ01-from seventh loop of NPSAS\_OTH loop]
- 24=[Fill B17AOT2MAJ01-from first loop]
- 25=[Fill B17AOT2MAJ01-from second loop]
- 26=[Fill B17AOT2MAJ01-from third loop]
- 27=[Fill B17AOT2MAJ01-from fourth loop]
- 28=[Fill B17AOT2MAJ01-from fifth loop]
- 29=[Fill B17AOT2MAJ01-from sixth loop]
- 30=[Fill B17AOT2MAJ01-from seventh loop]
- 31=[Fill PRIOR MAJOR 1]
- 32=[Fill PRIOR MAJOR 2]
- 33=[Fill PRIOR MAJOR 3]
- 34=[Fill PRIOR MAJOR 4]
- 35=[Fill PRIOR MAJOR 5]
- 99=Other major

\*Item included in the BPS:12/17 abbreviated survey.



**B17AOTMAJ01**

What was your [{if B17AOTDBLM01 = 3 and B17AOTDEC01 = 1} intended] major or field of study for your [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL] [{if AFTER JULY 2017} when you last attended there before July 2017]? [{If B17AOTDBLM01 = 3 and B17AOTDEC01 = 1} (If you intended to double-major, tell [{if USERMODE = CATI} me {else} us] only about the major most closely related to the job you hope to have after college.)]

**B17AOTM2LT01**

What was your second major or field of study for your [DEGREE NAME] at [OTHER SCHOOL NAME] [{if AFTER JULY 2017} when you last attended there between July 2014 and June 2017]?

- 1=[Fill B17AMAJ1]
- 2=[Fill B17ANP1MAJ01 - from first loop of NPSAS\_OTH\_loop]
- 3=[Fill B17ANP1MAJ01 - from second loop of NPSAS\_OTH\_Loop]
- 4=[Fill B17ANP1MAJ01 - from third loop of NPSAS\_OTH\_Loop]
- 5=[Fill B17ANP1MAJ01 - from fourth loop of NPSAS\_OTH\_Loop]
- 6=[Fill B17ANP1MAJ01 - from fifth loop of NPSAS\_OTH\_Loop]
- 7=[Fill B17ANP1MAJ01 - from sixth loop of NPSAS\_OTH\_Loop]
- 8=[Fill B17ANP1MAJ01 - from seventh loop of NPSAS\_OTH\_Loop]
- 9=[Fill B17AOT1MAJ01 - from first loop]
- 10=[Fill B17AOT1MAJ01 - from second loop]
- 11=[Fill B17AOT1MAJ01 - from third loop]
- 12=[Fill B17AOT1MAJ01 - from fourth loop]
- 13=[Fill B17AOT1MAJ01 - from fifth loop]
- 14=[Fill B17AOT1MAJ01 - from sixth loop]
- 15=[Fill B17AOT1MAJ01 - from seventh loop]
- 16=[Fill B17AMAJ2]
- 17=[Fill B17ANP2MAJ01-from first loop of NPSAS\_OTH loop]
- 18=[Fill B17ANP2MAJ01-from second loop of NPSAS\_OTH loop]
- 19=[Fill B17ANP2MAJ01-from third loop of NPSAS\_OTH loop]
- 20=[Fill B17ANP2MAJ01-from fourth loop of NPSAS\_OTH loop]
- 21=[Fill B17ANP2MAJ01-from fifth loop of NPSAS\_OTH loop]
- 22=[Fill B17ANP2MAJ01-from sixth loop of NPSAS\_OTH loop]
- 23=[Fill B17ANP2MAJ01-from seventh loop of NPSAS\_OTH loop]
- 24=[Fill B17AOT2MAJ01-from first loop]
- 25=[Fill B17AOT2MAJ01-from second loop]
- 26=[Fill B17AOT2MAJ01-from third loop]
- 27=[Fill B17AOT2MAJ01-from fourth loop]
- 28=[Fill B17AOT2MAJ01-from fifth loop]
- 29=[Fill B17AOT2MAJ01-from sixth loop]
- 30=[Fill B17AOT2MAJ01-from seventh loop]
- 31=[Fill PRIOR MAJOR 1]
- 32=[Fill PRIOR MAJOR 2]
- 33=[Fill PRIOR MAJOR 3]
- 34=[Fill PRIOR MAJOR 4]
- 35=[Fill PRIOR MAJOR 5]

\*Item included in the BPS:12/17 abbreviated survey.



- 99=Other major

### **B17AOTMAJ201**

What was your second major or field of study for your [DEGREE NAME] at [OTHER POSTSECONDARY SCHOOL] [{if AFTER JULY 2017} when you last attended there between July 2014 and June 2017]?

### **B17AOTMJCH01**

[{if BEFORE JULY 2017} After June 2014 {else} between July 2014 and June 2017], how many times did you formally change your major at [OTHER POSTSECONDARY SCHOOL] for the [DEGREE NAME]?

- 0=Never
- 1=Once
- 2=More than once

### **B17AOTOTSM01**

You just told [{if USERMODE = CATI} me {else} us] about the [DEGREE NAME] you were awarded [{if certificate or diploma and OTHER MAJOR 1 not missing and OTHER MAJOR 2 not missing} in [OTHER MAJOR 1] and [OTHER MAJOR 2] {else if certificate or diploma and if OTHER MAJOR 1 not missing} in [OTHER MAJOR 1]] at [OTHER POSTSECONDARY SCHOOL] [{if B17AOTDGMM01 not missing and B17AOTDGY01 not missing} in [B17AOTDGMM01] [B17AOTDGY01] {else if B17OTDGY01 not missing} in [B17AOTDGY01]]. **Other than for that [DEGREE NAME],** [{if BEFORE JULY 2017} have you attended {else} did you attend] [OTHER POSTSECONDARY SCHOOL] at any time between July [{if BPS:12/14 NONRESPONDENT}] 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for an **additional** [DEGREE NAME] you have not yet told [{if CATI mode} me {else} us] about? [{if associates degree or bachelor's degree} Changes in major or field of study at [OTHER POSTSECONDARY SCHOOL] for your ({if bachelor's degree} bachelor's {else} associate's) degree do not count as additional enrollment]

- 1=Yes
- 0=No

### **B17AOTDGSC01\***

You already told me that at [OTHER POSTSECONDARY SCHOOL] you have worked on: List DEGREE NAME from all loops. Besides this enrollment, [{if BEFORE JULY 2017} have you attended {else} did you attend] [OTHER POSTSECONDARY SCHOOL] at any time between July [{if BPS:12/14 NONRESPONDENT}] 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for anything else?

- 1=Yes
- 0=No

### **B17AOTOTDG01\***

[If USERMODE = WEB] Besides this enrollment at the schools listed above [{if B17ASTDABR = 1} and not including any schools where you studied abroad {else} no words], [{if BEFORE JULY 2017} have you attended {else} did you attend] any other schools at any time between July [{if (BPS:12/14 NONRESPONDENT)} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for anything else? [else if CATI mode] You already told us that you have worked on: List NPSAS INSTITUTION and DEGREE NAME. Besides this enrollment, [{if BEFORE JULY 2017} have you attended {else} did you attend] any other schools at any time between July [{if (BPS:12/14

\*Item included in the BPS:12/17 abbreviated survey.

NONRESPONDENT))} 2011 {else} 2014] and [{if BEFORE JULY 2017} today {else} June 2017] for anything else?

- 1=Yes, additional enrollment at other schools
- 0=No additional enrollment at any schools

#### **B17AEXP**

In what month and year do you expect to complete the requirements for your [CURRENT DEGREE NAME]?

- Month:  
January - December
- Year:  
2017 - After 2021
- Will not finish the [CURRENT DEGREE NAME]
- Don't know

#### **B17AEXPEVR**

What is the highest level of education you ever expect to complete at any school?

- 1=Undergraduate level courses, no undergraduate degree or certificate expected
- 2=Undergraduate certificate or diploma (usually less than 2 years), including certificates leading to a license (example: cosmetology)
- 3=Associate's degree (usually a 2-year degree)
- 4=Bachelor's degree (usually a 4-year degree)
- 5=Graduate level courses, no graduate degree or certificate expected
- 6=Post-baccalaureate certificate
- 7=Master's degree
- 8=Post-master's certificate
- 9=Doctoral degree, research/scholarship (including: PhD, EdD, etc.)
- 10=Professional doctoral degree (including: chiropractic, dentistry, law, medicine, etc.)

#### **B17AMARR**

Thank you for describing your previous enrollment. The remainder of the survey asks about your latest experiences in college and your employment and family situations.

So that [{if USERMODE = CATI} I {else} we] can ask you the right set of questions in the survey, please indicate your current marital status.

- 1=Single, never married
- 2=Married
- 3=Separated
- 4=Divorced
- 5=Widowed
- 6=Living with partner

#### **B17ASPLV**

What is the highest level of education your spouse has completed?

- 1=Did not complete high school
- 2=High school diploma or equivalent

\*Item included in the BPS:12/17 abbreviated survey.

- 3=Vocational/technical training
- 5=Associate's degree (usually a 2-year degree)
- 6=Some college but no degree
- 7=Bachelor's degree (usually a 4-year degree)
- 8=Master's degree or equivalent
- 9=Professional degree (chiropractic, dentistry, law, medicine, optometry, pharmacy, podiatry, or veterinary medicine)
- 10=Doctoral degree (PhD, EdD, etc.)
- 11=Don't know

### **B17BREMEVER**

Remedial or developmental courses are used to strengthen your skills in math, reading, or other subjects. Students are usually assigned to these courses on the basis of a placement test taken before the school year begins. Often, these courses do not count for credit toward graduation. Since [if B17ADIPL = 5} high school {else} you completed your high school requirements] [if AFTER JULY 2017} and through June 30, 2017, did you take {else} have you taken] any remedial or developmental courses to improve your basic skills in English, math, reading, or writing?

- 1=Yes
- 0=No

### **B17BPRSCHLST**

The next few questions will focus on your experiences specifically at one school. Please choose the college, university, or trade school which you consider to [if currently enrolled} be {else} have been] your main school [if NOT CURRENTLY ENROLLED} when you were attending school] [if AFTER JULY 2017} before July 2017]. If you consider more than one of these to have been your main school, choose the school you most recently attended.

- 1=[NPSAS INSTITUTION]
- 2=[fill B17AOT1SCL01]-from first loop]
- 3=[fill B17AOT1SCL01]-from second loop]
- 4=[fill B17AOT1SCL01]-from third loop]
- 5=[fill B17AOT1SCL01]-from fourth loop]
- 6=[fill B17AOT1SCL01]-from fifth loop]
- 7=[fill B17AOT1SCL01]-from sixth loop]
- 8=[fill B17AOT1SCL01]-from seventh loop]
- 99=None of these schools

### **B17BGPAEST\***

Which best describes your overall grades at [T\_PRMSCH] from the date you started there through the end of your most recent term there [if T\_B4JULY = 0} before July 2017]?

- 1=Mostly A's (3.75 and above)
- 2=A's and B's (3.25-3.74)
- 3=Mostly B's (2.75-3.24)
- 4=B's and C's (2.25-2.74)
- 5=Mostly C's (1.75-2.24)
- 6=C's and D's (1.25-1.74)
- 7=Mostly D's or below (1.24 or below)

\*Item included in the BPS:12/17 abbreviated survey.

- 8=I don't know my grades [if T\_PSCURENR=1: yet]
- 9=[{If USERMODE = WEB} I {else} You] would describe [{if USERMODE = WEB} my {else} your] grades differently than what is listed here

### **B17BSCHRES**

While attending [PRIMARY POSTSECONDARY SCHOOL] during the 2016–2017 school year, did you live in college-owned housing, with your parent(s) or guardian(s), or off campus? (If you lived in more than one residence, choose the place where you lived for the longest period of time.)

- 1=On campus or in college-owned housing (for example, a dorm or a residence hall)
- 2=With parent(s) or guardian(s)
- 3=Off campus (not college-owned housing)

### **B17BDESCRIB**

[{If currently enrolled and did not complete degree} Is {else} Was] your entire program at [PRIMARY POSTSECONDARY SCHOOL] online?

- 1=Yes
- 0=No

### **INTFIN**

In the next section, we are interested in how you paid for your undergraduate education after high school.

### **B17COTGRTAID**

Thinking only about the **2016–2017** school year and not including scholarships from any school or state, for your undergraduate education, did you receive any:

Veteran's education benefits?

[{If age less than 24 years old} Scholarships or tuition reimbursement from your employer or from your parents' or guardians' employer? {else} Scholarships or tuition reimbursement from your employer?]

Scholarships from a private organization such as a church, PTA, fraternity/sorority, or foundation?

- 1=Yes
- 0=No

### **B17COTGRTAMT\***

Again, thinking only of the **2016–2017** school year and for your undergraduate education, what was the total amount you received in...

(If you are unsure of the amount(s), please provide your best guess.)

- Veteran's education benefits \$|.00
- Employer scholarships or tuition reimbursement \$|.00
- Private organization scholarships \$|.00

### **B17CRCVLN**

Thanks. Now we want to know about any undergraduate student loans you may have borrowed from the federal government or from a private lender.

Did you take out **any** undergraduate student loans for the 2016–2017 school year?

- 1=Yes

\*Item included in the BPS:12/17 abbreviated survey.

- 0=No

### **B17CLOANINT**

You just indicated you took out undergraduate student loans for the 2016–2017 school year.

There are two main types of loans:

**Private student loans** are borrowed from a private lender, such as a bank (or sometimes a state), and usually require a co-signer.

**Federal student loans**, such as subsidized and unsubsidized Direct Loans (previously known as Stafford Loans), are borrowed from the federal government.

The next questions will ask about **private student loans**.

### **B17CPRVLN**

Thinking only about the **2016–2017** school year, did you take out any **private loans** borrowed from a private lender for your undergraduate education?

(Private loans are borrowed from a private lender such as a bank or sometimes a state, usually require a co-signer, and have market interest rates based on credit history. Click here for examples of private loans [end help link].)

- 1=Yes
- 0=No

### **B17CPRVAMT**

For the **2016–2017** school year, how much did you take out in private loans for your undergraduate education? Do not include any money taken out in federal loans or any money borrowed from family or friends in your answer.

(If you are unsure of the amount of your private loans, please provide your best guess.)

- \$|.00

### **B17CPRVEST**

For the **2016–2017** school year, please indicate the range for how much you took out in private loans for your undergraduate education. Would you say it was...

- 1=Less than \$3,000
- 2=\$3,000-\$5,999
- 3=\$6,000-\$8,999
- 4=\$9,000-\$11,999
- 5=\$12,000-\$14,999
- 6=\$15,000-\$17,999
- 7=\$18,000 or more
- 8=Don't know

### **B17CBPSRCVLN**

In the 2013–2014 school year, you told us you had taken out undergraduate student loans for your education. Is that correct?

- 1=Yes
- 0=No, I did not take out student loans in 2013–2014

\*Item included in the BPS:12/17 abbreviated survey.

**B17CEVRRCVLN**

Have you **ever** taken out any undergraduate student loans for your education?

- 1=Yes
- 0=No

**B17CLOANINT2**

You just indicated you have taken out undergraduate student loans for your education.

There are two main types of loans:

**Private student loans** are borrowed from a private lender, such as a bank (or sometimes a state), and usually require a co-signer.

**Federal student loans**, such as subsidized and unsubsidized Direct Loans (previously known as Stafford Loans), are borrowed from the federal government.

**B17CBPSPRVLN**

In the 2013-2014 school year, you told us you had taken out **private loans** borrowed from a private lender for your undergraduate education. Is that correct?

(Private loans are borrowed from a private lender such as a bank or sometimes a state, usually require a co-signer, and have market interest rates based on credit history. [\[help text hyperlink\]](#) Click here for examples of private loans [\[end help text hyperlink\]](#)).

- 0=No, I did not take out **private** student loans in 2013–2014
- 1=Yes

**B17CEVRPRVLN\***

Have you **ever** taken out any **private loans** borrowed from a private lender for your undergraduate education? (Private loans are borrowed from a private lender such as a bank or sometimes a state, usually require a co-signer, and have market interest rates based on credit history. [Click here for examples of private loans.](#))

- 1=Yes
- 0=No

**B17CTLPRVAMT**

What is the total amount that you have taken out in **private loans** for your **entire** undergraduate education? Do not include any money taken out in federal loans or any money borrowed from family or friends in your answer.

(If you are unsure of the amount of your private loans, please provide your best guess.)

- \$.00

**B17CTLPRVEST**

Please indicate the range for the total amount you have taken out in private loans for your entire undergraduate education. Would you say it was...

- 1=Less than \$3,000
- 2=\$3,000 - \$5,999
- 3=\$6,000 - \$9,999
- 4=\$10,000 - \$19,999

\*Item included in the BPS:12/17 abbreviated survey.

- 5=\$20,000 - \$29,999
- 6=\$30,000 - \$39,999
- 7=\$40,000 or more
- 8=Don't know

**B17CPRVRYST\***

Are you currently repaying your **private loans** for your undergraduate education?

- 1=Yes
- 2=No, because they are already paid off
- 3=No, because [{if CATI mode} you {else} I] have an agreement with [{if USERMODE = CATI} your {else} my] lender to delay or defer payments
- 0=No

**B17CPLNMOS**

How much are your monthly private loan payments for your undergraduate education?

- \$|.00

**B17DWKSTDY**

Next, [{if USERMODE = CATI} I {else} we] have a question about work-study jobs. Federal, state, and institution work-study jobs are offered to students with financial need, allowing them to work part-time to earn money to help pay their education expenses. Since starting your college education, have you ever held a **work-study job**? (Students must file a FAFSA, Free Application for Federal Student Aid, in order to be considered for the Federal Work-Study program. Work-study jobs are often located on the campus of a student's school and may or may not be related to a student's course of study.)

- 1=Yes
- 0=No

**B17DWRKYR1\***

For the next few questions, [{if USERMODE = CATI} I {else} we] would like you to think specifically about the first year you attended [NPSAS INSTITUTION].

Did you have any jobs during your **first year** of attending [NPSAS INSTITUTION]?

- 1=Yes
- 0=No

**B17DWRK1HRS\***

What were your average hours worked per week during your first year of attending [NPSAS INSTITUTION]?

- | hours per week

**B17DWRK1CAM**

Was your employment during your first year of enrollment at [NPSAS INSTITUTION] on or off-campus?

- 1=On-campus
- 2=Off-campus
- 3=Both on and off-campus

\*Item included in the BPS:12/17 abbreviated survey.

**B17DINTRO**

In this next section, [{if USERMODE = CATI} I {else} we] will ask a few questions about any paid jobs you've had [{if BEFORE JULY 2017} after June 2014 {else} between July 2014 and June 2017]. When thinking about paid jobs, please include any self-employment, work-study jobs, and paid internships.

**B17DANYJOBS\***

[{If BEFORE JULY 2017} Have you worked {else} Did you][{if BEFORE JULY 2017} or will you work {else} work] for pay, at any time between July 2014 and June 2017, including continuing in any jobs started before July 2014?

- 1=Yes
- 0=No

**B17DPRIEMP01\***

[else] Did you continue to work for [{if NUMBER OF EMPLOYERS REPORTED IN BPS:12/14 > or equal to 2} any of these employers {else} this employer] between July 2014 and June 2017?

- 1=[EMPLOYER NAME 1 REPORTED IN BPS:12/14]
- 2=[EMPLOYER NAME 2 REPORTED IN BPS:12/14]
- 3=[EMPLOYER NAME 3 REPORTED IN BPS:12/14]
- 4=[EMPLOYER NAME 4 REPORTED IN BPS:12/14]
- 5=[EMPLOYER NAME 5 REPORTED IN BPS:12/14]
- 6=[EMPLOYER NAME 6 REPORTED IN BPS:12/14]
- 7=[EMPLOYER NAME 7 REPORTED IN BPS:12/14]
- 99=Did not work for [{if NUMBER OF EMPLOYERS REPORTED IN BPS:12/14 >= 2} any of these employers {else} this employer] between July 2014 and June 2017

**B17DEMPLOY01\***

What is the name of another employer you have worked for (or will work for) between July 2014 and June 2017? (If you have more than one additional employer, tell [{if USERMODE = CATI} me {else} us] about only one of them now. [{If USERMODE = CATI} I {else} We] will collect the names of any other employers later.)

- Employer or company name (for example, IBM, Starbucks, etc.):
- Check here if you are/were self-employed

**B17DWKMON01\***

Between July 2014 and June 2017, in what months did you work [{if B17DEMPNAM01 = Employer} for this employer {else} at [B17DEMPNAM01]]?

- July 2014 – June 2017

**B17DEMPCUR01\***

Are you currently working [{if B17DEMPSLF01=1} for yourself {else if B17DEMPNAM01 = Employer} for this employer {else} at [B17DEMPNAM01]]?

- 1=Yes
- 0=No
- 2=Not yet, but will be before July 2017

\*Item included in the BPS:12/17 abbreviated survey.



**B17DCURERN01\***

How much [{if B17DEMPCUR01 = 1} do you currently make working {else if B17DEMPCUR01 = 2} will you make working {else} did you make when last working][{if B17DEMPSLF01 = 1} for yourself {else if B17DEMPNAM01 = Employer} for this employer {else} at [B17DEMPNAM01]]? Include any bonuses, tips, or commissions in your total earnings amount.

- \$ |
- 1=Per hour
- 2=Per month
- 3=Per year

**B17DWRKENR01**

[Else] [{If B17DWKMON01 not missing} You just told [{if USERMODE = CATI} me {else} us] about the months in which you worked for this employer.

[{If T\_B4JULY=0} Before July 2017, did {else} Did] you work regularly for this employer during weeks in which you were **also attending [PRIMARY POSTSECONDARY SCHOOL]**?

- 1=Yes
- 0=No

**B17DONOFF01**

Was this job on or off the campus of your school?

- 1=On campus
- 2=Off campus
- 3=Both on and off campus

**B17DWKHREN01**

[{If AFTER JULY 2017} Before July 2017, how {else} How] many hours per week did you usually work [{if B17DEMPSLF01 = 1} for yourself {else if B17DEMPNAM01 = Employer} for this employer {else} at [B17DEMPNAM01]] while you attended school? (Provide your best guess if you are unsure.)

- | hours per week

**B17DWRKNEN01**

You told [{if USERMODE = CATI} me {else} us] that [{If AFTER JULY 2017} before July 2017 {else} no words] you were [{if B17DWRKENR01 = 1} no words {else} not] working regularly for this employer during weeks in which you were attending school. [{If AFTER JULY 2017} Before July 2017, did {else} Did] you work regularly for this employer during weeks in which you **were not attending school**?

- 1=Yes
- 0=No

**B17DWRKHRS01\***

How many hours per week did you usually work [{if B17DEMPSLF01 = 1} for yourself {else if B17DEMPNAM01 = Employer} for this employer {else} at [B17DEMPNAM01]] when you were last employed there [{if AFTER JULY 2017} before July 2017]?

- | hours per week

\*Item included in the BPS:12/17 abbreviated survey.

**B17DSTRTCR01\***

Was your employment [if B17DEMPNAM01 not missing and if B17DEMPSLF01 ne 1: with [B17DEMPNAM01]] related to the kind of work you want to do in the future?

- 1=Yes
- 0=No

**B17DOTHEMP01\***

You've told me about your employment with: [List B17DEMPLOY01 from all loops] [If BEFORE JULY 2017} Have you worked {else} Did you][if BEFORE JULY 2017} or will you work {else} work] for pay for any other employers at any time between **July 2014 and June 2017?** (Answer "Yes" for any self-employment [if B17DWKSTDY = 1}, {else} or] paid internships [if B17DWKSTDY = 1}, or work-study jobs.)]

- 0=No other employers
- 1=Yes, have other employers

**B17DENRWORK**

When you were last attending [PRIMARY POSTSECONDARY SCHOOL] and working, did you consider yourself to be primarily...

- 1=[If currently enrolled and (B17DCUREMP = 1 or if B17DEMPCUR01 = 1 in any loop)} A student who works {else} A student who worked]
- 2=An employee who decided to enroll in school

**INTJOB\***

Next, [if USERMODE = CATI} I {else} we] have some questions that will focus on your [if REFERENCE EMPLOYER missing} employment with your current or most recent employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED} self-employment {else} employment with [REFERENCE EMPLOYER]].

**B17DREFPKLST**

The next few questions will focus on your experiences specifically with one employer. Please choose the employer which you consider to [if CURRENTLY EMPLOYED} be {else} have been] your main employer [if CURRENTLY EMPLOYED} when you were working] [if AFTER JULY 2017} before July 2017].

- 2=[fill B17DEMPNAM01]-from first loop]
- 3=[fill B17DEMPNAM01]-from second loop]
- 4=[fill B17DEMPNAM01]-from third loop]
- 5=[fill B17DEMPNAM01]-from fourth loop]
- 6=[fill B17DEMPNAM01]-from fifth loop]
- 7=[fill B17DEMPNAM01]-from sixth loop]
- 8=[fill B17DEMPNAM01]-from seventh loop]
- 9=[fill B17DEMPNAM01]-from eighth loop]
- 10=[fill B17DEMPNAM01]-from ninth loop]
- 11=[fill B17DEMPNAM01]-from tenth loop]
- 99=None of these employers

\*Item included in the BPS:12/17 abbreviated survey.

**B17DREFCUR**

Are you currently working [{if REFERENCE EMPLOYER missing} for this employer {else if REFERENCE EMPLOYER SELF-EMPLOYED} for yourself {else} at [REFERENCE EMPLOYER]]?

- 1=Yes
- 0=No

**B17DEMPZIP**

What is the 5-digit ZIP code of the city, town, or municipality in which [{if REFERENCE EMPLOYER = Employer} your employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED} your place of self-employment {else} [REFERENCE EMPLOYER]] is located? If you do not know the ZIP code of your place of work, please [{if USERMODE = CATI} tell me {else} enter] the city and state in which your place of work is located.

If your employer has multiple offices or locations of business, please give the ZIP code where your work activities are primarily conducted.

- Check here if the location is not in the United States or a US territory.

**B17DEARNINGS\***

How much did you make when you last worked [{if REFERENCE EMPLOYER missing} for this employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED} for yourself {else} at [REFERENCE EMPLOYER]] [{if AFTER JULY 2017} before July 2017]? Include any bonuses, tips, or commissions in your total earnings amount.

- \$|
- 1=Per hour
- 2=Per month
- 3=Per year

**B17DOCC**

What was the title of the most recent job you held [{if REFERENCE EMPLOYER missing} with this employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED or B17DREFPKLST = 1} working for yourself {else} with [REFERENCE EMPLOYER]] [{if AFTER JULY 2017} before July 2017]? What did you do in that job?

**B17DEMPBEN**

When you last worked in your job [{if B17DJBTl not missing} as a(n) [B17DJBTl]] [{if REFERENCE EMPLOYER missing} with this employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED or B17DREFPKLST = 1} no words {else} with [REFERENCE EMPLOYER]] [{if AFTER JULY 2017} before July 2017], were you eligible to receive...

- Health insurance
- Life insurance
- Retirement or other financial benefits, such as a 401(k)/403(b)
- Vacation or holidays
- Overtime
- 1=Yes
- 0=No

\*Item included in the BPS:12/17 abbreviated survey.

**B17DOCCTIMGT\***

[{If AFTER JULY 2017} Before July 2017, did {else} Did] you work [{if B17DJBTL not missing} as a(n)[B17DJBTL] {else} in your most recent job] or in any similar jobs, even if they were not [{if REFERENCE EMPLOYER missing} with this employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED} working for yourself {else} with [REFERENCE EMPLOYER]], for a year or more?

- 1=Yes
- 0=No

**B17DOCCTIM\***

[{If AFTER JULY 2017} Before July 2017, for {else} For] how many years did you work [{if B17DJBTL not missing} as a(n)[B17DJBTL] {else} in your most recent job] or in any similar jobs, even if they were not [{if REFERENCE EMPLOYER missing} with this employer {else if REFERENCE EMPLOYER = SELF-EMPLOYED} working for yourself {else} with [REFERENCE EMPLOYER]]?

- | year(s)

**B17DRELMAJ**

Was your job [if B17DJBTL not missing: as a(n) [B17DJBTL]] related to what you studied in college?

- 1=Yes
- 0=No

**B17DHVLIC**

Header: Job Focus [B17DJBTL] Next, [{if USERMODE = CATI} I'd {else} we'd] like to ask about any professional certifications or industry licenses. A professional certification or license shows you are qualified to perform a specific job and includes things like Licensed Realtor, Certified Medical Assistant, Certified Construction Manager, or an IT certification.

Do you have a currently active professional certification or a state or industry license?

(Do not include business licenses such as a liquor license or vending license.)

- 1=Yes
- 0=No

**B17DLICREL**

[else] [{If AFTER JULY 2017} Before July 2017, was {else} Was] this certification or license required for your job [{if B17DJBTL not missing} as a(n) [B17DJBTL]]?

- 1=Yes
- 0=No

**B17DJOBSH**

Next, [{if USERMODE = CATI} I'd {else} we'd] like to ask about your job satisfaction. [{If USERMODE = CATI} Please use a number from 1 to 5 to respond to the following statement. One means "strongly disagree" and five means "strongly agree." {else} Please use a number from 1 to 5 to respond to the following question:] {If CURRENTLY EMPLOYED WITH REFERENCE EMPLOYER} Overall, I am satisfied with my job. {Else} Overall, I was satisfied with my job.

- 1=1 (Strongly disagree)
- 2=2 (Somewhat disagree)
- 3=3 (Neither disagree nor agree)

\*Item included in the BPS:12/17 abbreviated survey.

- 4=4 (Somewhat agree)
- 5=5 (Strongly agree)

**B17D1INDST**

How would you classify [{if REFERENCE EMPLOYER missing} this employer {else} [REFERENCE EMPLOYER]]'s primary industry? Is it...

- 1=Healthcare
- 2=Government
- 3=Retail sales
- 4=Education
- 5=Something else

**B17D2INDST**

Thanks. Would you say [{if REFERENCE EMPLOYER missing} this employer {else} [REFERENCE EMPLOYER]]'s primary industry is...

- 1=Food service and accommodations
- 2=Financial and insurance
- 3=Manufacturing
- 4=Construction
- 5=Something else

**B17DINDUST**

What is or was [{if REFERENCE EMPLOYER missing} the primary industry of your self-employment? {else} the primary industry for [REFERENCE EMPLOYER]?]

**B17DACTLKWRK**

At any point between July 2014 and June 2017, were there times when you were actively looking for work?

(Actively looking for work includes activities such as sending out resumes or filling out job applications, placing or responding to job advertisements, contacting employers or employment agencies, and going on job interviews.)

- 1=Yes
- 0=No

**B17DLKWRK**

Between July 2014 and June 2017, in which months were you **not working** and actively looking for a job for any part of the month?

- July 2014 – June 2017

**B17DUNCMP**

Did you receive unemployment compensation at any point between July 2014 and June 2017 while you were not working?

- 1=Yes
- 0=No

**B17DEDBENFTS**

When thinking about a job now or in the future, salary may be only one part of why you choose that job.

\*Item included in the BPS:12/17 abbreviated survey.

Compared to the salary, how important is each of the following to you?

- Helping others as part of your job
  - Being seen as an expert in your field
  - Making your own decisions about how to get your work done
  - Balancing work and leisure time
  - Balancing work and family
- 1=Less important than salary  
2=As important as salary  
3=More important than salary

### B17EINCINTRO

The next set of questions will help us to better understand how the financial circumstances of students may affect their ability to attend college.

### B17EINCOM\*

What was your income for **calendar year 2016**, prior to taxes and deductions? (Calendar year 2016 includes January 1, 2016 through December 31, 2016. Include all income you paid taxes on, including work, investment income, or alimony. [if {B17AMARR=2} **Do not include your spouse's income**, {else} Do not include] any grants or loans you may have used to pay for school, or any money given to you by your family.)

- 1=No income
- 2=Less than \$1,000
- 3=\$1,000-\$2,499
- 4=\$2,500-\$4,999
- 5=\$5,000-\$9,999
- 6=\$10,000-\$14,999
- 7=\$15,000-\$19,999
- 8=\$20,000-\$29,999
- 9=\$30,000-\$49,999
- 10=\$50,000 and above
- 11=Don't know

### B17EINCSP

What was your spouse's income for **calendar year 2016**, prior to taxes and deductions? (Calendar year 2016 includes January 1, 2016 through December 31, 2016. Include all income your spouse paid taxes on. Do not include any grants or loans your spouse may have used to pay for school, or any money given to your spouse by family.)

- 1=No income
- 2=Less than \$1,000
- 3=\$1,000-\$2,499
- 4=\$2,500-\$4,999
- 5=\$5,000-\$9,999
- 6=\$10,000-\$14,999
- 7=\$15,000-\$19,999
- 8=\$20,000-\$29,999
- 9=\$30,000-\$49,999
- 10=\$50,000 and above

\*Item included in the BPS:12/17 abbreviated survey.

- 11=Don't know

Check here instead if you were not married to your spouse in 2016

### **B17EDEPS**

[else] Do you have any children you supported financially at any time between July 2016 and June 2017?

- 1=Yes
- 0=No

### **B17EDEP2**

How many children did you support financially at any time between July 2016 and June 2017?

- | child(ren)

### **B17EOTDEPS**

Were you financially supporting anyone else at any time between July 2016 and June 2017?

- 1=Yes
- 0=No

### **B17EOTDEPS2**

How many others were you financially supporting at any time between July 2016 and June 2017?

- | other(s)

### **B17EKIDCOL**

How many of your dependents attended a college, university, or trade school in the 2016–2017 school year (July 1, 2016–June 30, 2017)?

- | dependent(s)

### **B17EKIDCOL1**

Did your dependent attend a college, university, or trade school in the 2016–2017 school year (July 1, 2016–June 30, 2017)?

- 1=Yes
- 0=No

### **B17ERECSUPP**

Since July 2014, have you regularly given any friends or family who do not live with you more than \$50 per month to help them out?

- 1=Yes
- 0=No

### **B17EPARHELP**

Between July 2014 and June 2017, did your parents or will your parents help you pay for any of your education or living expenses? [If BEFORE JULY 2017 and currently enrolled} If you plan on attending school this year, will your parents help pay for any of your education or living expenses?] (Tuition and fees or school books are examples of education expenses. Rent and food are examples of living expenses.)

- 1=Yes
- 0=No

\*Item included in the BPS:12/17 abbreviated survey.

**B17EPARGATE**

Ok. Was this amount:

- 1=\$2,000 or less
- 2=More than \$2,000

**B17EPARLOAMT**

Was it...

- 1=Less than \$250
- 2=\$250 - \$500
- 3=\$501 - \$1,000
- 4=\$1,001 - \$1,500
- 5=\$1,501 - \$2,000

**B17EPARHIAMT**

Was it...

- 1=\$2,001 - \$5,000
- 2=\$5,001 - \$10,000
- 3=\$10,001 - \$15,000
- 4=\$15,001 - \$20,000
- 5=\$20,001 - \$25,000
- 6=More than \$25,000

**B17ENUMCRD**

Excluding debit or ATM cards, how many credit cards do you have in your own name that are billed to you?

(Only include credit cards for which you pay at least some of the amount owed.)

- 0=None
- 1=One
- 2=More than one

**B17ECARRYBAL**

Do you usually owe an amount that is carried over on your credit cards from month to month?

- 1=Yes
- 0=No

**B17ECRDBAL**

What was the **total amount you owed** on your credit card according to your last month's statement?

- \$|.00

**B17ECCPAYMT**

What was the **total amount you paid** toward your credit card statement last month?

- \$|.00

\*Item included in the BPS:12/17 abbreviated survey.



**B17ERNTAMT**

How much (on average) is your monthly rent or mortgage payment where you currently live? Please indicate only the amount that you [{if B17AMARR=2} and your spouse {else if B17AMARR=6} and your partner] are responsible for paying. If someone else pays your rent or mortgage on your behalf, please indicate "0."

- \$.00

**B17ECARLON**

Do you [{if B17AMARR = 2} or your spouse] make loan or lease payments for a car, truck, motorcycle, or other vehicle? If someone other than you [{if B17AMARR = 2} or your spouse] makes the payment(s) on your behalf, please answer "No."

- 1=Yes
- 0=No

**B17ECARAMT**

How much do you [{if B17AMARR = 2} and your spouse] usually pay in total vehicle loan or lease payments each month?

- \$.00

**B17EPARST**

What is the current marital status of your parents or guardians? If your parents are divorced, please answer this question about the marital status of the parent or guardian whom you lived with most during the past 12 months.

(If you did not live with one parent more than the other, answer about the parent who provided more financial support during the last 12 months, or during the most recent year that you received support from a parent.)

- 1=Married or remarried
- 2=Single
- 3=Divorced or separated
- 4=Widowed
- 5=None of the above - Both parents or guardians are deceased

**B17EPARNC**

In calendar year 2016 (January 1, 2016 through December 31, 2016), what was the income, prior to taxes and deductions, of the parent or guardian whom you lived with most in the past 12 months? Would you say it was... (If you did not live with one parent more than the other, answer about the parent who provided more financial support during the last 12 months, or during the most recent year that you received support from a parent.)

- 1=Under \$30,000
- 2=\$30,000 to \$59,999
- 3=\$60,000 to \$89,999
- 4=\$90,000 to \$119,999
- 5=\$120,000 and above
- 6=Don't know

Parents (or guardians) are deceased

\*Item included in the BPS:12/17 abbreviated survey.

**B17EPRHSD**

Not including yourself or the parent or guardian whom you lived with most in the past 12 months, how many people (for example, brothers or sisters or grandparents) did this parent or guardian support financially during the most recent term you attended school in the 2016–2017 school year? (If you did not live with one parent more than the other, answer about the parent who provided more financial support during the last 12 months, or during the most recent year that you received support from a parent.)

- | other(s)

**B17EDPNUM**

Not including yourself or your parent or guardian, how many of the people financially supported by your parent or guardian **attended a college, university, or trade school** during the most recent term you attended school in the 2016–2017 school year?

- | other(s)

**B17EUNTAX**

Between July 2016 and June 2017, did you [{if B17EPARST ne 5 and B17EPTDCD ne 1} or anyone in your parents' (or guardians') household] receive any of the following benefits?

(Bulleted list) Supplemental Security Income (SSI), SNAP (the Food Stamp Program), TANF (the Temporary Assistance for Needy Families Program), The Free and Reduced Price School Lunch Program, WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)

- 1=Yes
- 0=No

**B17EDSCT250**

Now [{If USERMODE = WEB} we {else} I] have a series of quick “what-if” scenarios for you about money. Imagine you have a choice between receiving \$250 today, or \$250 in one year. This gift is guaranteed whether you choose to take the \$250 today, or \$250 in one year. Would you prefer...

- 1=\$250 today
- 2=\$250 in one year

**B17EDSCT300**

Thanks. What about...

- 1=\$250 today
- 2=\$300 in one year

**B17EDSCT350**

OK. What about...

- 1=\$250 today
- 2=\$350 in one year

**B17EDSCT400**

OK. What about...

- 1=\$250 today
- 2=\$400 in one year

\*Item included in the BPS:12/17 abbreviated survey.

**B17EDSCT450**

OK. What about...

- 1=\$250 today
- 2=\$450 in one year

**B17EDSCT500**

Finally, how about...

- 1=\$250 today
- 2=\$500 in one year

**INTBCK**

Finally, [if USERMODE = CATI] I [else] we] have a few additional questions that will help us better understand the college experiences of students from different backgrounds.

**B17FDISTNC**

What was the 5-digit ZIP code of your permanent address when you last attended [If PRIMARY POSTSECONDARY SCHOOL = missing] school [else] PRIMARY POSTSECONDARY SCHOOL]? Your permanent address is usually your legal residence, such as where you maintain your driver's license or are registered to vote.

- Check here if the location is not in the United States or a US territory.

**B17FMILIT**

Are you a veteran of the U.S. Armed Forces, or are you currently serving in the Armed Forces either on active duty, in the reserves, or in the National Guard?

(Please choose all that apply)

- Veteran
- Active Duty
- Reserves
- National Guard
- None of the above

**B17FPHYSH**

In general, how is your **physical** health?

- 1=Excellent
- 2=Very good
- 3=Good
- 4=Fair
- 5=Poor

**B17FMENTH**

In general, how is your **mental** health?

- 1=Excellent
- 2=Very good
- 3=Good
- 4=Fair

\*Item included in the BPS:12/17 abbreviated survey.

- 5=Poor

**B17FMISSH**

In the past 30 days, how often did a physical or mental health concern cause you to miss a day of school or work?

- 1=Never
- 2=A few times
- 3=About once a week
- 4=Almost every day
- 5=Every day

**B17FPRSVT**

Did you happen to vote in the 2016 presidential election?

- 1=Yes
- 0=No
- 2=Don't know

**B17F2000**

How confident are you that you could come up with \$2,000, from any available source, if an unexpected need arose within the next month?

- 1=I am certain I could come up with the full \$2,000
- 2=I could probably come up with \$2,000
- 3=I could probably not come up with \$2,000
- 4=I am certain I could not come up with \$2,000

**B17FINTRST**

Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

- 1=More than \$102
- 2=Exactly \$102
- 3=Less than \$102

**B17FINFLAT**

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

- 1=More than today
- 2=Exactly the same
- 3=Less than today

**B17FSTOCK**

Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund."

- 1=True
- 2=False
- 3=Don't know

\*Item included in the BPS:12/17 abbreviated survey.

**B17FWDFALL**

If your household somehow were to get an extra unexpected \$25,000 in the next few weeks, what would it do with the money?

- 1=Spend it on something that the household wants or needs
- 2=Pay off some household debts
- 3=Put it in savings or investments
- 4=Donate it to family or charity
- 5=Other

**B17FFEDACT**

If a borrower is unable to repay their federal student loan, what steps can the government take to collect the debt?

- Report that the student debt is past due to the credit bureaus
- Garnish wages until the debt, plus any interest and fees, is repaid
- Retain tax refunds and Social Security payments until the debt, plus any interest and fees, is repaid
- None of the above

\*Item included in the BPS:12/17 abbreviated survey.



## Appendix F. Training Materials for Interviewers





# Data Collection Interviewer Training Manual Contents

## 1.0 BPS

- 1.1. Data Collection Interviewer Training Manual
- 1.2. What Is the 2012/17 Beginning Postsecondary Students Longitudinal Study?
  - 1.2.1. Overview of BPS:12/17
  - 1.2.2. How Will the Surveys Be Conducted?
  - 1.2.3. The Use of Incentives
- 1.3. BPS Security Procedures
- 1.4. Project Staff
- 1.5. Common Acronyms

## 2.0 GENERAL SURVEYING TECHNIQUES

- 2.1. Overview
- 2.2. Inbound Calls to the Help Desk
- 2.3. Types of Questions You Will Encounter
- 2.4. Responding to a Call
- 2.5. Identity Verification and Password Requests
- 2.6. Obtaining Cooperation—Outbound Calls
- 2.7. Initial Contact
  - 2.7.1. Speaking to a Contact
  - 2.7.2. Speaking to a Sample Member
  - 2.7.3. Encountering Refusals
- 2.8. Best Practices in Conducting the Survey
  - 2.8.1. Asking the Questions
  - 2.8.2. Using Feedback
  - 2.8.3. Using Judgment in General Coding

## 3.0 CASE MANAGEMENT

- 3.1. Pre-CATI Tracing Activities
- 3.2. CATI Locating Procedures
- 3.3. Tracing Procedures
- 3.4. Scheduling a Callback
- 3.5. Telephone Answering Machine Message Protocol
- 3.6. Status Codes

## 4.0 QUALITY CONTROL

- 4.1. Ensuring Quality in the Survey
- 4.2. Training Components
  - 4.2.1. Data Collection Interviewer Training Materials

- 4.2.2. Quality Circle Meetings
- 4.2.3. Continual Training
- 4.2.4. Performance Monitoring: QUEST
- 4.3. Electronic Incident Reports
  - 4.3.1. Types of Problems You May Encounter
  - 4.3.2. Submitting Electronic Incident Reports from the CATI-CMS
- 4.4. Conclusion

## APPENDIXES

- Appendix A Frequently Asked Questions
- Appendix B Sample Members' Rights and Confidentiality
- Appendix C Refusal Conversion Procedures
- Appendix D Data Collection Letter
- Appendix E Event, Line-Level, and Summary Status Codes
- Appendix F Survey Reference Materials

## Data Collection Interviewer Sample Agendas: Three Nights



2012/17 Beginning  
Postsecondary Students  
Longitudinal Study

Online training modules to be completed prior to training:

- BPS Study Overview
- BPS Interview Basics

**Tuesday: 6:00-10:00 PM**

Welcome and Introductions

Review of iLearning Modules

Introduction to CATI-CMS

*Break*

More CATI-CMS: Case Management/Front-End

Front-End CATI clips presentation

Demo Survey

Review of Training Objections and Evaluations





2012/17 Beginning  
Postsecondary Students  
Longitudinal Study

Online training module to be completed prior to training:

- BPS Study Overview

**Wednesday: 6:00-10:00 PM**

Training Objectives

FAQs and Pronunciation Guide

BPS Survey Basics

Coder Training/Practice

*Break*

Security Presentation

Round Robin Mock Survey #1

Review of Training Objections and Evaluations





2012/17 Beginning  
Postsecondary Students  
Longitudinal Study

Online training module to be completed prior to training:

- BPS Study Overview

**Thursday: 6:00-10:00 PM**

Training Objectives

Round Robin #2

Paired Mock Practice

*Break*

More Paired Mock Practice

Wrap-up/Questions

Training Evaluations





# Appendix G. Notification Materials for Student Interview Data Collection





## Brochure

### WHO IS CONDUCTING BPS?

The 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17) is being conducted by the National Center for Education Statistics (NCES), in the U.S. Department of Education's Institute of Education Sciences, with data collection being carried out under contract by RTI International, a nonprofit research organization based in North Carolina.

NCES is authorized to conduct BPS by the Education Sciences Reform Act (ESRA) of 2002 (20 U.S.C. § 9543), and to collect students' education records from educational agencies or institutions for the purpose of evaluating Federally supported education programs under the Family Educational Rights and Privacy Acts (FERPA, 34 CFR §§ 99.31(a)(3) and 99.35).

### HOW WILL MY INFORMATION BE PROTECTED?

NCES is required to follow strict procedures to protect personal information in the collection, reporting, and publication of data. Data collected from or about individual students 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 (ESRA 2002, 20 U.S.C., § 9573).

Data security procedures for BPS are reviewed and approved by NCES data security staff. Your answers are secured behind firewalls and are encrypted during internet transmission using Secure Sockets Layer (SSL) protocol. All data entry modules are password protected and require the user to log in before accessing confidential data. Project staff is subject to large fines or imprisonment if individual responses are disclosed.

\*RTI International is a registered trademark and a trade name of Research Triangle Institute.



### HOW DO I PARTICIPATE?

You can complete the BPS survey online or over the phone.

#### ONLINE

Log onto the study website at <https://surveys.nces.ed.gov/bps/> using the Study ID and password provided in your welcome letter.

The survey is mobile-optimized, so it can be easily completed on a mobile device.

#### PHONE

Call our Help Desk at (800) 334-2321 to speak to one of our professional interviewers.



## 2012/17 BEGINNING POSTSECONDARY STUDENTS LONGITUDINAL STUDY (BPS)

### BPS HELP DESK



(800) 334-2321



[bps@rti.org](mailto:bps@rti.org)

<https://surveys.nces.ed.gov/bps/>

Jason Hill  
BPS Project Director (RTI)  
[jahill@rti.org](mailto:jahill@rti.org)  
(800) 647-9657

David Richards  
BPS Project Officer (NCES)  
[David.Richards@ed.gov](mailto:David.Richards@ed.gov)  
(202) 245-6202



National Center for Education Statistics  
Institute of Education Sciences  
U.S. Department of Education

**ies** NATIONAL CENTER FOR  
EDUCATION STATISTICS  
Institute of Education Sciences

NCES 2017-408

### WHAT IS BPS?

The 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS) follows students who started postsecondary education in the 2011–12 academic year. BPS will survey about 34,000 students in 2017 to collect information about their educational progress and plans, experience in the workforce, earnings and expenses, family status, and personal and professional goals.

### WHY AM I BEING ASKED TO PARTICIPATE?

You are being asked to participate in BPS because you were enrolled in postsecondary education for the first time during the 2011–12 academic year. Postsecondary education is any education beyond high school, including career and technical school, college, and graduate school. Most study participants were first surveyed in 2012 as part of the National Postsecondary Student Aid Study and then again in 2014 for the first BPS follow-up.

### WHAT HAPPENS TO THE RESULTS?

Results from the current study are scheduled to be released in 2018 and will be posted on the NCES website (<http://nces.ed.gov/surveys/bps/>), along with results from previous BPS studies. Your responses will be combined with those of other students and will be presented in summary form only. No individually identifiable information will be published. Researchers will use BPS data to explore a wide variety of topics, such as how financial aid influences persistence in and completion of postsecondary education.

## WHY IS MY PARTICIPATION IMPORTANT?

Your survey responses help educators, researchers, and policymakers at the local, state, and national levels understand national trends in enrollment patterns, education goals, employment, and backgrounds of students who pursue education after high school. Your experiences are unique, and, if you choose not to participate in BPS, no one else can be substituted for you.

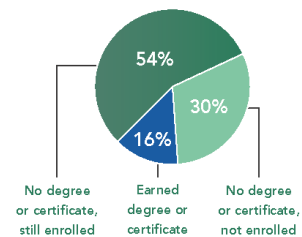


### Did you know?

The most recent BPS follow-up occurred in 2014 and about 25,000 students who began their postsecondary education in the 2011–12 academic year completed an interview. More than half of these first-time beginning postsecondary students were pursuing a certificate (10 percent) or an associate's degree (42 percent) during their first year. Two years later in 2014, about 16 percent had earned a degree or certificate, 54 percent were still enrolled, and 30 percent were not enrolled.

Source: U.S. Department of Education, National Center for Education Statistics, 2012/14 Beginning Postsecondary Students Longitudinal Study (BPS:12/14).

**Academic Status, 2014**



## Data Collection Announcement Letter

<<date>>

<<name>>

<<addr1>>

<<addr2>>

<<city>>, <<st>> <<zip>>

Dear «casename»:

Recently, we contacted you about your selection for the Beginning Postsecondary Students Longitudinal Study (BPS), a survey of students who first enrolled in postsecondary education during the 2011–12 school year. Data collection for BPS is now underway, and we would like to invite you to complete the survey.

**After you complete the survey, you will receive \$30 as a token of our appreciation, payable by PayPal or check.** The survey will take approximately 30 minutes to complete and can even be completed on your mobile device.

To complete the survey, log on to our secure website at <https://surveys.nces.ed.gov/bps/> using the Study ID and password below:

**Study ID** = *Your Study ID*

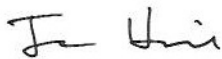
**Password** = *Your password (password is case sensitive).*

You represent many students like you who were not selected for BPS and your participation is important to the success of the study. If you have questions, problems completing your survey online, or prefer to complete the survey over the telephone, simply call the **BPS Help Desk** at **(800) 334-2321**.

If you have any other questions or concerns about the study, please contact the BPS Project Director, Jason Hill, at (800) 647-9657, [jahill@rti.org](mailto:jahill@rti.org), or the NCES Project Officer, David Richards, at (202) 245-6202, [David.Richards@ed.gov](mailto:David.Richards@ed.gov).

Thank you in advance for making BPS a success.

Sincerely,



Jason Hill  
BPS Project Director  
Education and Workforce Development  
RTI International



David Richards, Ph.D.  
NCES Project Director  
National Center for Education Statistics  
U.S. Department of Education

Enclosure

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NCES is authorized to conduct the 2012/17 Beginning Postsecondary Students Longitudinal Study by the Education Sciences Reform Act of 2002 (ESRA 2002, 20 U.S.C., § 9543), and to collect students' education records from educational agencies or institutions for the purpose of evaluating Federally supported education programs under the Family Educational Rights and Privacy Act (FERPA, 34 CFR §§ 99.31(a)(3) and 99.35). Data collected from or about individual students 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 (ESRA 2002, 20 U.S.C., § 9573). These data are being collected for NCES by RTI International, a nonprofit research organization based in North Carolina.

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 for this voluntary information collection is 1850-0631. The time required to complete this information collection is estimated to average approximately 30 minutes per response, including the time to review instructions, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate, suggestions for improving this survey, or any comments or concerns regarding the status of your individual submission of this survey, please write directly to: The 2012/17 Beginning Postsecondary Students Longitudinal Study, National Center for Education Statistics, Potomac Center Plaza, 550 12th St, SW, Room 4037, Washington, DC 20202.

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## Data Collection Announcement E-Mail

**Subject:** It's time to complete your BPS survey!

Dear [firstname],

Recently, we contacted you about your selection for the Beginning Postsecondary Students Longitudinal Study (BPS). BPS is a survey of students who, like you, first enrolled in postsecondary education during the 2011–12 school year. Data collection for BPS is now underway, and we would like to invite you to complete the survey by [earlycompletiondate].

If you complete the survey, you will receive \$[inc\_amount] as a token of our appreciation payable by PayPal or check. The survey will take about 30 minutes to complete and can easily be completed on your mobile device.

**Click here** to complete your survey on your computer, smartphone, or tablet:

<https://surveys.nces.ed.gov/bps/>

**Study ID** = [caseid]

**Password** = [password]

The BPS survey will ask about your experiences since enrolling in higher education. Your participation, while voluntary, is important to the success of the study. **If you would like to complete the survey over the telephone, please call the BPS Help Desk at (800) 334-2321.**

If you have any questions about the study, please contact me at (800) 647-9657 or [jahill@rti.org](mailto:jahill@rti.org), or the NCES Project Officer, David Richards, at (202) 245-6202 or [David.Richards@ed.gov](mailto:David.Richards@ed.gov).

Thank you for helping to make BPS a success.

Sincerely,

Jason Hill  
Project Director, BPS  
RTI International  
(800) 647-9657

OMB Control Number: 1850-0631

*Learn more about our confidentiality procedures at*  
<https://surveys.nces.ed.gov/bps/confidentiality.aspx>.

## Postcard 1

### 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS)

«fname»,

Recently we sent you information about completing the U.S. Department of Education's **BPS survey**. This study helps policymakers learn about the issues that impact the lives of students who are starting postsecondary education.

If you haven't yet participated, we'd like to remind you that we're offering \$«INC\_AMOUNT» as a token of our appreciation for completing the «INTERVIEW\_TIME»-minute survey, which you can easily complete on your mobile device!

To complete your survey online, log into the study website at

<https://surveys.nces.ed.gov/bps>

Study ID: «caseID»

Password: «password»n

Or call (800) 334-2321 to complete your survey by phone.

### Thank you for your participation!

The Beginning Postsecondary Students Longitudinal Study (BPS) is a survey of individuals who began postsecondary education during the 2011–12 academic year. RTI International is administering this study for the National Center for Education Statistics (NCES) in the U.S. Department of Education's Institute of Education Sciences. OMB Control Number: 1850-0631. Learn more about our confidentiality procedures at <https://surveys.nces.ed.gov/bps/confidentiality.aspx>.





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National Center for Education Statistics  
U.S. Department of Education (ATTN: Data Capture)  
5265 Capital Boulevard  
Raleigh, NC 27616-2925  
RTI Project #0212353.300.002.336

ADDRESS SERVICE REQUESTED

**What have you been  
doing since starting  
college?**

**An important study  
wants to know.**

«casenamenosuffixALLCAPS»

«addr1»

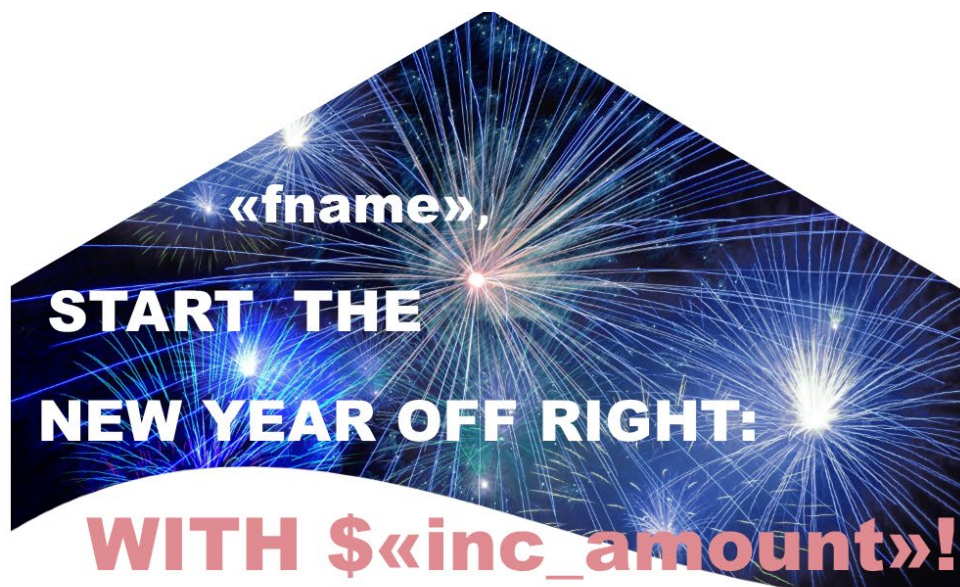
«addr2»

«city», «state» «zip»

«panelinfo» / «controlID»



## Final Postcard



**The BPS survey closes on January 8, 2018! This is the last chance to make a difference.**

The information collected in this study gives us the unique opportunity to learn more about the personal experiences and abilities of students to pay for college. These data are important and will be helpful to researchers and policy-makers who will be making decisions about federal loans and grants in the coming years.

**Participating takes «INTER-**

**...and you will receive \$«inc\_amount»  
as a token of our appreciation.**

**Go to <https://surveys.nces.ed.gov/bps/>**



**Your Study ID Number: «caseID»**

**Your password: «password»W**

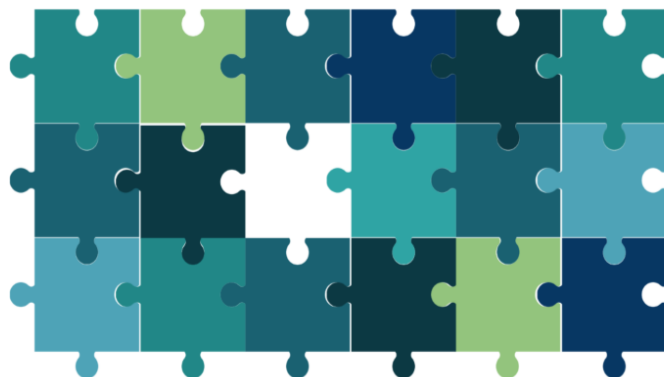


**or call (800) 334-2321**

The Beginning Postsecondary Students Longitudinal Study (BPS) is a survey of individuals who began postsecondary education during the 2011-12 academic year. RTI International is administering the study for the National Center for Education Statistics in the U.S. Department of Education's Institute of Education Sciences. OMB Control Number: 1850-0831. Learn more about our confidentiality procedures at <https://surveys.nces.ed.gov/bps/confidentiality.aspx>.



Our study is missing someone...you!



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National Center for Education Statistics

U.S. Department of Education (ATTN: Data Capture)

5265 Capital Boulevard

Raleigh, NC 27616-2925

RTI Project 0214099.120.002.324

«name»

«addr1»

«addr2»

«city», «st» «zip»

«panelinfo» / «controlID»

## Incentive Letter

<<date>>

<<name>>

<<addr1>>

<<addr2>>

<<city>>, <<st>> <<zip>>

Dear «casename»:

On behalf of the National Center for Education Statistics in the U.S. Department of Education's Institute of Education Sciences and the staff of the 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS), we would like to thank you for completing your BPS survey. Your participation in this study is very important to its success. Enclosed you will find a check for \$<<inc\_amount>>.

If you are unable to cash this check without incurring a fee, you may cash it at any Wells Fargo location for free. If the teller informs you there is a fee for cashing the check, ask them to refer to the account notes, as all fees should be waived. If the teller insists on charging a fee, please do not cash the check. Contact us immediately at (800) 647-9657.

Please do not hesitate to contact us directly at (800) 647-9657 if we can provide any additional information or assistance.

Again, thank you for your time and willingness to participate.

Sincerely,



Jason Hill  
BPS Project Director  
Education and Workforce Development  
RTI International



David Richards, Ph.D.  
NCES Project Director  
National Center for Education Statistics  
U.S. Department of Education

<<Case ID>>

## Text Messages

### *Message 1*

<Fname>, another round of BPS data collection begins soon! Please visit [surveys.nces.ed.gov/bps/](https://surveys.nces.ed.gov/bps/) to update your information.

### *Message 2*

<Fname>, you may now complete your only <<time>> min BPS survey for \$<<inc\_amount>>! Go to [surveys.nces.ed.gov/bps](https://surveys.nces.ed.gov/bps/) or call (800) 334-2321 for your login info.

### *Message 3*

<Fname>, don't forget to complete your only <<time>> min BPS survey for \$<<inc\_amount>>! Go to [surveys.nces.ed.gov/bps](https://surveys.nces.ed.gov/bps/) or call (800) 334-2321 for your login info.



## Appendix H. Item Response Rates and Imputation Results

## List of Tables

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**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
AGE	Age as of 12/31/2011	22,530	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ALTEARN14	Alternative plans: annual earnings estimate if had not attended college: 2014	12,950	66.2	‡	60.0	64.4	75.7	51.9	67.5	78.3	29.6	29.3	50.9
ALTWORK14	Alternative plans: work status if had not attended college: 2014	13,240	68.4	‡	62.3	66.3	77.6	57.4	70.6	80.6	30.7	32.7	54.3
CARAMT17	Monthly car loan payment 2017	22,530	77.8	76.4	76.4	76.7	81.6	71.9	82.0	83.3	72.2	69.8	70.3
CARLN17	Have a car loan in 2017	22,530	78.2	76.4	77.0	77.3	81.9	71.9	82.5	83.5	72.4	69.9	70.9
CRDBAL17	Credit cards: balance due 2017	16,490	70.6	65.6	67.7	70.1	77.6	56.9	76.3	79.7	56.5	55.5	55.3
CRDNUM17	Credit cards: number in own name 2017	22,530	78.4	76.4	77.0	77.6	82.2	71.9	82.7	83.7	72.5	70.4	71.0
CRDPAY17	Credit cards: pay off balance 2017	16,490	71.3	65.8	68.7	70.6	78.1	56.9	76.9	80.2	57.4	56.8	55.8
D1DERMAJ	Derived Major 2017—Specific 2010 CIP Code for Degree 1	21,500	96.7	82.8	98.0	99.7	99.7	84.2	99.6	99.3	68.5	75.9	97.9
D2DERMAJ	Derived Major 2017—Specific 2010 CIP Code for Degree 2	10,290	89.5	57.3	87.4	93.3	97.0	76.5	93.9	96.1	67.5	66.7	91.7
D3DERMAJ	Derived Major 2017—Specific 2010 CIP Code for Degree 3	1,910	78.0	‡	80.0	82.2	78.3	‡	83.8	69.2	65.3	48.6	79.0
D4DERMAJ	Derived Major 2017—Specific 2010 CIP Code for Degree 4	70	81.0	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
DEGEVR14	Likelihood of ever completing expected degree in 2014	17,530	48.3	4.9	36.7	47.8	66.4	23.5	61.3	68.9	10.0	9.9	27.9
DEGEXP14	Likelihood of completing degree by expected date in 2014	17,530	48.2	4.9	36.5	47.7	66.3	23.5	61.4	68.8	10.0	9.8	27.9
DEGEXPDT14	Date expected to complete degree requirements 2014	19,010	59.8	48.7	52.5	57.3	69.1	60.8	65.1	70.8	58.9	56.3	48.0
DEGEXPDT17	Date expected to complete degree requirements 2017	16,720	72.4	67.9	61.4	71.5	84.7	62.3	85.7	90.3	60.4	57.7	45.3
DEGONLN17	Certificate or degree program entirely online	22,530	79.3	79.3	77.9	79.1	82.9	72.1	83.2	84.1	73.5	71.4	72.4
DEPANY17	Has dependents: any in 2017	22,530	87.2	80.9	85.4	87.5	92.7	79.5	93.4	92.9	75.1	73.7	79.71

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
DEPCOL17	Independent students: number of dependents in college 2016–17	7,380	52.6	53.6	53.7	54.6	63.1	50.2	54.9	56.0	39.0	38.0	42.0
DEPEND5B	Dependency and marital status (separated is unmarried) 2011–12	22,530	70.6	65.8	65.3	67.3	73.6	80.4	72.9	72.7	80.8	82.0	79.3
DEPNUM17	Has dependents: number in 2017	22,530	85.8	82.9	83.1	86.9	92.6	79.8	92.2	93.2	72.3	73.0	74.3
DEPNUMCH17	Has dependents: number of children in 2017	22,530	86.7	84.3	84.2	88.0	93.0	80.2	93.2	93.5	74.9	73.5	76.4
DEPNUMOT17	Has dependents: number other than children in 2017	22,530	87.5	83.5	85.3	87.9	93.4	80.5	93.4	93.5	75.2	75.7	79.8
DGEVR17	Highest level of education ever expected in 2017	22,530	78.7	78.3	77.3	78.9	82.8	72.7	83.3	84.0	69.6	69.7	71.4
DSCTRATE14	Discount rate 2014	22,530	75.7	69.3	72.6	74.0	81.9	64.4	78.0	84.9	66.6	68.8	69.8
DSCTRATE17	Discount rate 2017	22,530	78.0	75.9	76.7	77.3	82.0	69.4	82.3	83.5	71.3	69.9	70.3
DSTUINC17	Dependent students: income in 2016–17	9,630	29.4	1.3	32.9	40.5	54.5	6.4	39.4	46.0	1.5	0.9	2.6
EMPLYAM17	Employer aid (student & parents): amount received in 2016–17	5,030	98.5	‡	98.9	97.4	98.3	98.0	98.3	97.8	97.9	98.6	98.1
EMPNUM3Y	All jobs: number of jobs through June 2014	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
EMPSTR01	Employment string for JOB 1	19,630	98.8	98.5	98.5	99.5	99.0	99.3	99.2	99.3	98.8	97.3	97.6
EMPSTR02	Employment string for JOB 2	9,700	99.1	93.3	98.9	98.8	99.6	97.2	99.9	99.6	98.8	97.4	97.3
EMPSTR03	Employment string for JOB 3	3,500	99.3	‡	98.4	99.7	100.0	‡	99.7	99.7	99.5	99.9	96.5
EMPSTR04	Employment string for JOB 4	1,150	99.1	‡	97.4	100.0	100.0	‡	100.0	99.3	‡	99.7	96.2
EMPSTR05	Employment string for JOB 5	370	99.0	‡	96.4	‡	100.0	‡	100.0	98.3	‡	‡	99.0
ENINPT6Y	Attendance intensity through June 2017	22,530	81.3	62.2	85.7	88.7	92.0	43.8	90.2	94.5	19.8	31.0	45.2
EXOCC6	Expected job: type of occupation in 2012 (specific)	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
EXOCC6Y14	Expected job: type of occupation in 2014 (specific)	22,270	54.5	17.8	48.4	56.3	70.6	31.6	66.2	73.3	18.8	20.1	37.1

See notes at end of table.



**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
EXPBA	Bachelor's program intentions within 5 years 2012	9,140	68.4	‡	67.2	72.6	‡	76.5	80.3	94.1	‡	63.7	78.3
EXPFLD	Job nonmonetary benefits: importance of being an expert in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
EXPFLD14	Job nonmonetary benefits: importance of being an expert in 2014	22,530	75.8	72.2	72.5	74.6	81.9	70.0	78.1	84.8	67.2	68.6	70.2
EXPFLD17	Job nonmonetary benefits: importance of being an expert in 2017	22,530	78.4	78.3	76.9	77.9	82.2	71.0	82.6	83.8	72.5	70.1	71.1
EXPWAGE	Expected job: annual salary expected in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
EXPWAGE14	Expected job: annual salary expected in 2014	22,460	53.2	15.0	47.2	54.4	70.0	30.3	64.5	72.3	17.2	18.9	35.6
FAMTIM	Job nonmonetary benefits: importance of balancing work/family in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
FAMTIM14	Importance of balancing work/family in 2014	22,530	76.0	72.2	73.0	74.9	81.9	70.0	78.2	85.0	66.9	69.3	70.3
FAMTIM17	Importance of balancing work/family in 2017	22,530	78.4	78.3	77.0	77.9	82.1	71.0	82.7	83.8	72.5	70.2	71.1
FEDBEN17	Received federal benefit: any in 2017	22,530	77.5	75.7	76.6	77.5	80.2	73.5	81.3	81.0	72.4	71.0	71.4
FIN2K17	Financial security: \$2,000 within the next month in 2017	22,530	78.3	76.4	76.8	77.7	82.1	72.0	82.5	83.7	72.2	70.0	70.8
FINLITA17	Financial literacy: effect of inflation on purchasing in 2017	22,530	77.5	75.7	75.7	77.1	81.7	72.0	82.3	82.9	70.8	68.8	70.2
FINLITB17	Financial literacy: effect of interest on savings in 2017	22,530	78.0	76.4	76.5	77.3	82.1	71.9	82.3	83.3	71.3	69.5	70.6
FINLITC17	Financial literacy: effect of diversification on risk in 2017	22,530	78.0	76.4	76.6	77.6	81.8	72.3	82.7	83.6	71.4	69.7	70.7
FSECTOR	Control and level of first institution (IPEDS sector) in 2011–12	22,530	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GENDER	Gender	22,530	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
GPAEST17	Grade point average estimate in 2017	17,580	83.1	57.9	83.4	87.6	92.0	48.5	92.0	90.4	40.1	39.8	60.9
HIDEGEVR14	Likelihood of completing the highest level of education ever expected in 2014	20,520	57.0	46.9	55.3	55.9	60.9	49.2	59.4	66.1	44.8	50.6	48.4
HIEXPWGE	Expected job: highest annual salary expected 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
HIEXPWGE14	Expected job: highest annual salary expected in 2014	22,460	53.0	15.0	47.0	54.4	69.7	29.9	64.2	71.9	17.2	19.2	35.4
HIGHLVEX	Highest level of education ever expected 2012	22,530	85.7	92.6	82.4	86.4	90.0	83.4	87.2	92.2	89.4	81.2	79.1
HLPOTH	Job nonmonetary benefits: importance of helping others 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
HLPOTH14	Job nonmonetary benefits: importance of helping others in 2014	22,530	75.9	72.2	72.7	74.9	81.9	70.0	78.0	85.0	67.4	69.3	70.3
HLPOTH17	Job nonmonetary benefits: importance of helping others in 2017	22,530	78.4	78.3	76.9	78.0	82.2	71.0	82.7	83.8	72.5	70.1	71.2
HRSWKJ1Y1	Jobs while enrolled: hours worked for job 1 at year 1	7,270	50.8	39.4	54.7	45.5	49.1	32.4	47.6	59.8	27.6	36.0	50.5
HRSWKJ1Y2	Jobs while enrolled: hours worked for job 1 at year 2	9,270	59.4	‡	59.1	56.7	65.1	39.1	57.1	68.9	31.1	38.0	53.3
HRSWKJ1Y3	Jobs while enrolled: hours worked for job 1 at year 3	11,230	65.4	‡	63.9	63.5	71.8	49.4	63.6	75.5	26.9	28.3	55.5
HRSWKJ1Y4	Jobs while enrolled: hours worked for job 1 at year 4	7,740	61.9	‡	60.4	66.9	69.7	29.8	68.1	71.7	17.6	15.4	42.7
HRSWKJ1Y5	Jobs while enrolled: hours worked for job 1 at year 5	4,990	63.3	‡	66.3	72.0	66.7	43.7	63.1	63.6	27.4	24.5	48.1
HRSWKJ1Y6	Jobs while enrolled: hours worked for job 1 at year 6	3,870	62.2	‡	69.8	68.7	59.7	38.0	58.6	56.5	31.5	33.8	42.6
HRSWKJ2Y1	Jobs while enrolled: hours worked for job 2 at year 1	5,270	34.3	15.7	36.2	34.9	36.4	25.8	27.5	41.5	21.1	25.5	26.2
HRSWKJ2Y2	Jobs while enrolled: hours worked for job 2 at year 2	5,840	39.3	‡	36.8	38.0	48.1	30.2	38.6	50.8	21.9	24.1	28.1

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
HRSWKJ2Y3	Jobs while enrolled: hours worked for job 2 at year 3	5,070	34.9	‡	27.5	38.2	45.7	10.8	37.5	54.7	5.9	11.9	20.4
HRSWKJ2Y4	Jobs while enrolled: hours worked for job 2 at year 4	2,370	63.7	‡	63.4	66.3	69.5	‡	66.3	73.0	6.4	10.8	31.1
HRSWKJ2Y5	Jobs while enrolled: hours worked for job 2 at year 5	2,110	64.0	‡	72.6	63.3	65.1	‡	55.5	61.6	29.7	17.0	37.0
HRSWKJ2Y6	Jobs while enrolled: hours worked for job 2 at year 6	1,450	61.4	‡	71.0	65.8	57.2	‡	52.1	46.9	40.1	35.1	42.6
HRSWKJ3Y1	Jobs while enrolled: hours worked for job 3 at year 1	3,510	14.5	‡	14.2	13.2	16.0	20.4	15.3	23.6	6.8	14.0	10.5
HRSWKJ3Y2	Jobs while enrolled: hours worked for job 3 at year 2	3,630	17.5	‡	12.6	18.6	26.3	19.8	17.9	32.6	5.8	13.7	9.4
HRSWKJ3Y3	Jobs while enrolled: hours worked for job 3 at year 3	3,240	11.7	‡	5.9	11.6	19.9	10.4	17.8	30.2	0.5	3.1	4.6
HRSWKJ3Y4	Jobs while enrolled: hours worked for job 3 at year 4	580	65.0	‡	64.8	67.7	78.1	‡	67.2	70.8	‡	‡	35.1
HRSWKJ3Y5	Jobs while enrolled: hours worked for job 3 at year 5	550	64.0	‡	66.9	62.7	72.4	‡	61.4	67.9	‡	‡	43.4
HRSWKJ3Y6	Jobs while enrolled: hours worked for job 3 at year 6	380	60.0	‡	64.0	‡	51.8	‡	‡	75.0	‡	‡	44.9
HRSWKJ4Y1	Jobs while enrolled: hours worked for job 4 at year 1	2,960	6.3	‡	6.6	5.1	8.5	#	5.6	6.6	3.2	5.9	3.9
HRSWKJ4Y2	Jobs while enrolled: hours worked for job 4 at year 2	2,940	5.7	‡	4.0	4.8	10.2	3.4	6.2	11.7	0.6	4.5	2.9
HRSWKJ4Y3	Jobs while enrolled: hours worked for job 4 at year 3	2,860	4.3	‡	1.9	5.6	7.5	#	5.9	16.0	0.3	0.2	1.3
HRSWKJ4Y4	Jobs while enrolled: hours worked for job 4 at year 4	140	69.2	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ4Y5	Jobs while enrolled: hours worked for job 4 at year 5	140	70.6	‡	‡	‡	68.6	‡	‡	‡	‡	‡	‡
HRSWKJ4Y6	Jobs while enrolled: hours worked for job 4 at year 6	110	58.5	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ5Y1	Jobs while enrolled: hours worked for job 5 at year 1	2,770	1.5	‡	1.1	0.7	2.8	#	0.4	5.0	0.4	0.6	1.2
HRSWKJ5Y2	Jobs while enrolled: hours worked for job 5 at year 2	2,750	1.0	‡	0.6	0.2	2.2	#	2.4	3.0	#	0.4	0.7

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
HRSWKJ5Y3	Jobs while enrolled: hours worked for job 5 at year 3	2,730	0.9	‡	0.1	0.2	3.1	#	1.1	2.1	#	#	0.4
HRSWKJ5Y4	Jobs while enrolled: hours worked for job 5 at year 4	40	69.8	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ5Y5	Jobs while enrolled: hours worked for job 5 at year 5	30	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ5Y6	Jobs while enrolled: hours worked for job 5 at year 6	30	67.3	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ6Y1	Jobs while enrolled: hours worked for job 6 at year 1	2,730	0.6	‡	0.5	0.5	1.4	#	0.3	0.7	#	0.3	0.2
HRSWKJ6Y2	Jobs while enrolled: hours worked for job 6 at year 2	2,710	0.4	‡	0.1	0.5	1.3	#	0.5	#	#	#	0.0
HRSWKJ6Y3	Jobs while enrolled: hours worked for job 6 at year 3	2,710	0.4	‡	0.3	#	1.0	#	0.8	0.0	#	#	0.0
HRSWKJ6Y4	Jobs while enrolled: hours worked for job 6 at year 4	10	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ6Y5	Jobs while enrolled: hours worked for job 6 at year 5	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ6Y6	Jobs while enrolled: hours worked for job 6 at year 6	10	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ7Y1	Jobs while enrolled: hours worked for job 7 at year 1	2,710	0.2	‡	0.1	#	1.0	#	#	#	#	0.0	0.0
HRSWKJ7Y5	Jobs while enrolled: hours worked for job 7 at year 5	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ7Y6	Jobs while enrolled: hours worked for job 7 at year 6	10	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HRSWKJ8Y1	Jobs while enrolled: hours worked for job 8 at year 1	2,700	0.1	‡	#	#	0.3	#	#	#	#	#	#
HRSWKJ8Y6	Jobs while enrolled: hours worked for job 8 at year 6	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
HSGPA	Grade point average in high school	20,450	59.6	25.7	41.4	70.5	84.6	41.3	84.4	83.8	17.8	25.3	26.7
INCSPS17	Independent students: spouse's income in 2016–17	10,190	30.7	20.4	38.7	37.5	38.5	9.8	41.2	44.3	8.3	7.5	16.2
JBEN17A	Job 2017: eligible for life insurance	12,580	75.0	76.9	70.7	75.3	81.2	73.3	77.7	80.9	69.5	65.4	68.9

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
JBEN17B	Job 2017: eligible for health insurance	12,580	76.2	77.7	71.6	76.9	82.6	73.3	79.6	82.2	69.3	66.1	70.0
JBEN17C	Job 2017: eligible for retirement benefits	12,580	75.7	77.7	71.4	75.0	82.2	70.7	79.3	81.8	70.9	64.9	69.5
JBEN17D	Job 2017: eligible for vacation or holidays	12,580	76.2	77.7	71.5	76.9	82.5	72.6	79.7	82.5	70.6	65.9	69.7
JBEN17E	Job 2017: eligible for overtime pay	12,580	75.7	77.7	71.1	76.7	81.8	73.3	79.5	81.2	70.7	65.7	69.2
JOBHRS17	Job 2017: hours worked weekly	12,580	98.0	98.1	97.8	98.3	97.8	98.3	98.1	97.9	99.5	99.1	97.8
JOBIND17	Primary employer: industry of employer	12,580	80.3	79.3	76.2	79.8	86.2	76.2	83.2	86.2	77.5	70.0	75.0
JOBLIC17	Job 2017: has industry certification or license	12,580	80.5	79.3	76.6	80.5	86.2	76.2	83.1	86.2	77.7	70.0	75.1
JOBOCC17	Job 2017: occupation	12,580	78.5	79.3	74.4	79.3	84.5	74.1	80.9	83.8	76.7	67.9	71.6
JOBRCLG17	Job 2017: related to college studies	10,790	81.6	75.3	77.5	82.5	86.8	68.0	83.5	85.9	79.5	72.0	78.7
JOBRCL17	Job 2017: job required industry certification or license	12,580	80.5	79.3	76.5	80.5	86.2	76.2	83.1	86.2	77.7	70.0	75.1
JOBRFLT17	Job 2017: related to intended future work	12,580	98.9	99.2	98.5	99.1	99.1	100.0	99.3	99.3	99.5	98.8	98.6
JOBS17	Primary employer: job satisfaction	12,580	80.5	79.3	76.5	80.6	86.2	76.2	83.1	86.2	77.8	70.0	75.2
JOBSELF17	Job 2017: self-employed	12,580	99.3	99.2	99.2	99.4	99.3	100.0	99.4	99.7	99.5	99.3	99.1
JOBTIM17	Job 2017: years worked in same or similar job	12,580	97.9	99.2	97.5	97.6	98.4	99.2	97.9	98.3	98.0	98.6	97.6
LEISTIME	Job nonmonetary benefits: importance of balancing work/leisure in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
LEISTIME14	Job nonmonetary benefits: importance of balancing work/leisure in 2014	22,530	75.9	70.9	72.8	74.8	82.1	70.0	78.1	85.0	66.0	69.0	69.9
LEISTIME17	Job nonmonetary benefits: importance of balancing work/leisure in 2017	22,530	78.3	78.3	76.9	77.8	82.2	71.0	82.7	83.7	71.9	69.5	71.1

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
LKOCCATHD	Expected job: Likelihood of holding job after highest attainment 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
LKOCCATHD14	Expected job: likelihood of holding job after highest attainment in 2014	22,270	54.4	17.6	48.2	55.7	70.6	31.6	66.3	73.5	18.8	19.8	36.9
LOANLITA17	Loan literacy: Govt. can report unpaid debt to credit bureaus in 2017	22,530	77.1	73.1	75.6	76.9	80.8	71.6	81.7	81.8	71.3	69.6	70.3
LOANLITB17	Loan literacy: Govt. can garnish wages for unpaid fed. loan debt in 2017	22,530	77.1	73.1	75.6	76.9	80.8	71.6	81.7	81.8	71.3	69.6	70.3
LOANLITC17	Loan literacy: Govt. can retain tax refunds, Soc Sec for loan debt in 2017	22,530	77.1	73.1	75.6	76.9	80.8	71.6	81.7	81.8	71.3	69.6	70.3
LOCALR17	Housing when last enrolled in 2017	8,340	48.8	22.7	66.2	55.8	38.0	34.1	34.9	26.5	34.5	31.1	36.4
LOEXPWGE	Expected job: lowest annual salary expected 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
LOEXPWGE14	Expected job: lowest annual salary expected in 2014	22,460	52.7	15.0	46.7	53.8	69.3	29.9	63.7	71.5	17.2	19.2	35.4
MAJCHGAA17	Major changes (associate's): number anywhere through June 2017	10,360	98.3	‡	98.6	97.0	99.9	92.8	98.8	97.8	100.0	91.7	98.2
MAJCHGBA17	Major changes (bachelor's): number anywhere through June 2017	11,760	99.6	‡	99.5	99.8	99.7	100.0	99.7	99.4	100.0	100.0	99.2
MENTH	Health: mental in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
MENTH17	Health: mental in 2017	22,530	78.5	76.3	77.0	77.8	82.3	72.3	82.8	83.8	72.3	70.1	71.0
MILTYP17	Military type in 2017	22,530	79.0	76.4	77.6	78.3	82.6	72.4	82.7	83.6	72.4	73.6	72.9
MILTYPE17B	Military type in 2017 (for dependency)	22,530	87.0	81.0	84.7	87.6	92.4	83.9	92.6	92.9	77.4	77.0	79.2
MISSH17	Health: amount missed school/work in past 30 days: 2017	22,530	78.5	76.4	77.0	77.9	82.5	72.3	82.8	83.8	72.4	70.1	70.9

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
MJCHFIAA17	Major changes (associate's): number at first institution through June 2017	7,310	97.7	‡	98.4	95.8	100.0	90.9	93.8	95.2	‡	88.7	97.1
MJCHFIBA17	Major changes (bachelor's): number at first institution through June 2017	8,660	99.5	‡	99.0	99.2	99.7	‡	99.5	99.3	‡	‡	98.8
MTGAMT17	Monthly mortgage or rent amount in: 2017	22,370	76.6	75.6	74.8	76.0	80.9	70.3	81.2	82.7	71.3	66.2	69.6
ONOFFJ1Y3	Job 1: job location year 3	15,440	53.7	35.4	52.8	54.2	60.0	37.6	51.3	61.2	21.3	29.9	48.8
ONOFFJ1Y6	Job 1: job location year 6	12,120	50.2	30.8	53.6	56.3	52.7	23.6	52.8	54.5	17.1	15.6	33.6
ONOFFJ2Y3	Job 2: job location year 3	6,740	39.2	‡	36.7	42.2	47.0	30.3	37.1	48.3	8.0	17.2	26.8
ONOFFJ2Y6	Job 2: job location year 6	3,350	54.1	‡	62.1	58.8	54.3	‡	49.3	53.0	17.5	15.5	30.6
ONOFFJ3Y3	Job 3: job location year 3	3,740	17.2	‡	13.4	18.6	25.4	10.1	19.0	30.3	0.9	5.8	8.5
ONOFFJ3Y6	Job 3: job location year 6	700	55.1	‡	60.1	69.1	50.0	‡	49.4	66.4	‡	11.3	36.3
ONOFFJ4Y3	Job 4: job location year 3	2,970	5.4	‡	3.9	6.2	8.8	#	6.5	10.7	0.3	3.5	3.1
ONOFFJ4Y6	Job 4: job location year 6	140	50.9	‡	‡	‡	41.1	‡	‡	‡	‡	‡	18.0
ONOFFJ5Y3	Job 5: job location year 3	2,760	0.9	‡	0.4	0.1	2.7	#	1.0	1.3	#	#	0.7
ONOFFJ5Y6	Job 5: job location year 6	30	54.1	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
ONOFFJ6Y3	Job 6: job location year 3	2,710	0.2	‡	0.1	#	0.7	#	0.3	0.0	#	#	0.0
ONOFFJ6Y6	Job 6: job location year 6	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
ONOFFJ7Y6	Job 7: job location year 6	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
PARAMT17	Help from parents: total amount received in 2016–17	13,270	50.0	49.7	64.5	53.0	40.3	63.1	35.4	30.9	76.9	70.2	63.6
PAREduc	Parent's highest education level	22,530	76.6	67.6	74.9	72.3	79.1	79.0	75.2	82.6	78.9	77.3	76.9
PFAMNM17	Dependent students: family size in 2016–17	9,630	29.3	1.3	32.9	40.5	54.2	6.4	39.4	46.0	1.5	0.9	2.5
PHYSH	Health: physical in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
PHYSH17	Health: physical in 2017	22,530	78.5	76.4	77.1	77.8	82.3	71.9	82.8	83.7	72.3	70.2	71.1
PINCOL17	Dependent students: number family members in college in 2016–17	9,630	29.3	1.3	32.9	40.5	54.2	6.4	39.4	46.0	1.5	0.9	2.5
PMARIT17	Parents' marital status in 2017	9,630	29.3	1.3	32.9	40.5	54.2	6.4	39.4	46.0	1.5	0.9	2.5
PRICUM17	Private (alternative) loans: cumulative amount borrowed through 2017	4,830	96.5	‡	90.8	96.6	97.3	98.8	98.7	98.8	99.5	99.1	96.4

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
PRIVAID17	Private source grants: amount received 2016–17	5,060	99.4	‡	99.7	99.2	98.8	100.0	99.7	99.2	99.4	99.9	99.4
PRIVLN17	Private (alternative) loans: amount borrowed 2016–17	1,140	25.7	‡	26.9	26.4	23.8	‡	39.7	25.6	‡	29.3	15.7
PRLVL6Y	Attainment or level of last institution enrolled through June 2017	22,530	92.0	85.2	94.1	94.9	98.4	79.6	96.4	98.5	67.5	71.7	63.9
PROUTF6Y	Retention at first institution through June 2017	22,530	86.6	78.4	88.3	91.3	94.9	62.8	93.0	96.9	52.7	61.8	54.1
RACE	Race/ethnicity (with multiple)	22,530	94.5	95.2	93.0	95.6	97.7	89.8	94.8	97.2	91.9	87.5	91.6
REGSUPP14	Regular monthly support in 2014	22,530	76.2	72.2	73.1	75.0	82.0	70.0	78.4	85.0	67.8	69.4	70.5
REGSUPP17	Regular monthly support in 2017	22,530	78.6	76.4	77.2	78.0	82.3	72.5	82.9	83.8	72.3	70.3	71.2
REMEV6Y	Remedial courses: ever taken through 2016–17	22,530	85.4	81.2	86.7	86.5	87.2	79.7	87.5	85.8	75.9	75.2	79.3
S1DEGTYPE	School 1: Degree type for degree 1	22,530	98.4	97.3	99.7	99.3	99.8	87.1	99.6	100.0	89.2	91.7	90.5
S1ENRY1A	School 1 enrollment string Jul 11 thru Dec 11	22,530	98.7	96.9	99.7	100.0	99.8	86.9	99.9	99.9	88.5	93.3	93.8
S1ENRY1B	School 1 enrollment string Jan 12 thru Jun 12	22,530	98.2	96.7	99.4	99.7	99.7	91.5	99.8	99.9	82.8	90.8	91.9
S1ENRY2A	School 1 enrollment string Jul 12 thru Dec 12	22,530	97.3	92.7	98.8	99.4	99.7	87.0	99.3	99.9	80.4	86.1	88.2
S1ENRY2B	School 1 enrollment string Jan 13 thru Jun 13	22,530	97.8	93.1	99.0	99.4	99.5	90.5	99.2	99.7	88.1	89.7	89.5
S1ENRY3A	School 1 enrollment string Jul 13 thru Dec 13	22,530	98.0	93.1	98.9	99.3	99.7	90.5	99.4	99.9	90.0	91.5	90.3
S1ENRY3B	School 1 enrollment string Jan 14 thru Jun 14	22,530	98.1	93.1	99.0	99.3	99.6	91.1	99.4	99.9	90.9	92.0	90.5
S1ENRY4A	School 1 enrollment string Jul 14 thru Dec 14	22,530	90.6	71.0	95.8	97.2	98.9	48.7	96.9	99.0	37.1	41.3	65.3
S1ENRY4B	School 1 enrollment string Jan 15 thru Jun 15	22,530	90.7	72.7	96.0	97.1	99.1	48.8	96.9	98.9	37.0	41.4	65.8
S1ENRY5A	School 1 enrollment string Jul 15 thru Dec 15	22,530	90.8	73.1	96.0	97.2	99.1	52.3	96.9	99.0	37.3	41.4	66.6

See notes at end of table.



**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
S1ENRY5B	School 1 enrollment string Jan 16 thru Jun 16	22,530	90.9	73.1	96.2	97.1	99.0	52.3	97.0	99.0	36.9	41.4	67.0
S1ENRY6A	School 1 enrollment string Jul 16 thru Dec 16	22,530	91.2	71.4	96.2	97.0	99.0	52.3	97.0	99.0	46.6	41.5	67.5
S1ENRY6B	School 1 enrollment string Jan 17 thru Jun 17	22,530	91.2	71.4	96.1	97.0	99.0	52.3	97.0	99.0	46.6	41.4	67.5
S2DEGTYPE	School 2: Degree type for degree 1	12,270	90.7	93.6	94.5	91.8	94.0	83.8	93.2	92.1	80.7	65.5	73.6
S2ENRY1A	School 2 enrollment string Jul 11 thru Dec 11	12,790	96.4	96.4	98.9	99.9	99.7	85.2	99.8	99.8	69.5	76.5	87.2
S2ENRY1B	School 2 enrollment string Jan 12 thru Jun 12	12,790	96.0	97.9	98.9	99.9	99.5	82.5	98.9	99.7	67.5	71.0	86.2
S2ENRY2A	School 2 enrollment string Jul 12 thru Dec 12	12,790	94.0	91.0	95.1	93.6	98.0	89.2	97.4	98.3	81.4	74.4	84.1
S2ENRY2B	School 2 enrollment string Jan 13 thru Jun 13	12,790	95.0	91.0	95.0	94.8	98.1	89.8	97.6	98.5	86.7	88.6	86.0
S2ENRY3A	School 2 enrollment string Jul 13 thru Dec 13	12,790	95.3	91.0	95.3	94.9	98.0	91.6	97.7	98.6	88.3	88.7	87.2
S2ENRY3B	School 2 enrollment string Jan 14 thru Jun 14	12,790	95.4	91.0	95.2	95.2	98.3	91.6	97.5	98.5	88.8	88.0	88.6
S2ENRY4A	School 2 enrollment string Jul 14 thru Dec 14	12,790	86.7	73.2	91.8	92.7	94.6	59.1	93.6	94.9	40.6	42.3	61.2
S2ENRY4B	School 2 enrollment string Jan 15 thru Jun 15	12,790	87.1	73.2	91.9	93.2	95.2	59.8	93.9	95.0	41.6	42.6	62.0
S2ENRY5A	School 2 enrollment string Jul 15 thru Dec 15	12,790	87.6	73.2	92.6	93.3	95.5	60.9	93.7	95.3	42.9	45.3	62.6
S2ENRY5B	School 2 enrollment string Jan 16 thru Jun 16	12,790	88.1	73.2	93.3	93.7	95.7	60.9	94.0	95.5	42.9	45.6	63.8
S2ENRY6A	School 2 enrollment string Jul 16 thru Dec 16	12,790	88.3	73.2	93.4	93.4	95.7	60.9	94.4	95.7	44.1	46.0	64.2
S2ENRY6B	School 2 enrollment string Jan 17 thru Jun 17	12,790	88.6	73.2	93.7	93.7	96.5	60.9	94.3	95.8	44.5	46.2	64.5
S3DEGTYPE	School 3: Degree type for degree 1	4,820	90.7	‡	90.0	94.1	93.4	92.6	94.0	94.2	95.8	84.6	76.2
S3ENRY1A	School 3 enrollment string Jul 11 thru Dec 11	5,140	99.0	‡	99.9	100.0	100.0	100.0	99.8	100.0	97.2	98.1	89.0

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
S3ENRY1B	School 3 enrollment string Jan 12 thru Jun 12	5,140	98.7	‡	99.4	100.0	100.0	100.0	100.0	99.8	95.4	97.3	89.6
S3ENRY2A	School 3 enrollment string Jul 12 thru Dec 12	5,140	95.9	‡	95.3	97.8	99.4	97.6	96.6	99.2	93.5	94.1	81.9
S3ENRY2B	School 3 enrollment string Jan 13 thru Jun 13	5,140	96.1	‡	95.1	97.8	99.6	97.6	96.0	99.2	90.9	94.1	86.7
S3ENRY3A	School 3 enrollment string Jul 13 thru Dec 13	5,140	96.0	‡	94.3	97.5	99.5	92.0	95.6	99.7	94.3	92.7	88.8
S3ENRY3B	School 3 enrollment string Jan 14 thru Jun 14	5,140	96.0	‡	94.5	96.8	99.2	96.1	95.2	99.1	94.2	95.7	89.7
S3ENRY4A	School 3 enrollment string Jul 14 thru Dec 14	5,140	88.7	‡	87.1	93.9	93.8	87.8	92.1	95.1	84.0	81.1	67.7
S3ENRY4B	School 3 enrollment string Jan 15 thru Jun 15	5,140	89.6	‡	88.6	95.1	93.8	87.8	92.6	95.1	85.0	82.0	69.6
S3ENRY5A	School 3 enrollment string Jul 15 thru Dec 15	5,140	90.1	‡	89.0	95.1	93.9	89.2	95.7	95.2	86.8	82.9	70.6
S3ENRY5B	School 3 enrollment string Jan 16 thru Jun 16	5,140	90.6	‡	89.5	95.2	94.5	89.2	96.5	95.5	86.7	83.7	71.4
S3ENRY6A	School 3 enrollment string Jul 16 thru Dec 16	5,140	91.0	‡	90.0	94.9	94.5	89.9	96.5	95.4	89.6	85.9	72.4
S3ENRY6B	School 3 enrollment string Jan 17 thru Jun 17	5,140	91.8	‡	90.6	97.4	95.4	89.9	97.1	95.7	90.7	85.9	72.8
S4DEGTYPE	School 4: Degree type for degree 1	1,630	92.3	‡	94.5	98.2	95.1	‡	90.8	92.6	92.9	67.3	85.0
S4ENRY1A	School 4 enrollment string Jul 11 thru Dec 11	1,740	99.6	‡	99.9	100.0	100.0	‡	100.0	100.0	90.7	100.0	99.2
S4ENRY1B	School 4 enrollment string Jan 12 thru Jun 12	1,740	99.8	‡	100.0	100.0	100.0	‡	99.2	99.3	100.0	99.8	99.2
S4ENRY2A	School 4 enrollment string Jul 12 thru Dec 12	1,740	98.3	‡	98.7	98.4	99.0	‡	97.2	100.0	99.4	96.4	94.7
S4ENRY2B	School 4 enrollment string Jan 13 thru Jun 13	1,740	97.7	‡	97.7	98.4	98.2	‡	97.6	100.0	100.0	94.6	94.7
S4ENRY3A	School 4 enrollment string Jul 13 thru Dec 13	1,740	97.2	‡	97.9	98.4	98.7	‡	98.1	100.0	100.0	87.4	90.4
S4ENRY3B	School 4 enrollment string Jan 14 thru Jun 14	1,740	97.3	‡	97.8	98.4	99.5	‡	98.5	100.0	95.6	88.1	90.6

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
S4ENRY4A	School 4 enrollment string Jul 14 thru Dec 14	1,740	90.3	‡	91.1	91.6	94.6	‡	91.7	95.9	76.0	80.4	77.3
S4ENRY4B	School 4 enrollment string Jan 15 thru Jun 15	1,740	91.8	‡	93.6	92.8	94.6	‡	91.7	97.0	83.3	81.1	79.1
S4ENRY5A	School 4 enrollment string Jul 15 thru Dec 15	1,740	92.0	‡	94.4	94.9	92.3	‡	92.2	96.2	84.7	82.2	82.2
S4ENRY5B	School 4 enrollment string Jan 16 thru Jun 16	1,740	92.5	‡	95.2	94.9	92.9	‡	92.2	97.0	79.8	81.1	84.3
S4ENRY6A	School 4 enrollment string Jul 16 thru Dec 16	1,740	94.0	‡	95.9	93.7	95.8	‡	92.2	98.3	90.9	81.3	86.0
S4ENRY6B	School 4 enrollment string Jan 17 thru Jun 17	1,740	94.4	‡	96.4	94.9	96.1	‡	92.9	98.3	88.5	84.5	86.4
S5DEGTYPE	School 5: Degree type for degree 1	520	94.4	‡	96.9	‡	94.6	‡	90.4	95.8	‡	93.1	92.5
S5ENRY1A	School 5 enrollment string Jul 11 thru Dec 11	560	99.8	‡	99.5	‡	100.0	‡	100.0	100.0	‡	100.0	100.0
S5ENRY1B	School 5 enrollment string Jan 12 thru Jun 12	560	100.0	‡	100.0	‡	100.0	‡	100.0	100.0	‡	100.0	100.0
S5ENRY2A	School 5 enrollment string Jul 12 thru Dec 12	560	99.5	‡	100.0	‡	100.0	‡	100.0	100.0	‡	92.8	98.6
S5ENRY2B	School 5 enrollment string Jan 13 thru Jun 13	560	99.0	‡	99.9	‡	100.0	‡	100.0	100.0	‡	90.9	95.3
S5ENRY3A	School 5 enrollment string Jul 13 thru Dec 13	560	99.0	‡	99.5	‡	100.0	‡	100.0	100.0	‡	90.9	96.9
S5ENRY3B	School 5 enrollment string Jan 14 thru Jun 14	560	98.9	‡	99.9	‡	100.0	‡	100.0	100.0	‡	90.5	94.9
S5ENRY4A	School 5 enrollment string Jul 14 thru Dec 14	560	90.2	‡	90.3	‡	94.4	‡	90.4	93.7	‡	79.3	80.3
S5ENRY4B	School 5 enrollment string Jan 15 thru Jun 15	560	90.6	‡	90.7	‡	94.4	‡	90.4	93.7	‡	81.0	81.6
S5ENRY5A	School 5 enrollment string Jul 15 thru Dec 15	560	92.4	‡	93.9	‡	94.4	‡	90.4	93.7	‡	83.5	83.6
S5ENRY5B	School 5 enrollment string Jan 16 thru Jun 16	560	93.6	‡	94.9	‡	97.7	‡	90.4	93.7	‡	90.1	87.5
S5ENRY6A	School 5 enrollment string Jul 16 thru Dec 16	560	94.4	‡	95.4	‡	97.7	‡	86.5	97.2	‡	90.4	92.2

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
S5ENRY6B	School 5 enrollment string Jan 17 thru Jun 17	560	94.0	‡	94.6	‡	97.4	‡	89.2	97.2	‡	90.4	89.8
S6DEGTYPE	School 6: Degree type for degree 1	170	94.9	‡	98.5	‡	‡	‡	‡	‡	‡	‡	96.5
S6ENRY1A	School 6 enrollment string Jul 11 thru Dec 11	180	100.0	‡	100.0	‡	‡	‡	‡	‡	‡	‡	100.0
S6ENRY1B	School 6 enrollment string Jan 12 thru Jun 12	180	100.0	‡	100.0	‡	‡	‡	‡	‡	‡	‡	100.0
S6ENRY2A	School 6 enrollment string Jul 12 thru Dec 12	180	99.9	‡	100.0	‡	‡	‡	‡	‡	‡	‡	99.1
S6ENRY2B	School 6 enrollment string Jan 13 thru Jun 13	180	99.3	‡	100.0	‡	‡	‡	‡	‡	‡	‡	98.2
S6ENRY3A	School 6 enrollment string Jul 13 thru Dec 13	180	99.1	‡	100.0	‡	‡	‡	‡	‡	‡	‡	99.0
S6ENRY3B	School 6 enrollment string Jan 14 thru Jun 14	180	99.1	‡	98.7	‡	‡	‡	‡	‡	‡	‡	99.1
S6ENRY4A	School 6 enrollment string Jul 14 thru Dec 14	180	91.4	‡	98.5	‡	‡	‡	‡	‡	‡	‡	85.2
S6ENRY4B	School 6 enrollment string Jan 15 thru Jun 15	180	92.7	‡	98.5	‡	‡	‡	‡	‡	‡	‡	85.8
S6ENRY5A	School 6 enrollment string Jul 15 thru Dec 15	180	92.0	‡	95.5	‡	‡	‡	‡	‡	‡	‡	87.2
S6ENRY5B	School 6 enrollment string Jan 16 thru Jun 16	180	93.1	‡	96.2	‡	‡	‡	‡	‡	‡	‡	88.1
S6ENRY6A	School 6 enrollment string Jul 16 thru Dec 16	180	92.5	‡	96.2	‡	‡	‡	‡	‡	‡	‡	84.2
S6ENRY6B	School 6 enrollment string Jan 17 thru Jun 17	180	94.5	‡	97.0	‡	‡	‡	‡	‡	‡	‡	91.9
S7DEGTYPE	School 7: Degree type for degree 1	50	87.5	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY1A	School 7 enrollment string Jul 11 thru Dec 11	50	100.0	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY1B	School 7 enrollment string Jan 12 thru Jun 12	50	100.0	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY2A	School 7 enrollment string Jul 12 thru Dec 12	50	100.0	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
S7ENRY2B	School 7 enrollment string Jan 13 thru Jun 13	50	100.0	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY3A	School 7 enrollment string Jul 13 thru Dec 13	50	99.4	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY3B	School 7 enrollment string Jan 14 thru Jun 14	50	100.0	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY4A	School 7 enrollment string Jul 14 thru Dec 14	50	91.8	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY4B	School 7 enrollment string Jan 15 thru Jun 15	50	91.8	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY5A	School 7 enrollment string Jul 15 thru Dec 15	50	92.4	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY5B	School 7 enrollment string Jan 16 thru Jun 16	50	93.5	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY6A	School 7 enrollment string Jul 16 thru Dec 16	50	93.5	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S7ENRY6B	School 7 enrollment string Jan 17 thru Jun 17	50	88.4	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8DEGTYPE	School 8: Degree type for degree 1	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY1A	School 8 enrollment string Jul 11 thru Dec 11	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY1B	School 8 enrollment string Jan 12 thru Jun 12	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY2A	School 8 enrollment string Jul 12 thru Dec 12	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY2B	School 8 enrollment string Jan 13 thru Jun 13	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY3A	School 8 enrollment string Jul 13 thru Dec 13	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY3B	School 8 enrollment string Jan 14 thru Jun 14	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY4A	School 8 enrollment string Jul 14 thru Dec 14	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY4B	School 8 enrollment string Jan 15 thru Jun 15	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
S8ENRY5A	School 8 enrollment string Jul 15 thru Dec 15	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY5B	School 8 enrollment string Jan 16 thru Jun 16	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY6A	School 8 enrollment string Jul 16 thru Dec 16	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
S8ENRY6B	School 8 enrollment string Jan 17 thru Jun 17	20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
SALOLD17	Job 2017: salary comparable to BPS:04/09	12,580	97.8	99.2	98.0	97.6	98.2	98.5	94.8	98.6	99.1	97.6	97.8
SECTOR10	Sector of first institution—10 categories in 2011–12	22,530	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SELFEMP17	All jobs: ever self-employed from 2015 to 2017	22,530	99.9	100.0	99.9	100.0	99.9	100.0	99.8	99.9	99.9	100.0	99.7
SEROLE17	Jobs while enrolled: primarily student or employee through 2017	4,940	83.3	‡	88.4	87.3	77.3	69.2	88.3	82.2	58.7	69.9	77.4
SINCOL17	Independent students: number of family members in college in 2016–17	7,380	52.6	53.6	53.7	54.6	63.1	50.2	54.9	56.0	39.0	38.0	42.0
SMAR17	Student's marital status in 2017	22,530	89.6	88.4	88.4	89.6	93.8	85.8	94.4	93.9	79.9	78.7	83.3
SPNM16	Not married to spouse in 2016	6,140	49.3	54.3	50.5	49.2	51.0	44.8	62.2	55.3	42.3	36.5	45.6
SPSED17	Spouse's highest education level in 2017	6,140	57.2	67.6	59.3	54.6	54.8	59.5	64.5	58.2	51.5	48.9	57.2
STDYABR6Y	Ever studied abroad while attending first institution through June 2017	8,060	70.6	‡	44.5	74.8	85.5	6.8	86.8	89.9	‡	4.4	26.6
STNUFI6Y	Stopouts number at first institution through June 2017	22,530	88.2	69.7	93.4	94.9	97.9	47.9	96.2	98.5	29.3	38.2	56.3
STNUM6Y	Stopouts number anywhere through June 2017	22,530	81.3	62.2	85.7	88.7	92.0	43.8	90.2	94.5	19.8	31.0	45.2
UGDEG	Undergraduate degree program 2011–12	22,530	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
UNEMCP17	Received unemployment benefits while unemployed through 2017	17,480	78.2	82.9	78.2	77.4	80.3	66.9	77.8	80.2	75.2	75.6	73.2

See notes at end of table.

**Table H-1. Weighted item response rates for all students, by control and level of institution: 2017—Continued**

Variable	Variable label	Sample size	All students	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private non-profit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
UNEMPSTRY4_2	Unemployment: looking for work July 2014 through June 2015	17,480	81.9	85.7	82.7	81.1	83.4	72.2	81.1	82.2	77.3	79.9	78.0
UNEMPSTRY5_2	Unemployment: looking for work July 2015 through June 2016	17,480	84.8	87.2	84.9	84.3	86.4	76.8	87.8	86.1	79.7	81.3	78.6
UNEMPSTRY6_2	Unemployment: looking for work July 2016 through June 2017	17,480	85.2	84.3	84.9	83.5	87.7	75.2	88.7	88.2	79.4	81.2	78.1
VOTE17	Vote 2016: Voted in last presidential election	22,530	77.4	75.8	75.7	77.0	81.6	71.4	82.3	83.5	70.7	68.7	69.4
WDDEBT17	Unexpected money: pay off some household debts in 2017	22,530	78.4	76.4	76.9	77.8	82.4	72.3	82.6	83.7	71.6	70.1	70.9
WDDONAT17	Unexpected money: donate it to family or charity in 2017	22,530	78.4	76.4	76.9	77.8	82.4	72.3	82.6	83.7	71.6	70.1	70.9
WDOTH17	Unexpected money: other in 2017	22,530	78.4	76.4	76.9	77.8	82.4	72.3	82.6	83.7	71.6	70.1	70.9
WDSAVE17	Unexpected money: put it in savings or investments in 2017	22,530	78.4	76.4	76.9	77.8	82.4	72.3	82.6	83.7	71.6	70.1	70.9
WDSPND17	Unexpected money: spend it on something the household wants or needs in 2017	22,530	78.4	76.4	76.9	77.8	82.4	72.3	82.6	83.7	71.6	70.1	70.9
WRKTSKS	Job nonmonetary benefits: importance of making decisions in 2012	22,530	85.6	78.0	84.3	82.7	88.1	86.0	84.5	91.8	83.7	85.7	82.0
WRKTSKS14	Job nonmonetary benefits: importance of making decisions in 2014	22,530	75.7	72.2	72.4	74.7	82.0	69.0	77.9	84.6	66.3	69.1	69.9
WRKTSKS17	Job nonmonetary benefits: importance of making decisions in 2017	22,530	78.3	78.3	76.8	77.9	82.0	71.0	82.0	83.8	72.3	70.0	71.0

# Rounds to zero.

‡Reporting standards not met

NOTE: IPEDS = Integrated Postsecondary Data System. Sample sizes rounded to the nearest 10. Percentages are based on unrounded numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table H-2. Mean values of continuous variables before and after imputation: 2017**

Variable	Variable label	Mean before imputation	Mean after imputation	Difference	Percent relative difference
ALTEARN14	Alternative plans: annual earnings estimate if had not attended college: 2014	20,322.11	20,309.04	13.07	0.06
CARAMT17	Monthly car loan payment 2017	138.28	139.01	-0.72	-0.52
CRDBAL17	Credit cards: balance due 2017	1,383.87	1,234.91	148.96*	12.06
DEPINC14	Dependent students: parents' income in 2014	91,559.60	91,779.45	-219.85	-0.24
DSTUINC14	Dependent students: income in 2013–14	4,811.81	4,889.35	-77.54	-1.59
DSTUINC17	Dependent students: income in 2016–17	11,375.65	11,793.06	-417.41*	-3.54
EMPLYAM14	Employer aid (student & parents): amount received in 2013–14	606.75	601.70	5.04	0.84
EMPLYAM17	Employer aid (student & parents): amount received in 2016–17	375.19	463.74	-88.54*	-19.09
EXPWAGE	Expected job: annual salary expected in 2012	69,346.24	69,079.03	267.22	0.39
EXPWAGE14	Expected job: annual salary expected in 2014	72,411.86	73,308.65	-896.78	-1.22
HIEXPWGE	Expected job: highest annual salary expected in 2012	121,706.20	120,620.10	1,086.08	0.90
HIEXPWGE14	Expected job: highest annual salary expected in 2014	128,752.40	130,912.40	-2,160.01	-1.65
INCSPS17	Independent students: spouse's income in 2016–17	26,158.79	25,144.63	1,014.15*	4.03
ISTUINC14	Independent students: income in 2013–14	20,330.09	20,524.70	-194.61	-0.95
JOBHRS14	Job 2014: hours worked weekly	36.58	36.48	0.11	0.29
JOBHRS17	Job 2017: hours worked weekly	37.35	37.34	0.01	0.02
LOEXPWGE	Expected job: lowest annual salary expected in 2012	47,253.27	47,137.57	115.70	0.25
LOEXPWGE14	Expected job: lowest annual salary expected in 2014	50,531.03	50,724.35	-193.32	-0.38
MTGAMT14	Monthly mortgage or rent amount in: 2014	299.27	299.22	0.06	0.02
MTGAMT17	Monthly mortgage or rent amount in: 2017	532.98	531.38	1.60	0.30
PRICUM17	Private (alternative) loans: cumulative amount borrowed through 2017	20,325.07	20,367.94	-42.87	-0.21
PRIVAI17	Private source grants: amount received 2016–17	223.22	246.29	-23.07*	-9.37
PRIVLN17	Private (alternative) loans: amount borrowed 2016–17	11,261.74	10,985.30	276.44	2.52
SALOLD14	Job 2014: salary comparable to BPS:04/06	22,681.98	22,647.81	34.17	0.15
SALOLD17	Job 2017: salary comparable to BPS:04/09	34,459.33	34,510.55	-51.22	-0.15
TRLNPAVT14	Traveling from residence to last school enrolled: minutes per day 2014	21.92	22.01	-0.09	-0.43

\*  $p < .05$ 

NOTE: BPS = Beginning Postsecondary Students Longitudinal Study. Means were computed using the BPS:12/17 final analysis weight. Cases with legitimate skips for the item are not included in the estimated means. The difference is computed as the mean before imputation minus the mean after imputation. The percent relative difference is computed as the difference divided by the mean after imputation and then multiplied by 100.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table H-3. Distributions of categorical variables before and after imputation: 2017**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
ACDSATIS14	Engagement: satisfaction with studies 2014	1	(Strongly disagree)	2.07	2.16	-0.09	-4.17
		2	(Somewhat disagree)	5.33	5.32	0.01	0.22
		3	(Neither disagree nor agree)	9.16	9.11	0.05	0.55
		4	(Somewhat agree)	38.54	38.59	-0.05	-0.13
		5	(Strongly agree)	44.90	44.82	0.08	0.18
ALTNIGHT14	Alternative courses: all courses taken completely at night 2013–14	0	No	91.22	91.39	-0.17	-0.19
		1	Yes	8.78	8.61	0.17	2.02
ALTONLN14	Alternative courses: all courses taken completely online 2013–14	0	No	92.88	93.18	-0.30*	-0.33
		1	Yes	7.12	6.82	0.30*	4.44
ALTWKND14	Alternative courses: all courses taken completely on weekend 2013–14	0	No	99.26	99.28	-0.02	-0.02
		1	Yes	0.74	0.72	0.02	2.74
ALTWORK14	Alternative plans: work status if had not attended college: 2014	1	Work for pay	92.62	92.74	-0.13	-0.14
		2	Work, but not be paid	0.97	0.99	-0.02	-1.82
		3	Not work (for any reason)	2.77	2.71	0.06	2.40
		4	Enter the military	3.64	3.56	0.08	2.28
BELONG14	Engagement: felt like a part of institution 2014	1	(Strongly disagree)	4.59	4.63	-0.03	-0.65
		2	(Somewhat disagree)	6.99	6.96	0.03	0.40
		3	(Neither disagree nor agree)	16.96	17.07	-0.11	-0.63
		4	(Somewhat agree)	26.64	26.63	0.01	0.05
		5	(Strongly agree)	44.81	44.71	0.10	0.22
CARLN17	Have a car loan in 2017	0	No	62.27	62.43	-0.16	-0.25
		1	Yes	37.73	37.57	0.16	0.42
CRDNUM17	Credit cards: number in own name 2017	0	None	31.20	30.85	0.35	1.13
		1	One	32.98	33.19	-0.21	-0.62
		2	More than one	35.82	35.96	-0.14	-0.40

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
CRDPAY17	Credit cards: pay off balance 2017	0	No	45.35	39.64	5.71*	14.40
		1	Yes	54.65	60.36	-5.71*	-9.46
CURCONF14	Academic confidence: 2013–14	1	(Strongly disagree)	1.40	1.46	-0.05	-3.65
		2	(Somewhat disagree)	1.75	1.73	0.02	1.15
		3	(Neither disagree nor agree)	4.61	4.72	-0.11	-2.29
		4	(Somewhat agree)	22.25	22.27	-0.02	-0.10
		5	(Strongly agree)	69.99	69.83	0.16	0.23
DEGEVR14	Likelihood of ever completing expected degree in 2014	0	No chance at all	0.70	1.16	-0.46*	-39.89
		1	Likert value 1	0.05	0.07	-0.01	-20.24
		2	Likert value 2	0.07	0.05	0.02	40.72
		3	Likert value 3	0.06	0.08	-0.02	-22.74
		4	Likert value 4	0.16	0.19	-0.03	-16.44
		5	Likert value 5	0.68	0.59	0.09	14.64
		6	Likert value 6	0.47	0.45	0.02	3.33
		7	Likert value 7	1.44	1.29	0.15	11.51
		8	Likert value 8	1.89	1.86	0.03	1.81
		9	Likert value 9	4.60	4.63	-0.03	-0.65
DEGEXP	Likelihood of completing degree by expected date 2012	10	Absolutely certain	89.89	89.63	0.25	0.28
		0	No chance at all	2.51	2.51	0.00	0.14
		1	Likert value 1	0.24	0.24	0.00*	0.47
		2	Likert value 2	0.48	0.48	0.00*	0.46
		3	Likert value 3	0.71	0.70	0.00*	0.47
		4	Likert value 4	1.00	1.00	0.00*	0.38
		5	Likert value 5	4.27	4.26	0.02*	0.38
		6	Likert value 6	3.20	3.20	0.00	-0.12
		7	Likert value 7	8.04	8.04	0.00	-0.05
		8	Likert value 8	16.86	16.88	-0.02	-0.09
		9	Likert value 9	24.69	24.67	0.02	0.07
		10	Absolutely certain	37.99	38.02	-0.03	-0.07

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
DEGEXP14	Likelihood of completing degree by expected date in 2014	0	No chance at all	0.72	1.18	-0.46*	-38.71
		1	Likert value 1	0.11	0.08	0.03	31.20
		2	Likert value 2	0.14	0.17	-0.03	-15.74
		3	Likert value 3	0.47	0.39	0.08	20.35
		4	Likert value 4	0.56	0.55	0.01	1.83
		5	Likert value 5	2.73	2.85	-0.12	-4.15
		6	Likert value 6	2.20	2.20	0.00	0.15
		7	Likert value 7	6.37	6.46	-0.09	-1.39
		8	Likert value 8	13.29	13.11	0.19	1.41
		9	Likert value 9	21.12	21.20	-0.09	-0.40
		10	Absolutely certain	52.29	51.82	0.47	0.91
DEGEXPDT14	Date expected to complete degree requirements 2014	0	Don't know or will not finish degree	11.27	11.34	-0.08	-0.68
		1	Earned degree by June 2014	21.34	24.83	-3.48*	-14.03
		2	2014–15 academic year	44.39	42.01	2.38*	5.66
		3	2015–16 academic year	18.79	17.85	0.94*	5.25
		4	2016–17 academic year	3.39	3.20	0.19	5.85
		5	2017–18 academic year	0.51	0.46	0.05	11.23
		6	2018–19 academic year	0.29	0.27	0.02	9.15
		7	2019–20 academic year or later	0.02	0.04	-0.02	-42.34
DEGEXPDT17	Date expected to complete degree requirements 2017	0	Don't know or will not finish degree	1.52	1.78	-0.25*	-14.29
		1	2017–18 academic year	95.21	94.40	0.82*	0.87
		2	2018–19 academic year	2.30	2.88	-0.58*	-20.04
		3	After 2019	0.96	0.95	0.01	1.26
DEGONLN17	Certificate or degree program entirely online	0	No	91.46	91.25	0.21	0.23
		1	Yes	8.54	8.75	-0.21	-2.44
DEPANY17	Has dependents: any in 2017	0	No	75.24	74.58	0.66*	0.89
		1	Yes	24.76	25.42	-0.66*	-2.61

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
DEPCOL14	Independent students: number of dependents in college 2013–14	0	Zero	93.19	93.19	0.00	0.00
		1	One	5.69	5.68	0.00	0.04
		2	Two	0.96	0.96	0.00	0.04
		3	Three	0.15	0.15	0.00	0.04
		4	Four	0.01	0.01	0.00	0.04
DEPCOL17	Independent students: number of dependents in college in 2016–17	0	Zero	97.16	97.17	-0.01	-0.01
		1	One	2.59	2.61	-0.02	-0.88
		2	Two	0.23	0.19	0.03*	16.40
		3	Three	0.03	0.02	0.00	16.40
DEPNUM17	Has dependents: number in 2017	0	Zero	78.09	74.58	3.51*	4.71
		1	One	10.74	12.22	-1.48*	-12.12
		2	Two	6.60	7.61	-1.01*	-13.26
		3	Three	2.73	3.38	-0.66*	-19.37
		4	Four	1.16	1.34	-0.18*	-13.12
		5	Five	0.41	0.51	-0.10*	-19.95
		6	Six	0.14	0.21	-0.07*	-33.83
		7	Seven	0.08	0.08	0.00	-2.41
		8	Eight	0.03	0.04	-0.01	-28.97
		9	Nine	0.02	0.02	0.00	-6.09
DEPNUMCH17	Has dependents: number of children in 2017	10	Ten	0.01	0.02	0.00	-31.77
		0	Zero	80.69	77.80	2.89*	3.72
		1	One	9.89	11.37	-1.49*	-13.06
		2	Two	6.09	6.95	-0.86*	-12.36
		3	Three	2.13	2.50	-0.37*	-14.97
		4	Four	0.88	1.01	-0.13*	-12.83
		5	Five	0.21	0.25	-0.04	-15.07
		6	Six	0.06	0.06	0.00	0.37
		7	Seven	0.03	0.04	-0.01	-14.15
		8	Eight	0.02	0.02	0.00	-6.94
		9	Nine	0.01	0.01	0.00	15.32

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
DEPNUMOT17	Has dependents: number other than children 2017	0	Zero	95.04	93.87	1.17*	1.25
		1	One	3.57	4.44	-0.87*	-19.53
		2	Two	0.84	1.00	-0.15*	-15.24
		3	Three	0.36	0.44	-0.09*	-19.81
		4	Four	0.11	0.14	-0.03	-22.46
		5	Five	0.04	0.05	0.00	-10.16
		6	Six	0.01	0.04	-0.02	-65.79
		7	Seven	0.02	0.02	0.00	14.25
		10	Ten	0.01	0.01	-0.01	-40.80
DGEVR17	Highest level of education ever expected in 2017	1	No degree or certificate expected	9.81	10.34	-0.53*	-5.13
		2	Undergraduate certificate or diploma	7.02	7.60	-0.58*	-7.59
		3	Associate's degree	12.97	13.66	-0.69*	-5.04
		4	Bachelor's degree	33.79	33.56	0.24	0.70
		5	Post-BA or post-master certificate	1.23	1.10	0.13*	11.36
		6	Master's degree	24.01	23.18	0.83*	3.59
		7	Doctor's degree—professional practice	5.26	5.03	0.23*	4.60
		8	Doctor's degree—research/scholarship and other	5.91	5.54	0.37*	6.73
DSCTRATE14	Discount rate 2014	1	Zero percent	17.49	17.24	0.25	1.43
		2	Twenty percent	29.48	29.16	0.32	1.09
		3	Forty percent	11.70	11.68	0.02	0.15
		4	Sixty percent	12.18	12.31	-0.13	-1.07
		5	Eighty percent	3.23	3.21	0.02	0.70
		6	One hundred percent	10.83	11.12	-0.29	-2.59
		7	More than one hundred percent	15.11	15.29	-0.18	-1.20
DSCTRATE17	Discount rate 2017	1	Zero percent	13.34	13.41	-0.06	-0.48
		2	Twenty percent	30.05	29.76	0.30	1.00
		3	Forty percent	11.15	11.11	0.04	0.40
		4	Sixty percent	12.36	12.38	-0.02	-0.16
		5	Eighty percent	2.99	3.00	-0.01	-0.41
		6	One hundred percent	13.18	13.59	-0.41	-3.02
		7	More than one hundred percent	16.92	16.75	0.17	0.99

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
EXPBA14	Bachelor's program intentions within 2 years 2014	0	No	19.99	19.77	0.22	1.11
		1	Yes	80.01	80.23	-0.22	-0.27
EXPFLD	Job nonmonetary benefits: importance of being an expert 2012	1	Less important than salary	10.67	10.75	-0.07	-0.69
		2	As important as salary	41.48	41.69	-0.21	-0.51
		3	More important than salary	47.85	47.56	0.29	0.60
EXPFLD14	Job nonmonetary benefits: importance of being an expert in 2014	1	Less important than salary	17.31	17.22	0.09	0.52
		2	As important as salary	48.56	48.81	-0.25	-0.52
		3	More important than salary	34.14	33.97	0.16	0.48
EXPFLD17	Job nonmonetary benefits: importance of being an expert in 2017	1	Less important than salary	18.54	18.42	0.12	0.62
		2	As important as salary	51.46	51.88	-0.42	-0.82
		3	More important than salary	30.01	29.70	0.31	1.04
FACULTY14	Engagement: interactions with faculty 2014	1	(Strongly disagree)	1.33	1.42	-0.09	-6.56
		2	(Somewhat disagree)	2.87	2.87	0.00	-0.12
		3	(Neither disagree nor agree)	8.48	8.42	0.06	0.71
		4	(Somewhat agree)	33.34	33.18	0.15	0.46
		5	(Strongly agree)	53.99	54.11	-0.12	-0.21
FAMAMT14	Help from family and friends: total amount received 2013–14	0	{zero}	85.35	85.25	0.10	0.12
		1	Less than \$250	1.78	1.82	-0.04	-2.41
		2	\$250–\$500	2.58	2.61	-0.03	-1.26
		3	\$501–\$1,000	2.00	2.05	-0.05	-2.61
		4	\$1,001–\$1,500	1.09	1.09	-0.01	-0.52
		5	\$1,501–\$2,000	1.50	1.47	0.04	2.43
		6	\$2,001–\$5,000	1.73	1.69	0.04*	2.65
		7	\$5,001–\$10,000	1.58	1.64	-0.05	-3.30
		8	\$10,001–\$15,000	0.79	0.78	0.01	0.71
		9	\$15,001–\$20,000	0.54	0.53	0.02*	2.95
		10	\$20,001–\$25,000	0.34	0.36	-0.02	-5.29
		11	More than \$25,000	0.72	0.71	0.01	0.97

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
FAMTIM	Job nonmonetary benefits: importance of balancing work/family 2012	1	Less important than salary	3.65	3.76	-0.11	-3.03
		2	As important as salary	29.40	29.35	0.04	0.14
		3	More important than salary	66.95	66.88	0.07	0.11
FAMTIM14	Importance of balancing work/family 2014	1	Less important than salary	7.67	7.64	0.03	0.45
		2	As important as salary	39.10	39.13	-0.02	-0.06
		3	More important than salary	53.23	53.24	-0.01	-0.02
FAMTIM17	Importance of balancing work/family 2017	1	Less important than salary	6.27	6.26	0.01	0.21
		2	As important as salary	37.39	37.32	0.07	0.20
		3	More important than salary	56.34	56.42	-0.09	-0.15
FEDBEN17	Received federal benefit: any 2017	0	No	81.01	81.16	-0.15	-0.19
		1	Yes	18.99	18.84	0.15	0.81
FIN2K17	Financial security: \$2,000 within the next month in 2017	1	Can come up with full amount	39.89	39.27	0.62*	1.58
		2	Could probably come up with full amount	26.21	26.41	-0.20	-0.75
		3	Could probably not come up with full amount	17.24	17.56	-0.31	-1.78
		4	Could not come up with full amount	16.66	16.77	-0.11	-0.66
FINLITA17	Financial literacy: effect of inflation on purchasing in 2017	1	More than today	27.58	27.36	0.22	0.79
		2	Exactly the same	19.83	19.91	-0.08	-0.42
		3	Less than today	52.60	52.73	-0.13	-0.26
FINLITB17	Financial literacy: effect of interest on saving in 2017	1	More than \$102	84.76	84.75	0.01	0.01
		2	Exactly \$102	8.61	8.68	-0.07	-0.76
		3	Less than \$102	6.62	6.57	0.05	0.83
FINLITC17	Financial literacy: effect of diversification on risk in 2017	1	True	7.81	7.69	0.12	1.54
		2	False	37.62	38.28	-0.66*	-1.73
		3	Don't know	54.57	54.02	0.55*	1.01

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
GPAEST14	Grade point average estimate in 2014	1	Mostly A's (3.75 and above)	17.24	17.27	-0.02	-0.13
		2	A's and B's (3.25–3.74)	33.69	33.70	-0.01	-0.02
		3	Mostly B's (2.75–3.24)	21.15	21.14	0.01	0.03
		4	B's and C's (2.25–2.74)	17.18	17.16	0.02	0.09
		5	Mostly C's (1.75–2.24)	4.53	4.51	0.02	0.45
		6	C's and D's (1.25–1.74)	1.71	1.70	0.00	0.28
		7	Mostly D's or below (1.24 or below)	0.73	0.72	0.01*	0.91
		8	Don't know grades	1.58	1.58	0.00	0.08
		9	School does not award grades	2.19	2.21	-0.03	-1.20
GPAEST17	Grade point average estimate in 2017	1	Mostly A's (3.75 and above)	20.27	20.33	-0.06	-0.28
		2	A's and B's (3.25–3.74)	37.48	37.85	-0.38	-0.99
		3	Mostly B's (2.75–3.74)	21.26	21.18	0.08	0.39
		4	B's and C's (2.25–2.74)	14.23	13.91	0.32	2.28
		5	Mostly C's (1.75–2.24)	3.29	3.08	0.21*	6.82
		6	C's and D's (1.25–1.74)	0.89	0.91	-0.03	-2.87
		7	Mostly D's or below (1.24 or below)	0.36	0.40	-0.04	-9.32
		9	Would describe grades differently	2.22	2.33	-0.11	-4.85
HIDEGEVR14	Likelihood of completing the highest level of education ever expected in 2014	0	No chance at all	0.88	0.87	0.00	0.27
		1	Likert value 1	0.28	0.26	0.03	10.87
		2	Likert value 2	0.76	0.79	-0.03	-3.74
		3	Likert value 3	1.45	1.53	-0.08	-5.00
		4	Likert value 4	1.79	1.79	0.00	-0.06
		5	Likert value 5	9.73	9.62	0.11	1.18
		6	Likert value 6	8.36	8.68	-0.32	-3.69
		7	Likert value 7	16.45	16.22	0.23	1.44
		8	Likert value 8	19.99	19.81	0.18	0.90
		9	Likert value 9	12.10	12.38	-0.28	-2.29
HLPOTH	Job nonmonetary benefits: importance of helping others 2012	10	Absolutely certain	28.21	28.06	0.15	0.55
		1	Less important than salary	10.17	10.18	-0.01	-0.12
		2	As important as salary	42.91	43.01	-0.10	-0.23
		3	More important than salary	46.93	46.82	0.11	0.24

See notes at end of table.



**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
HLPOTH14	Job nonmonetary benefits: importance of helping others in 2014	1	Less important than salary	16.21	16.10	0.11	0.71
		2	As important as salary	50.30	49.90	0.40	0.79
		3	More important than salary	33.49	34.00	-0.51	-1.50
HLPOTH17	Job nonmonetary benefits: importance of helping others in 2017	1	Less important than salary	17.91	17.85	0.07	0.37
		2	As important as salary	51.47	51.62	-0.15	-0.28
		3	More important than salary	30.61	30.53	0.08	0.27
IMPACAD14	PSE service importance: academic advising in 2013–14	1	Not at all important	11.54	11.55	-0.01	-0.12
		2	Somewhat important	18.93	18.82	0.11	0.57
		3	Important	28.38	28.31	0.06	0.23
		4	Very important	41.16	41.31	-0.16	-0.38
IMPACSP14	PSE service importance: academic support services in 2013–14	1	Not at all important	9.68	10.01	-0.32	-3.23
		2	Somewhat important	18.15	18.00	0.15	0.83
		3	Important	31.05	31.01	0.04	0.14
		4	Very important	41.11	40.98	0.13	0.32
IMPCPP14	PSE service importance: career planning services in 2013–14	1	Not at all important	10.53	10.51	0.02	0.23
		2	Somewhat important	19.09	18.87	0.23	1.20
		3	Important	29.70	29.79	-0.09	-0.30
		4	Very important	40.67	40.83	-0.16	-0.39
IMPFINAID14	PSE service importance: financial aid services in 2013–14	1	Not at all important	5.46	5.38	0.08	1.49
		2	Somewhat important	14.75	14.94	-0.19	-1.29
		3	Important	29.37	29.29	0.08	0.27
		4	Very important	50.43	50.39	0.03	0.07
IMPHLTH14	PSE service importance: student health services in 2013–14	1	Not at all important	23.14	23.41	-0.26	-1.13
		2	Somewhat important	24.90	24.62	0.29	1.16
		3	Important	24.54	24.70	-0.16	-0.65
		4	Very important	27.41	27.27	0.14	0.51
JBEN14A	Job 2014: eligible for life insurance	0	No	60.58	60.04	0.54	0.89
		1	Yes	39.42	39.96	-0.54	-1.34

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
JBEN14B	Job 2014: eligible for health insurance	0	No	48.10	47.30	0.80	1.69
		1	Yes	51.90	52.70	-0.80	-1.51
JBEN14C	Job 2014: eligible for retirement benefits	0	No	57.63	56.55	1.09	1.93
		1	Yes	42.37	43.45	-1.09	-2.51
JBEN17A	Job 2017: eligible for life insurance	0	No	45.68	45.15	0.54	1.19
		1	Yes	54.32	54.85	-0.54	-0.98
JBEN17B	Job 2017: eligible for health insurance	0	No	31.09	30.94	0.15	0.48
		1	Yes	68.91	69.06	-0.15	-0.21
JBEN17C	Job 2017: eligible for retirement benefits	0	No	37.29	37.04	0.24	0.66
		1	Yes	62.71	62.96	-0.24	-0.39
JBEN17D	Job 2017: eligible for vacations or holidays	0	No	24.58	24.40	0.18	0.74
		1	Yes	75.42	75.60	-0.18	-0.24
JBEN17E	Job 2017: eligible for overtime pay	0	No	48.02	48.25	-0.23	-0.47
		1	Yes	51.98	51.75	0.23	0.44
JOBIND17	Primary employer: industry of employer	1	Healthcare	16.71	17.03	-0.32	-1.90
		2	Government	7.17	6.93	0.24	3.52
		3	Retail Sales	18.19	18.18	0.01	0.05
		4	Education	11.77	11.72	0.05	0.47
		5	Something else	46.16	46.14	0.02	0.03
JOBLIC14	Job 2014: has industry certification or license	0	No	73.85	73.78	0.07	0.10
		1	Yes	26.15	26.22	-0.07	-0.28
JOBLIC17	Job 2017: has industry certification or license	0	No	75.59	75.41	0.18	0.24
		1	Yes	24.41	24.59	-0.18	-0.73

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
JOBOCC14	Job 2014: occupation	1	Management	3.55	3.46	0.09	2.53
		2	Business/Financial Operation	1.91	2.09	-0.18	-8.63
		3	Computer and Mathematical	1.35	1.35	0.00	-0.08
		4	Architecture and Engineering	0.64	0.60	0.05	7.57
		5	Life/Physical/Social Science Technicians	0.24	0.28	-0.04	-15.48
		6	Community and Social Services	0.60	0.48	0.12*	25.20
		7	Legal	0.14	0.11	0.03	24.80
		8	Education, Training, and Library	1.60	1.51	0.10	6.43
		9	Art/Design/Entertainment/Sports/Media	2.03	1.99	0.04	2.06
		10	Healthcare Practitioners and Technical	2.72	3.00	-0.28	-9.37
		11	Healthcare Support	7.60	7.78	-0.18	-2.38
		12	Protective Service	2.60	2.80	-0.20	-7.24
		13	Food Preparation and Serving Related	12.59	12.66	-0.07	-0.58
		14	Building/Grounds Cleaning, Maintenance	2.80	2.71	0.10	3.64
		15	Personal Care and Service	7.40	7.22	0.18	2.50
		16	Sales and Related	13.07	13.58	-0.51	-3.73
		17	Office and Administrative Support	13.88	13.32	0.56	4.22
		18	Farming, Fishing, and Forestry	0.85	0.74	0.11	15.28
		19	Construction and Extraction	3.45	3.41	0.03	0.96
		20	Installation, Maintenance, and Repair	6.49	6.27	0.23	3.63
		21	Production	8.15	8.31	-0.16	-1.93
		22	Transportation and Material Moving	5.56	5.55	0.01	0.26
		23	Military Specific	0.77	0.78	-0.01	-1.71
JOBOCC17	Job 2017: occupation	1	Management	8.02	8.06	-0.04	-0.51
		2	Business/Financial Operation	7.25	6.70	0.55*	8.21
		3	Computer and Mathematical	3.69	3.40	0.29*	8.47
		4	Architecture and Engineering	2.79	2.69	0.09	3.45
		5	Life/Physical/Social Science Technicians	2.54	2.24	0.29*	13.04
		6	Community and Social Services	2.45	2.14	0.30*	14.13
		7	Legal	1.11	1.08	0.03	2.77
		8	Education, Training, and Library	7.95	7.53	0.43*	5.68
		9	Art/Design/Entertainment/Sports/Media	4.43	4.16	0.27*	6.60
		10	Healthcare Practitioners and Technical	5.31	5.41	-0.10	-1.82
		11	Healthcare Support	4.45	4.66	-0.20	-4.33

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
JOB OCC17	Job 2017: occupation—Continued	12	Protective Service	2.24	2.29	-0.05	-2.35
		13	Food Preparation and Serving Related	6.50	6.53	-0.03	-0.46
		14	Building/Grounds Cleaning, Maintenance	1.17	1.25	-0.08	-6.32
		15	Personal Care and Service	4.05	4.50	-0.44*	-9.86
		16	Sales and Related	9.07	9.20	-0.13	-1.43
		17	Office and Administrative Support	14.02	14.54	-0.52*	-3.56
		18	Farming, Fishing, and Forestry	0.28	0.28	0.00	1.15
		19	Construction and Extraction	1.86	1.93	-0.07	-3.42
		20	Installation, Maintenance, and Repair	3.06	3.22	-0.16	-4.99
		21	Production	4.12	4.45	-0.33	-7.44
		22	Transportation and Material Moving	3.37	3.47	-0.10	-2.82
		23	Military Specific	0.26	0.27	-0.01	-3.54
JOB RCLG14	Job 2014: related to college studies	0	No	66.24	64.30	1.93*	3.00
		1	Yes	33.76	35.70	-1.93*	-5.41
JOB RCLG17	Job 2017: related to college studies	0	No	51.46	52.58	-1.12*	-2.13
		1	Yes	48.54	47.42	1.12*	2.36
JOB RLC14	Job 2014: job required industry certification or license	0	No	83.55	83.30	0.24	0.29
		1	Yes	16.45	16.70	-0.24	-1.47
JOB RLC17	Job 2017: job required industry certification or license	0	No	83.86	83.47	0.40	0.47
		1	Yes	16.14	16.53	-0.40	-2.39
JOB RLFT14	Job 2014: related to intended future work	0	No	53.75	52.32	1.43	2.73
		1	Yes	46.25	47.68	-1.43	-3.00
JOB RLFT17	Job 2017: related to intended future work	0	No	38.35	38.37	-0.02	-0.06
		1	Yes	61.65	61.63	0.02	0.04

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
JOBS17	Primary employer: job satisfaction	1	Strongly disagree	5.43	5.36	0.07	1.28
		2	Somewhat disagree	8.26	8.33	-0.07	-0.84
		3	Neither disagree or agree	14.65	14.70	-0.06	-0.38
		4	Somewhat agree	38.67	38.57	0.09	0.24
		5	Strongly agree	33.00	33.03	-0.04	-0.11
JOBSELF14	Job 2014: self-employed	0	No	95.56	95.74	-0.18	-0.19
		1	Yes	4.44	4.26	0.18	4.17
JOBSELF17	Job 2017: self-employed	0	No	95.24	95.25	-0.01	-0.01
		1	Yes	4.76	4.75	0.01	0.12
JOBTIM14	Job 2014: years worked in the same or similar job	0	Less than one year	72.56	72.94	-0.37	-0.51
		1	1 year	5.93	5.75	0.17	3.00
		2	2 years	6.08	5.81	0.27	4.58
		3	3 years	4.34	4.80	-0.45	-9.44
		4	4 years	2.53	2.94	-0.41	-13.83
		5	5 years	2.75	2.39	0.36*	15.22
		6	6 years	1.21	1.06	0.14	13.39
		7	7 years	0.61	0.49	0.12*	23.79
		8	8 years	0.42	0.36	0.06*	17.10
		9	9 years	0.54	0.46	0.09	18.84
		10	10 years	1.15	1.10	0.05	4.24
		11	11 years	0.23	0.21	0.02	10.50
		12	12 years	0.31	0.32	0.00	-1.18
		13	13 years	0.44	0.47	-0.04	-7.44
		14	14 years	0.17	0.19	-0.02	-8.31
		15	15 or more years	0.72	0.71	0.01	1.25

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
JOBTIM17	Job 2017: years worked in same or similar job	0	Less than one year	65.07	65.05	0.01	0.02
		1	1 year	6.46	6.44	0.02	0.32
		2	2 years	11.76	11.80	-0.04	-0.30
		3	3 years	5.55	5.48	0.07*	1.22
		4	4 years	3.51	3.52	-0.01	-0.36
		5	5 years	3.07	3.07	0.00	0.05
		6	6 years	1.66	1.66	0.00	0.06
		7	7 years	0.81	0.85	-0.03	-4.05
		8	8 years	0.27	0.27	-0.01	-2.08
		9	9 years	0.17	0.22	-0.04	-20.02
		10	10 years	0.33	0.33	0.00	0.56
		11	11 years	0.07	0.07	0.00*	2.14
		12	12 years	0.06	0.06	0.00*	2.14
		13	13 years	0.22	0.21	0.00*	2.14
		14	14 years	0.07	0.07	0.00	2.14
		15	15 or more years	0.90	0.88	0.02*	2.14
KNOWCLAS14	Knew requirements needed to complete degree when last enrolled 2014	1	(Strongly disagree)	3.94	3.98	-0.03	-0.87
		2	(Somewhat disagree)	1.83	1.90	-0.08	-3.99
		3	(Neither disagree nor agree)	1.79	1.80	-0.01	-0.65
		4	(Somewhat agree)	18.21	18.38	-0.17	-0.92
		5	(Strongly agree)	74.23	73.93	0.29	0.40
LEISTIME	Job nonmonetary benefits: importance of balancing work/leisure 2012	1	Less important than salary	11.15	11.09	0.06	0.51
		2	As important as salary	51.35	51.27	0.08	0.16
		3	More important than salary	37.51	37.64	-0.14	-0.37
LEISTIME14	Job nonmonetary benefits: importance of balancing work/leisure in 2014	1	Less important than salary	17.52	17.47	0.05	0.27
		2	As important as salary	55.75	55.95	-0.20	-0.37
		3	More important than salary	26.73	26.58	0.16	0.59
LEISTIME17	Job nonmonetary benefits: importance of balancing work/leisure in 2017	1	Less important than salary	10.03	9.91	0.12	1.25
		2	As important as salary	51.91	51.95	-0.04	-0.07
		3	More important than salary	38.06	38.15	-0.09	-0.23

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
LKOCATHD	Expected job: likelihood of holding job after highest attainment 2012	0	No chance at all	0.24	0.22	0.02	7.91
		1	Likert value 1	0.16	0.15	0.01	7.75
		2	Likert value 2	0.26	0.23	0.03*	13.32
		3	Likert value 3	0.47	0.44	0.02	4.89
		4	Likert value 4	1.12	1.07	0.05	4.20
		5	Likert value 5	5.08	5.31	-0.23	-4.35
		6	Likert value 6	4.94	4.98	-0.04	-0.78
		7	Likert value 7	11.95	12.00	-0.05	-0.43
		8	Likert value 8	18.15	18.30	-0.15	-0.81
		9	Likert value 9	15.18	15.09	0.09	0.59
		10	Absolutely certain	23.26	22.99	0.27	1.19
		11	Don't know	19.19	19.21	-0.02	-0.11
LKOCATHD14	Expected job: likelihood of holding job after highest attainment in 2014	0	No chance at all	0.20	0.18	0.03	14.30
		1	Likert value 1	0.28	0.26	0.02	8.50
		2	Likert value 2	0.41	0.43	-0.02	-5.80
		3	Likert value 3	0.74	0.72	0.03	3.66
		4	Likert value 4	1.42	1.52	-0.10	-6.66
		5	Likert value 5	5.56	5.65	-0.09	-1.52
		6	Likert value 6	6.07	6.44	-0.37	-5.78
		7	Likert value 7	12.50	13.20	-0.71*	-5.36
		8	Likert value 8	17.71	18.29	-0.58	-3.18
		9	Likert value 9	13.49	14.08	-0.59	-4.21
		10	Absolutely certain	31.56	32.82	-1.27*	-3.86
		11	Don't know	10.06	6.40	3.66*	57.17
LOANLITA17	Loan literacy: Govt. can report unpaid debt to credit bureaus in 2017	0	No	33.98	33.61	0.37	1.12
		1	Yes	66.02	66.39	-0.37	-0.56
LOANLITB17	Loan literacy: Govt. can garnish wages for unpaid fed. loan debt in 2017	0	No	48.38	47.91	0.46	0.97
		1	Yes	51.62	52.09	-0.46	-0.89
LOANLITC17	Loan literacy: Govt. can retain tax refunds, Soc Sec for loan debt in 2017	0	No	44.13	44.03	0.10	0.23
		1	Yes	55.87	55.97	-0.10	-0.18

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
LOCALR14	Housing when last enrolled in 2014	1	On-campus/other school-provided housing	24.37	23.62	0.76*	3.20
		2	With parent(s)/guardian(s)	30.58	31.13	-0.54*	-1.75
		3	Some place else (off campus)	45.05	45.26	-0.21	-0.47
LOCALR17	Housing when last enrolled in 2017	1	On-campus/other school-provided housing	3.90	2.63	1.27*	48.53
		2	With parent(s)/guardian(s)	38.74	37.92	0.82	2.18
		3	Off campus	57.36	59.46	-2.10*	-3.53
MAJCHGAA14	Major changes (associate's): number anywhere through June 2014	0	Never	80.13	80.14	0.00	-0.01
		1	One time	16.34	16.34	-0.01	-0.04
		2	More than one time	3.53	3.52	0.01	0.28
MAJCHGAA17	Major changes (associate's): number anywhere through June 2017	0	Never	50.29	49.99	0.31*	0.61
		1	One time	31.73	31.94	-0.21	-0.66
		2	More than one time	17.98	18.07	-0.10	-0.53
MAJCHGBA17	Major changes (bachelor's): number anywhere through June 2017	0	Never	41.95	41.97	-0.02	-0.04
		1	One time	35.25	35.23	0.01	0.03
		2	More than one time	22.80	22.79	0.01	0.03
MENTH	Health: mental 2012	1	Excellent	43.10	43.29	-0.18	-0.42
		2	Very good	32.21	32.54	-0.33	-1.01
		3	Good	17.95	17.45	0.50*	2.85
		4	Fair	5.76	5.82	-0.05	-0.92
		5	Poor	0.98	0.91	0.07*	7.45
MENTH17	Health: mental 2017	1	Excellent	29.79	29.59	0.20	0.67
		2	Very good	32.37	32.85	-0.48	-1.48
		3	Good	24.83	24.71	0.13	0.51
		4	Fair	10.37	10.27	0.11	1.03
		5	Poor	2.64	2.58	0.05	2.12

See notes at end of table.



**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
MILTYP17	Military type in 2017	0	No military service	97.14	97.66	-0.52*	-0.54
		1	Active duty	1.53	1.21	0.32*	26.59
		2	Reserves	0.22	0.23	-0.01	-3.33
		3	Veteran	1.00	0.79	0.21*	26.59
		4	National Guard	0.11	0.11	0.00	-0.69
MILTYPE17B	Military type in 2017 (for dependency)	0	No military service	97.29	97.57	-0.29*	-0.29
		1	Active duty	1.27	1.11	0.17*	14.91
		2	Reserves	0.36	0.38	-0.02	-5.32
		3	Veteran	1.08	0.94	0.14*	14.91
MISSH17	Health: amount missed school/work in past 30 days: 2017	1	Never	78.44	78.45	-0.01	-0.02
		2	A few times	18.32	18.40	-0.09	-0.47
		3	About once a week	1.70	1.67	0.03	1.86
		4	Almost every day	0.88	0.84	0.05	5.71
		5	Every day	0.66	0.64	0.02	3.18
MJCHFIAA14	Major changes (associate's) number at first inst through June 2014	0	Never	80.09	80.16	-0.07	-0.09
		1	One time	16.39	16.33	0.06	0.34
		2	More than one time	3.52	3.51	0.01	0.34
MJCHFIAA17	Major changes (associate's): number at first inst through June 2017	0	Never	51.73	51.50	0.23	0.45
		1	One time	30.07	30.22	-0.15	-0.50
		2	More than one time	18.20	18.28	-0.08	-0.43
MJCHFIBA17	Major changes (bachelor's): number at first inst through June 2017	0	Never	46.75	46.78	-0.03	-0.07
		1	One time	31.32	31.27	0.05	0.17
		2	More than one time	21.93	21.95	-0.02	-0.09

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
PARAMT14	Help from parents: total amount received 2013–14	0	{zero}	29.91	30.01	-0.10	-0.34
		1	Less than \$250	2.83	2.83	0.00	-0.07
		2	\$250–\$500	5.57	5.47	0.10*	1.76
		3	\$501–\$1,000	6.29	6.38	-0.09	-1.44
		4	\$1,001–\$1,500	3.84	3.76	0.08*	2.06
		5	\$1,501–\$2,000	5.49	5.62	-0.12	-2.21
		6	\$2,001–\$5,000	12.44	12.41	0.04	0.31
		7	\$5,001–\$10,000	11.09	11.13	-0.04	-0.38
		8	\$10,001–\$15,000	6.10	5.99	0.11*	1.78
		9	\$15,001–\$20,000	3.85	3.85	0.00	-0.03
		10	\$20,001–\$25,000	3.03	3.06	-0.03	-0.95
		11	More than \$25,000	9.56	9.49	0.07	0.77
PARAMT17	Help from parents: total amount received 2016–17	0	{zero}	68.49	67.63	0.86	1.28
		1	Less than \$250	1.75	1.78	-0.03	-1.50
		2	\$250–\$500	4.43	4.30	0.13	3.04
		3	\$501–\$1,000	3.28	3.33	-0.05	-1.44
		4	\$1,001–\$1,500	1.98	1.94	0.04	2.11
		5	\$1,501–\$2,000	3.09	3.08	0.01	0.38
		6	\$2,001–\$5,000	5.39	5.66	-0.26	-4.64
		7	\$5,001–\$10,000	4.95	5.26	-0.31	-5.85
		8	\$10,001–\$15,000	2.18	2.43	-0.25	-10.21
		9	\$15,001–\$20,000	1.19	1.28	-0.10	-7.56
		10	\$20,001–\$25,000	0.91	0.86	0.05	5.25
		11	More than \$25,000	2.36	2.46	-0.10	-4.20
PEERINT14	Engagement: interaction with other students 2014	1	(Strongly disagree)	1.29	1.33	-0.04	-2.81
		2	(Somewhat disagree)	2.48	2.49	-0.01	-0.36
		3	(Neither disagree nor agree)	10.91	10.94	-0.03	-0.25
		4	(Somewhat agree)	29.74	29.71	0.03	0.11
		5	(Strongly agree)	55.58	55.54	0.04	0.07

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
PFAMNM14	Dependent students: family size 2013–14	2	Two	8.82	8.81	0.01*	0.06
		3	Three	26.20	26.21	-0.01	-0.03
		4	Four	34.20	34.21	-0.01	-0.02
		5	Five	18.73	18.72	0.01*	0.06
		6	Six	7.61	7.61	0.00*	0.06
		7	Seven	2.76	2.76	0.00*	0.06
		8	Eight	0.96	0.97	-0.01	-0.80
		9	Nine	0.35	0.35	0.00*	0.06
		10	Ten	0.12	0.12	0.00	-0.44
		11	Eleven	0.07	0.07	0.00	0.06
		12	Twelve	0.11	0.11	0.00	0.06
		13	Thirteen	0.03	0.03	0.00	0.06
		14	Fourteen	0.03	0.03	0.00	0.06
PFAMNM17	Dependent students: family size in 2016–17	2	Two	13.02	12.33	0.69*	5.56
		3	Three	31.05	30.95	0.10	0.31
		4	Four	29.93	30.87	-0.94	-3.06
		5	Five	14.51	14.33	0.18	1.28
		6	Six	6.68	6.87	-0.18	-2.64
		7	Seven	3.26	3.02	0.24	7.89
		8	Eight	0.72	0.86	-0.14	-16.75
		9	Nince	0.28	0.30	-0.02	-6.38
		10	Ten	0.40	0.34	0.06	17.28
		11	Eleven	0.03	0.03	0.01	18.96
		12	Twelve	0.03	0.03	0.00	18.96
		13	Thirteen	0.06	0.05	0.01	18.96
		16	Sixteen	0.03	0.02	0.00	18.96
PHYSH	Health: physical in 2012	1	Excellent	31.20	31.23	-0.03	-0.09
		2	Very good	37.23	37.73	-0.50*	-1.33
		3	Good	24.62	24.15	0.47*	1.97
		4	Fair	6.40	6.39	0.01	0.14
		5	Poor	0.55	0.50	0.04*	8.63

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
PHYSH17	Health: physical in 2017	1	Excellent	23.59	23.69	-0.10	-0.42
		2	Very good	36.10	36.43	-0.33	-0.90
		3	Good	29.54	29.36	0.18	0.61
		4	Fair	9.26	9.11	0.15	1.60
		5	Poor	1.51	1.41	0.10*	7.42
PINCOL14	Dependent students: number family members in college 2013–14	1	One	60.18	60.19	-0.01	-0.01
		2	Two	33.72	33.71	0.02	0.05
		3	Three	5.22	5.23	-0.01	-0.19
		4	Four	0.61	0.61	0.00*	0.07
		5	Five	0.21	0.21	0.00	0.07
		6	Six	0.03	0.03	0.00	0.07
		7	Seven	0.02	0.02	0.00	0.07
PINCOL17	Dependent students: number family members in college in 2016–17	1	One	59.99	59.60	0.39	0.65
		2	Two	31.70	31.93	-0.23	-0.73
		3	Three	6.97	7.24	-0.27	-3.79
		4	Four	1.01	0.90	0.11	12.49
		5	Five	0.33	0.28	0.05	18.96
		6	Six	0.00	0.04	-0.04	-100.00
PMARIT14	Parents' marital status in 2014	1	Married or remarried	71.26	71.29	-0.03	-0.04
		2	Single	7.73	7.69	0.04*	0.46
		3	Divorced or separated	18.36	18.35	0.01	0.04
		4	Widowed	2.66	2.67	-0.02	-0.56
PMARIT17	Parents' marital status in 2017	1	Married or remarried	61.46	61.87	-0.41	-0.66
		2	Single	15.83	15.99	-0.17	-1.05
		3	Divorced or separated	19.14	18.61	0.52	2.80
		4	Widowed	3.58	3.52	0.06	1.56
REGSUPP14	Regular monthly support in 2014	0	No	84.65	84.33	0.32	0.38
		1	Yes	15.35	15.67	-0.32	-2.06

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
REGSUPP17	Regular monthly support in 2017	0	No	83.09	82.73	0.36	0.43
		1	Yes	16.91	17.27	-0.36	-2.06
REMEV6Y	Remedial courses: ever taken through 2016–17	0	No	54.22	58.51	-4.29*	-7.33
		1	Yes	45.78	41.49	4.29*	10.34
SAMEJOB	PSE Delayers: same or similar job while enrolled 2011–12	0	No	16.69	17.01	-0.32	-1.91
		1	Yes	83.31	82.99	0.32	0.39
SELFEMP14	All jobs: ever self-employed through June 2014	0	No	94.75	94.76	-0.01	-0.01
		1	Yes	5.25	5.24	0.01	0.19
SELFEMP17	All jobs: ever self-employed through June 2017	0	No	89.67	89.66	0.01	0.01
		1	Yes	10.33	10.34	-0.01	-0.06
SEROLE14	Jobs while enrolled: primarily student or employee 2014	1	A student who works	89.85	90.00	-0.15	-0.16
		2	Employee who decided to enroll in school	10.15	10.00	0.15	1.45
SEROLE17	Jobs while enrolled: primarily student or employee through 2017	1	A student who works	79.79	79.95	-0.17	-0.21
		2	Employee who decided to enroll in school	20.21	20.05	0.17	0.83
SINCOL14	Independent students: number of family members in college 2013–14	1	One	87.92	87.91	0.02	0.02
		2	Two	10.88	10.91	-0.03	-0.23
		3	Three	0.92	0.91	0.01	0.84
		4	Four	0.27	0.27	0.00	0.84
SINCOL17	Independent students: number of family members in college in 2016–17	1	One	93.57	93.82	-0.25	-0.27
		2	Two	6.23	6.00	0.22	3.74
		3	Three	0.20	0.18	0.02	13.81
		4	Four	0.00	0.00	0.00	16.40

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
SMAR17	Student's marital status in 2017	1	Single, never married	74.40	74.17	0.24	0.32
		2	Married	17.03	16.84	0.19	1.15
		3	Separated	1.02	1.15	-0.13*	-11.19
		4	Divorced	1.96	2.21	-0.24*	-11.06
		5	Widowed	0.18	0.21	-0.04	-16.97
		6	Living with partner	5.40	5.42	-0.02	-0.37
SOCSATIS14	Engagement: satisfaction with social experience at first inst in 2014	1	(Strongly disagree)	3.38	3.49	-0.12	-3.35
		2	(Somewhat disagree)	6.07	6.07	0.00	0.06
		3	(Neither disagree nor agree)	14.91	14.95	-0.04	-0.27
		4	(Somewhat agree)	30.10	30.04	0.06	0.19
		5	(Strongly agree)	45.54	45.45	0.10	0.22
SPNM16	Not married to spouse in 2016	0	Married to spouse in 2016	93.38	92.44	0.94	1.02
		1	Not married to spouse in 2016	6.62	7.56	-0.94	-12.41
SPSED17	Spouse's highest education level in 2017	1	Did not complete high school	5.23	5.75	-0.52	-8.96
		2	High school diploma or equivalent	25.29	25.25	0.04	0.16
		3	Vocational or technical training	6.93	6.71	0.22	3.32
		5	Associate's degree	12.58	12.79	-0.20	-1.60
		6	2 or more years of college but no degree	22.93	22.34	0.59	2.65
		7	Bachelor's degree	21.66	21.74	-0.08	-0.38
		8	Master's degree or equivalent	4.30	4.30	-0.01	-0.15
		9	Professional degree	0.76	0.83	-0.07	-8.79
		10	Doctoral degree	0.31	0.28	0.03	9.13
STDYABR3Y	Ever studied abroad while attending first inst through June 2013	0	No	89.95	89.71	0.24*	0.27
		1	Yes	10.05	10.29	-0.24*	-2.36
STDYABR6Y	Ever studied abroad while attending first inst through June 2017	0	No	80.64	81.99	-1.36*	-1.66
		1	Yes	19.36	18.01	1.36*	7.54

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
TRLNPDAY14	Traveling from residence to last school enrolled: days per week 2014	0	Zero	7.77	7.80	-0.03	-0.34
		1	One	2.43	2.54	-0.12	-4.63
		2	Two	9.58	9.55	0.03	0.31
		3	Three	11.01	11.00	0.00	0.03
		4	Four	18.74	18.85	-0.11	-0.61
		5	Five	34.16	34.06	0.11	0.31
		6	Six	7.85	7.82	0.02	0.31
		7	Seven	8.47	8.37	0.10	1.15
UGLVL14	Class level at most recent institution 2014	1	1st year undergraduate	26.15	26.06	0.09	0.36
		2	2nd year undergraduate	33.58	33.68	-0.10	-0.29
		3	3rd year undergraduate	33.88	33.92	-0.04	-0.11
		4	4th year undergraduate	3.57	3.55	0.02	0.53
		5	5th year undergraduate	0.11	0.11	0.00	-4.05
		6	Unclassified undergraduates	2.60	2.58	0.03*	1.00
		7	Graduate student	0.11	0.10	0.00*	1.75
UNEMCP17	Received unemployment benefits while unemployed through 2017	0	No	97.33	97.40	-0.06	-0.06
		1	Yes	2.67	2.60	0.06	2.41
USEACAD14	PSE services used: academic advising in 2013–14	0	No	24.30	24.25	0.05	0.20
		1	Yes	75.70	75.75	-0.05	-0.06
USEACSP14	PSE services used: academic support services in 2013–14	0	No	66.47	66.41	0.06	0.09
		1	Yes	33.53	33.59	-0.06	-0.18
USECPP14	PSE services used: career services in 2013–14	0	No	73.72	73.75	-0.04	-0.05
		1	Yes	26.28	26.25	0.04	0.14
USEFINAID14	PSE services used: financial aid services in 2013–14	0	No	63.59	63.69	-0.10	-0.15
		1	Yes	36.41	36.31	0.10	0.26
USEHLTH14	PSE services used: student health services in 2013–14	0	No	68.08	67.94	0.14	0.21
		1	Yes	31.92	32.06	-0.14	-0.44

See notes at end of table.

**Table H-3. Distributions of categorical variables before and after imputation: 2017—Continued**

Variable	Variable label	Value	Label	Percent before imputation	Percent after imputation	Difference	Percent relative difference
USENONE14	PSE services used: none in 2013–14	0	No	87.17	87.19	-0.02	-0.03
		1	Yes	12.83	12.81	0.02	0.18
VOTE17	Vote 2016: Voted in last presidential election	0	No	40.13	39.82	0.30	0.76
		1	Yes	59.87	60.18	-0.30	-0.50
WDDEBT17	Unexpected money: pay off some household debts in 2017	0	No	37.04	36.94	0.10	0.27
		1	Yes	62.96	63.06	-0.10	-0.16
WDDONAT17	Unexpected money: donate it to family or charity in 2017	0	No	86.43	86.27	0.16	0.19
		1	Yes	13.57	13.73	-0.16	-1.17
WDOTH17	Unexpected money: other in 2017	0	No	90.75	90.85	-0.10	-0.11
		1	Yes	9.25	9.15	0.10	1.11
WDSAVE17	Unexpected money: put it in savings or investments in 2017	0	No	31.83	31.79	0.04	0.14
		1	Yes	68.17	68.21	-0.04	-0.06
WDSPND17	Unexpected money: spend it on something the household wants or needs in 2017	0	No	71.66	71.60	0.06	0.08
		1	Yes	28.34	28.40	-0.06	-0.21
WRKTSKS	Job nonmonetary benefits: importance of making decisions in 2012	1	Less important than salary	9.77	9.63	0.14	1.45
		2	As important as salary	48.23	48.21	0.02	0.05
		3	More important than salary	42.00	42.16	-0.16	-0.39
WRKTSKS14	Job nonmonetary benefits: importance of making decisions in 2014	1	Less important than salary	17.73	17.86	-0.13	-0.72
		2	As important as salary	54.24	54.47	-0.22	-0.41
		3	More important than salary	28.03	27.68	0.35	1.28
WRKTSKS17	Job nonmonetary benefits: importance of making decisions in 2017	1	Less important than salary	13.72	13.78	-0.06	-0.43
		2	As important as salary	55.11	55.12	0.00	-0.01
		3	More important than salary	31.17	31.10	0.06	0.21

\*  $p < .05$ 

NOTE: PSE = postsecondary education. Distributions were computed using the BPS:12/17 final analysis weight. Cases with legitimate skips for the item are not included in the distributions. The difference is computed as the percentage before imputation minus the percentage after imputation. The percent relative difference is computed as the difference divided by the percentage after imputation and then multiplied by 100.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



## Appendix I. Analysis Variables



**Table I-1. Analysis variables: 2017**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ACDSATIS	Education: Experiences	Engagement: satisfaction with studies 2012
ACDSATIS14	Education: Experiences	Engagement: satisfaction with studies 2014
ACEXDEG6Y	Education: Experiences	Accuracy of expectation: Stated highest level of education expected in 2012 compared to highest level of education attained through 2017
ACEXDT6Y	Education: Experiences	Accuracy of expectation: Stated degree completion date in 2012 compared to actual degree completion date through 2017
ACEXOCC6Y	Employment	Accuracy of expectation: Stated intended job in 2012 compared to actual job through 2017
ACEXWG6Y	Employment	Accuracy of expectation: Percent change in expected salary in 2012 and actual salary in 2017.
ACEXWGINC	Employment	Actual annual salary through 2017 greater than expected salary in 2012.
AGE	Student's characteristics	Age as of 12/31/2011
AGEGROUP	Student's characteristics	Age as of 12/31/2011 (categorical)
AIDAPP	Financial aid: Application	Applied for any aid 2011–12
AIDCST	Financial aid: Ratios	Ratio of total aid to student budget 2011–12
AIDCST3	Financial aid: Ratios	Ratio of aid (excluding private loans and Direct PLUS loans to parents) to student budget
AIDSNEED	Financial aid: Need	Aid amount exceeding federal need 2011–12
AIDSRC	Financial aid: Package	Aid package by source of aid 2011–12
AIDTYPE	Financial aid: Package	Aid package by type of aid 2011–12
ALTANY	Education: Courses	Alternative courses: took online, night, or weekend classes at first institution 2011–12
ALTAVNGHT	Education: Courses	Alternative courses: attend if night courses not available 2011–12
ALTAVONLN	Education: Courses	Alternative courses: attend if online not available 2011–12
ALTAVWKND	Education: Courses	Alternative courses: attend if weekend courses not available 2011–12
ALTEARN14	Employment	Alternative plans: annual earnings estimate if had not attended college: 2014
ALTNIGHT	Education: Courses	Alternative courses: any taken completely at night 2011–12
ALTNIGHT14	Education: Courses	Alternative courses: all courses taken completely at night 2013–14
ALTONLN	Education: Courses	Alternative courses: any taken completely online 2011–12
ALTONLN14	Education: Courses	Alternative courses: all courses taken completely online 2013–14
ALTONLND	Education: Courses	Alternative courses: first institution program was entirely online 2011–12
ALTWKND	Education: Courses	Alternative courses: any taken completely on weekend 2011–12
ALTWKND14	Education: Courses	Alternative courses: all courses taken completely on weekend 2013–14
ALTWORK14	Employment	Alternative plans: work status if had not attended college: 2014
AT1DEN6Y	Education: Attainment	First degree months enrolled through June 2017
AT1DIP6Y	Education: Attainment	First degree intensity pattern through June 2017
AT1DM6Y	Education: Attainment	First degree months elapsed through June 2017
AT1DT3Y	Education: Attainment	First degree date attained through June 2014
AT1DT6Y	Education: Attainment	First degree months elapsed through June 2017
AT1TY3Y	Education: Attainment	First degree type attained through June 2014
AT1TY6Y	Education: Attainment	First degree type attained through June 2017
ATAADT3Y	Education: Attainment	First associate's degree date attained through 2014
ATAADT6Y	Education: Attainment	First associate's degree date attained through June 2017
ATAAEN6Y	Education: Attainment	First associate's degree months enrolled through June 2017
ATAAM6Y	Education: Attainment	First associate's degree months elapsed through June 2017
ATAANU3Y	Education: Attainment	Number of associate's degrees attained through 2014
ATAANU6Y	Education: Attainment	Number of associate's degrees attained through June 2017
ATBADT3Y	Education: Attainment	First bachelor's degree date attained through 2014
ATBADT6Y	Education: Attainment	First bachelor's degree date attained through June 2017
ATBAEN6Y	Education: Attainment	First bachelor's degree months enrolled through June 2017
ATBAFI6Y	Degree attainment	Bachelor's degree attainment at first institution through June 2017
ATBAFM6Y	Degree attainment	Bachelor's degree at first institution months elapsed through June 2017
ATBAM6Y	Education: Attainment	First bachelor's degree months elapsed through June 2017
ATBANU3Y	Education: Attainment	Number of bachelor's degrees attained through 2014
ATBANU6Y	Education: Attainment	Number of bachelor's degrees attained through June 2017
ATCTDT3Y	Education: Attainment	First certificate date attained through 2014
ATCTDT6Y	Education: Attainment	First certificate date attained through June 2017

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ATCTEN6Y	Education: Attainment	First certificate months enrolled through June 2017
ATCTM6Y	Education: Attainment	First certificate months elapsed through June 2017
ATCTNU3Y	Education: Attainment	Number of certificates attained through 2014
ATCTNU6Y	Education: Attainment	Number of certificates attained through June 2017
ATDEG1	Education: Attainment	Degree attained during 2011–12
ATDEG2	Education: Attainment	Degree attained during 2012–13
ATDEG3	Education: Attainment	Degree attained during 2013–14
ATDEG3Y	Education: Attainment	First year attained degree through June 2014
ATDEG4	Education: Attainment	Degree attained in 2014–15
ATDEG5	Education: Attainment	Degree attained in 2015–16
ATDEG6	Education: Attainment	Degree attained in 2016–17
ATDEG6Y	Education: Attainment	First year attained degree through June 2017
ATHDEN6Y	Education: Attainment	Highest degree months enrolled through June 2017
ATHDM6Y	Education: Attainment	Highest degree months elapsed through June 2017
ATHDT3Y	Education: Attainment	Date attained highest degree anywhere through June 2014
ATHDT6Y	Education: Attainment	Date attained highest degree anywhere through June 2017
ATHDTF3Y	Education: Attainment	Date attained highest degree at first institution through June 2014
ATHDTF6Y	Education: Attainment	Date attained highest degree at first institution through June 2017
ATHTY3Y	Education: Attainment	Highest degree attained anywhere through June 2014
ATHTY6Y	Education: Attainment	Highest degree attained anywhere through June 2017
ATHTYF3Y	Education: Attainment	Highest degree attained at first institution through June 2014
ATHTYF6Y	Education: Attainment	Highest degree attained at first institution through June 2017
ATLDT3Y	Education: Attainment	Date attained last degree through June 2014
ATLDT6Y	Education: Attainment	Date attained last degree through June 2017
ATLTY3Y	Education: Attainment	Last degree type attained through June 2014
ATLTY6Y	Education: Attainment	Last degree type attained through June 2017
ATNUM3Y	Education: Attainment	Degrees: number attained through June 2014
ATNUM6Y	Education: Attainment	Degrees: number attained through June 2017
ATTEND	Attendance: Intensity	Attendance intensity in fall 2011
ATTEND2	Attendance: Intensity	Attendance intensity (half-time) in fall 2011
ATTENDMR	Education: Program	Purpose (first): main reason for taking just classes 2011–12
ATTNPT	Attendance: Intensity	Attendance intensity (half-time) 2011–12
ATTNPTRN	Attendance: Intensity	Attendance intensity (all schools) 2011–12
ATTNSTAT	Attendance: Intensity	Attendance pattern 2011–12
ATTYPE6Y	Education: Attainment	Degree types attained through June 2017
BANK1	Finances	Bank accounts: had checking or savings account 2012
BANK2	Finances	Bank accounts: individual or shared 2012
BELONG	Education: Experiences	Engagement: felt like a part of institution 2012
BELONG14	Education: Experiences	Engagement: felt like a part of institution 2014
BUDGETAJ	Institution expenses	Student budget (attendance adjusted) 2011–12
BUDGETBK	Institution expenses	Budgeted cost of books and supplies
BUDNONAJ	Institution expenses	Non-tuition expense budget (attendance adjusted) 2011–12
CAGI	Finances: Income	Adjusted Gross Income (AGI) 2011–12
CALSYS	Institution characteristics	Institution calendar system 2011–12
CAMPAMT	Financial aid: Federal	Federal campus-based aid (Perkins, SEOG, FWSP) 2011–12
CARAMT14	Finances	Monthly car loan payment 2014
CARAMT17	Finances	Monthly car loan payment 2017
CARLN14	Finances	Have a car loan 2014
CARLN17	Finances	Have a car loan in 2017
CC2000	Institution type	Carnegie Classification (2000) for first institution 2011–12
CC2010B	Institution type	Carnegie Classification 2010: Basic classification 2011–12
CC2010C	Institution type	Carnegie Classification 2010: Basic classification (collapsed) 2011–12
CC2010E	Institution type	Carnegie Classification 2010: Enrollment profile 2011–12
CC2010G	Institution type	Carnegie Classification 2010: Graduate instructional program 2011–12
CC2010P	Institution type	Carnegie Classification 2010: Undergraduate instructional program 2011–12
CC2010S	Institution type	Carnegie Classification 2010: Size and setting 2011–12
CC2010U	Institution type	Carnegie Classification 2010: Undergraduate profile 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
CINCOME	Finances: Income	Total income (continuous) 2012
CINCOME14	Finances: Income	Total income (continuous): 2013–14
CINCOME17	Finances: Income	Total income (continuous) in 2017
CITIZEN2	Student's characteristics	Citizenship 2012
CITZN14	Student's characteristics	Citizenship 2014
CLOCK	Institution characteristics	Clock hour or credit hour institution
CLSEVR3Y	Education: Attendance	Ever just taking classes through June 2014
CLSEVR6Y	Education: Attendance	Ever just taking classes through June 2017
CNFDIF	Education: Experiences	Academic confidence: change from before PSE to 2011–12
CNTLAFFI	Institution type	Institutional control of affiliation 2011–12
COMPT087	Survey sample	Comparable to 1987 NPSAS
CONTROL	Institution type	Control of first institution in 2011–12
CRBALCR	Finances	Credit cards: balance carried over each month 2012
CRBALDUE	Finances	Credit cards: balance due on all credit cards 2012
CRDBAL14	Finances	Credit cards: balance due 2014
CRDBAL17	Finances	Credit cards: balance due 2017
CRDNUM14	Finances	Credit cards: number in own name 2014
CRDNUM17	Finances	Credit cards: number in own name 2017
CRDPAY14	Finances	Credit cards: pay off balance 2014
CRDPAY17	Finances	Credit cards: pay off balance 2017
CRNUMCRD	Finances	Credit cards: number of credit cards in own name 2012
CRTUIT	Finances	Credit cards: used credit cards to pay tuition and fees in 2011–12
CRTUIT2	Finances	Credit cards: only source available to pay tuition and fees in 2011–12
CUMULN17	Financial aid: Borrowed cumulative	Cumulative student loans: total amount borrowed through 2017
CURCNFDIF	Education: Experiences	Academic confidence: change from 2011–12 to 2013–14
CURCONF	Education: Experiences	Academic confidence: 2011–12
CURCONF14	Education: Experiences	Academic confidence: 2013–14
DECMJ	Education: Majors	Formally declared major field of study
DECMJ14	Education: Majors	Field of study: formally declared when last enrolled 2014
DECMJ17	Education: Majors	Field of study: formally declared when last enrolled 2017
DEFER14	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever had a deferment through 2014
DEFER17	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever had a deferment through 2017
DEGEVR	Education: Future	Likelihood of ever completing expected degree 2012
DEGEVR14	Education: Future	Likelihood of ever completing expected degree in 2014
DEGEVR3Y	Education: Experiences	Likelihood of ever completing expected degree: change from 2012 to 2014
DEGEXP	Education: Future	Likelihood of completing degree by expected date 2012
DEGEXP14	Education: Future	Likelihood of completing degree by expected date in 2014
DEGEXP3Y	Education: Future	Likelihood of completing degree by expected date: change from 2012 to 2014
DEGEXPDT	Education: Future	Date expected to complete degree requirements.
DEGEXPDT14	Education: Experiences	Date expected to complete degree requirements
DEGEXPDT17	Education: Future	Date expected to complete degree requirements 2017
DEGEXPDT3Y	Education: Experiences	Change to date expected to complete degree requirements 2012–2014
DEGNUM3Y	Education: Program	Degrees: number pursued through June 2014
DEGNUM6Y	Education: Attainment	Degrees: number pursued through June 2017
DEGONLN17	Education: Experiences	Certificate or degree program entirely online
DELAYENR	High school	Delayed enrollment into PSE: number of years 2011–12
DEPANY	Student's family	Dependents: has any dependents 2011–12
DEPANY14	Student's family	Has dependents: any 2014
DEPANY17	Student's family	Has dependents: any in 2017
DEPCARE	Finances	Dependents: child in paid childcare 2011–12
DEPCHILD	Student's family	Dependents: has dependent children 2011–12
DEPCOL	Student's family	Independent students: number of dependents in college 2011–12
DEPCOL14	Student's family	Independent students: number of dependents in college 2013–14
DEPCOL17	Student's family	Independent students: number of dependents in college in 2016–17
DEPCOLCS	Finances	Amount contributed to college costs for dependents in 2011–12
DEPCOST	Finances	Dependents: children in paid childcare - monthly costs 2011–12
DEPEND	Student's characteristics	Dependency status 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
DEPEND14	Student's family	Dependency status 2013–14
DEPEND17	Student's family	Dependency status in 2016–17
DEPEND5A	Student's characteristics	Dependency and marital status (separated is married) 2011–12
DEPEND5B	Student's characteristics	Dependency and marital status (separated is unmarried) 2011–12
DEPINC	Finances: Income	Dependent students: parents' income 2012
DEPINC14	Finances: Income	Dependent students: parents' income 2014
DEPINC17	Finances: Income	Dependent students: parents' income in 2017
DEPNUM	Student's family	Dependents: has any dependents (number) 2012
DEPNUM14	Student's family	Has dependents: number in 2014
DEPNUM17	Student's family	Has dependents: number of 2017
DEPNUMCH	Student's family	Dependents: has dependent children (number) 2012
DEPNUMCH14	Student's family	Has dependents: number of children 2014
DEPNUMCH17	Student's family	Has dependents: number of children in 2017
DEPNUMOT	Student's family	Dependents: Has dependent(s) other than children (number) 2012
DEPNUMOT14	Student's family	Has dependents: number other than children 2014
DEPNUMOT17	Student's family	Has dependents: number other than children 2017
DEPOTCST	Finances	Dependents: monthly cost of supporting dependents other than children 2012
DEPOTHER	Student's family	Dependents: has dependent(s) other than children 2012
DEPTYPE	Student's family	Dependents: types of dependents 2012
DEPTYPE17	Student's family	Dependents: types of dependents in 2017
DEPYNG	Student's family	Dependents: age of youngest child 2012
DERMJRNM	Education: Majors	Final derived major: numeric 2011–12
DGEVR14	Education: Future	Highest level of education ever expected in 2014
DGEVR17	Education: Future	Highest level of education ever expected in 2017
DGEXPCHG14	Education: Experiences	Changes in highest level of education expected between 2012 and 2014
DGEXPCHG17	Education: Experiences	Highest level of education ever expected: Change from 2012 to 2017
DIS16A	Characteristics: Disability/Health	Disability: deaf or serious difficulty hearing 2012
DIS16A14	Characteristics: Disability/Health	Disability: deaf or serious difficulty hearing 2014
DIS16B	Characteristics: Disability/Health	Disability: blind or serious difficulty seeing 2012
DIS16B14	Characteristics: Disability/Health	Disability: blind or serious difficulty seeing 2014
DIS17A	Characteristics: Disability/Health	Disability: serious difficulty concentrating/remembering/deciding in 2012
DIS17A14	Characteristics: Disability/Health	Disability: serious difficulty concentrating/remembering/deciding in 2014
DIS17B	Characteristics: Disability/Health	Disability: serious difficulty walking or climbing stairs in 2012
DIS17B14	Characteristics: Disability/Health	Disability: serious difficulty walking or climbing stairs in 2014
DISABL14	Characteristics: Disability/Health	Disability: has some type of disability 2014
DISABLE	Characteristics: Disability/Health	Disability: has some type of disability 2012
DISTANCE	Residence	Distance from student's home (in miles) to first institution 2011–12
DISTYPES	Characteristics: Disability/Health	Disability: main type of condition or impairment 2012
DLQAVG14	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): average delinquencies through 2014
DLQAVG17	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever had a deferment through 2017
DLQEVER14	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever had a delinquency through 2014
DLQEVER17	Financial aid: Debt and repayment	Title IV loans (excluding Parent PLUS): ever had a delinquency through 2017
DSCTRATE	Student's characteristics	Discount rate 2012
DSCTRATE14	Student's characteristics	Discount rate 2014
DSCTRATE17	Student's characteristics	Discount rate 2017
DSTUINC	Finances: Income	Dependent students: income 2012
DSTUINC14	Finances: Income	Dependent students: income 2013–14
DSTUINC17	Finances: Income	Dependent students: income in 2016–17
E01	Education: Attendance	Monthly enrollment status (half-time) in 2011/07
E02	Education: Attendance	Monthly enrollment status (half-time) in 2011/08
E03	Education: Attendance	Monthly enrollment status (half-time) in 2011/09
E04	Education: Attendance	Monthly enrollment status (half-time) in 2011/10
E05	Education: Attendance	Monthly enrollment status (half-time) in 2011/11
E06	Education: Attendance	Monthly enrollment status (half-time) in 2011/12
E07	Education: Attendance	Monthly enrollment status (half-time) in 2012/01
E08	Education: Attendance	Monthly enrollment status (half-time) in 2012/02

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
E09	Education: Attendance	Monthly enrollment status (half-time) in 2012/03
E10	Education: Attendance	Monthly enrollment status (half-time) in 2012/04
E11	Education: Attendance	Monthly enrollment status (half-time) in 2012/05
E12	Education: Attendance	Monthly enrollment status (half-time) in 2012/06
EFC	Financial aid: Need	Expected Family Contribution 2011–12
EFCAID	Financial aid: Need	Aid amount subject to federal EFC limitation 2011–12
EFCCPS	Financial aid: Need	Expected Family Contribution (from CPS) 2011–12
EFFORT20	Financial aid: Net price	Net price after grants and loans as percent of income 2011–12
EFFORT3	Financial aid: Net price	Net price after grants as percent of income 2011–12
EFFORT9	Financial aid: Net price	Net tuition after all grants as percent of income 2011–12
ELAPSE	High school	Number of months between HS completion and PSE entry
EMPENRL14	Employment	Employment and enrollment status through 2014
EMPENRL17	Employment	Employment and enrollment status July 2014 thru June 2017
EMPLWAIV	Financial aid: Institution	Institutional tuition waivers for staff 2011–12
EMPLYAM14	Financial aid: Grants	Employer aid (student & parents): amount received 2013–14
EMPLYAM17	Financial aid: Other	Employer aid (student & parents): amount received in 2016–17
EMPLYAM3	Financial aid: Grants	Employer aid (student & parents) 2011–12
EMPLYAMT	Financial aid: Grants	Employer aid (includes college staff) 2011–12
EMPMNT3Y	Employment: History	All jobs: number of months worked through June 2014
EMPMNT6Y	Employment: History	All jobs: number of months worked through June 2017
EMPMTEN3Y	Employment: History	All jobs: number of months worked since last enrolled through June 2014
EMPMTEN6Y	Employment: History	All jobs: number of months worked since last enrolled through June 2017
EMPNUM17	Employment	All jobs: number of jobs from 2014 through 2017
EMPNUM3Y	Employment: History	All jobs: number of jobs through June 2014
EMPNUM6Y	Employment: History	All jobs: number of jobs through June 2017
ENCOEN3Y	Education: Attendance	Ever co-enrolled through June 2014
ENCOEN6Y	Education: Attendance	Ever co-enrolled through June 2017
ENDTFI3Y	Education: Attendance	First institution date last enrolled as of 2014
ENDTFI6Y	Education: Attendance	First institution date last enrolled as of 2017
ENDTFS	Education: Attendance	Date of first enrollment
ENDTLA3Y	Education: Attendance	Date of last enrollment through June 2014
ENDTLA6Y	Education: Attendance	Date of last enrollment through June 2017
ENINFM	Attendance: Intensity	First institution: attendance intensity first month enrolled 2011–12
ENINPT1	Attendance: Intensity	Attendance intensity pattern in 2011–12
ENINPT2	Attendance: Intensity	Attendance intensity pattern in 2012–13
ENINPT3	Attendance: Intensity	Attendance intensity pattern in 2013–14
ENINPT3Y	Attendance: Intensity	Attendance intensity through June 2014
ENINPT4	Education: Attendance	Attendance intensity pattern in 2014–15
ENINPT5	Education: Attendance	Attendance intensity pattern in 2015–16
ENINPT6	Education: Attendance	Attendance intensity pattern in 2016–17
ENINPT6Y	Education: Attendance	Attendance intensity through June 2017
ENINUM1	Education: Attendance	Number of institutions attended in 2011–12
ENINUM2	Education: Attendance	Number of institutions attended in 2012–13
ENINUM3	Education: Attendance	Number of institutions attended in 2013–14
ENINUM3Y	Education: Attendance	Number of institutions attended through 2013–14
ENINUM4	Education: Attendance	Number of institutions attended in 2014–15
ENINUM5	Education: Attendance	Number of institutions attended in 2015–16
ENINUM6	Education: Attendance	Number of institutions attended in 2016–17
ENINUM6Y	Education: Attendance	Number of institutions attended through 2016–17
ENLEN	Education: Attendance	First institution: months enrolled total 2011–12
ENLT4M3Y	Education: Attendance	Number of institutions attended for less than 4 months
ENLT4M6Y	Education: Attendance	Number of institutions attended for less than 4 months
ENLYAT3Y	Education: Persistence	Last year enrolled with no attainment anywhere through June 2014
ENLYAT6Y	Education: Persistence	Last year enrolled with no attainment anywhere through June 2017
ENLYF3Y	Education: Persistence	Last year enrolled with no attainment at first institution through June 2014

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ENLYF6Y	Education: Persistence	Last year enrolled with no attainment at first institution through June 2017
ENMNFT1	Education: Attendance	Months enrolled full time in 2011–12
ENMNFT2	Education: Attendance	Months enrolled full time in 2012–13
ENMNFT3	Education: Attendance	Months enrolled full time in 2013–14
ENMNFT3Y	Education: Attendance	Months enrolled full time (total) through June 2014
ENMNFT4	Education: Attendance	Months enrolled full time in 2014–15
ENMNFT5	Education: Attendance	Months enrolled full time in 2015–16
ENMNFT6	Education: Attendance	Months enrolled full time in 2016–17
ENMNFT6Y	Education: Attendance	Months enrolled full time (total) through June 2017
ENMNPT1	Education: Attendance	Months enrolled part time in 2011–12
ENMNPT2	Education: Attendance	Months enrolled part time in 2012–13
ENMNPT3	Education: Attendance	Months enrolled part time in 2013–14
ENMNPT3Y	Education: Attendance	Months enrolled part time (total) through June 2014
ENMNPT4	Education: Attendance	Months enrolled part time in 2014–15
ENMNPT5	Education: Attendance	Months enrolled part time in 2015–16
ENMNPT6	Education: Attendance	Months enrolled part time in 2016–17
ENMNPT6Y	Education: Attendance	Months enrolled part time (total) through June 2017
ENMNT1	Education: Attendance	Months enrolled during 2011–12
ENMNT14	Education: Attendance	Number of months since last enrolled through June 2014
ENMNT17	Education: Attendance	Number of months since last enrolled through June 2017
ENMNT2	Education: Attendance	Months enrolled during 2012–13
ENMNT3	Education: Attendance	Months enrolled during 2013–14
ENMNT3Y	Education: Attendance	Months enrolled (total) through June 2014
ENMNT4	Education: Attendance	Months enrolled in 2014–15
ENMNT5	Education: Attendance	Months enrolled in 2015–16
ENMNT6	Education: Attendance	Months enrolled in 2016–17
ENMNT6Y	Education: Attendance	Months enrolled (total) through June 2017
ENMNTAA3Y	Education: Attainment	Associate's degree: months enrolled before attainment through June 2014
ENMNTAA6Y	Education: Attainment	Associate's degree: months enrolled before attainment through June 2017
ENMNTBA3Y	Education: Attainment	Bachelor's degree: months enrolled before attainment through June 2014
ENMNTBA6Y	Education: Attainment	Bachelor's degree: months enrolled before attainment through June 2017
ENMNTCT3Y	Education: Attainment	Certificate: months enrolled before attainment through June 2014
ENMNTCT6Y	Education: Attainment	Certificate: months enrolled before attainment through June 2017
ENR01	Education: Attendance	Monthly enrollment status in 2011/07
ENR02	Education: Attendance	Monthly enrollment status in 2011/08
ENR03	Education: Attendance	Monthly enrollment status in 2011/09
ENR04	Education: Attendance	Monthly enrollment status in 2011/10
ENR05	Education: Attendance	Monthly enrollment status in 2011/11
ENR06	Education: Attendance	Monthly enrollment status in 2011/12
ENR07	Education: Attendance	Monthly enrollment status in 2012/01
ENR08	Education: Attendance	Monthly enrollment status in 2012/02
ENR09	Education: Attendance	Monthly enrollment status in 2012/03
ENR10	Education: Attendance	Monthly enrollment status in 2012/04
ENR11	Education: Attendance	Monthly enrollment status in 2012/05
ENR12	Education: Attendance	Monthly enrollment status in 2012/06
ENRFALL	Education: Attendance	First institution: enrolled from July through Dec in 2011
ENRFSIZE	Institution characteristics	First institution: fall enrollment 2011–12
ENRPLNFT	Education: Attendance	Enrollment plans: first term after 2013–14
ENRSPR	Education: Attendance	First institution: enrolled from January through June in 2012
ENRSTAT	Education: Attendance	First institution: enrollment pattern in 2011–12
EVDECFAA14	Education: Majors	Ever declared a major (associate's) at first institution as of June 2014
EVDECFAA17	Education: Majors	Ever declared a major (associate's) at first institution through June 2017
EVDECFIBA14	Education: Majors	Ever declared a major (bachelor's) at first institution as of June 2014
EVDECFIBA17	Education: Majors	Ever declared a major (bachelor's) at first institution through June 2017

See notes at end of table.



**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
EVERDECAA14	Education: Majors	Ever declared a major (associate's) as of June 2014
EVERDECAA17	Education: Majors	Ever declared a major (associate's) through June 2017
EVERDECBA14	Education: Majors	Ever declared a major (bachelor's) as of June 2014
EVERDECBA17	Education: Majors	Ever declared a major (bachelor's) through June 2017
EVERDEF17	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan through 2017
EVERDEFY12	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan in 2011–12
EVERDEFY13	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan in 2012–13
EVERDEFY14	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan in 2013–14
EVERDEFY15	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan in 2014–15
EVERDEFY16	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan in 2015–16
EVERDEFY17	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever defaulted on a loan in 2016–17
EXOCC2	Employment: Future	Expected job: type of occupation 2012 (general)
EXOCC2Y14	Employment: Future	Expected job: type of occupation 2014 (general)
EXOCC3	Employment: Future	Expected job: type of occupation 2012 (detailed)
EXOCC3Y	Employment	Expected job: change to type of occupation from 2012 to 2014
EXOCC3Y14	Employment: Future	Expected job: type of occupation in 2014 (detailed)
EXOCC6	Employment: Future	Expected job: type of occupation 2012 (specific)
EXOCC6Y14	Employment: Future	Expected job: type of occupation in 2014 (specific)
EXPBA	Education: Program	Bachelor's program intentions within 5 years 2012
EXPBA14	Education: Program	Bachelor's program intentions within 2 years 2014
EXPFLD	Employment: Values	Job nonmonetary benefits: importance of being an expert 2012
EXPFLD14	Employment: Values	Job nonmonetary benefits: importance of being an expert in 2014
EXPFLD17	Employment: Values	Job nonmonetary benefits: importance of being an expert in 2017
EXPFLD6Y	Employment	Job nonmonetary benefits: change to being seen as an expert from 2012 to 2017
EXPWAGE	Employment: Future	Expected job: annual salary expected 2012
EXPWAGE14	Employment: Future	Expected job: annual salary expected in 2014
EXPWAGE3Y	Employment	Expected job: percent change in expected annual salary from 2012 to 2014
EXWGINC	Employment	Expected annual salary increased from 2012 to 2014
FACULTY	Education: Experiences	Engagement: interactions with faculty 2012
FACULTY14	Education: Experiences	Engagement: interactions with faculty 2014
FAMAMT14	Finances: Support	Help from family and friends: total amount received 2013–14
FAMHELP	Finances: Support	Other financial support received 2011–12
FAMHPAM	Finances: Support	Help from family and friends: total amount 2011–12
FAMTIM	Employment: Values	Job nonmonetary benefits: importance of balancing work/family 2012
FAMTIM14	Employment: Values	Importance of balancing work/family in 2014
FAMTIM17	Employment: Values	Importance of balancing work/family in 2017
FAMTIM6Y	Employment	Job nonmonetary benefits: change to balancing work/family from 2012 to 2017
FCLOSE	Institution characteristics	First institution attended closed as of June 2017
FCONTROL	Institution type	Control of first institution in 2011–12
FEDAPP	Financial aid: Application	Applied for federal aid 2011–12
FEDBEN	Finances: Support	Received federal benefit: any 2011–12
FEDBEN14	Finances: Support	Received federal benefit: any 2014
FEDBEN14A	Finances: Support	Received federal benefit: Food Stamps 2014
FEDBEN14B	Finances: Support	Received federal benefit: Free or Reduced Price Lunch 2014
FEDBEN14C	Finances: Support	Received federal benefit: Supplemental Security Income 2014
FEDBEN14D	Finances: Support	Received federal benefit: TANF 2014
FEDBEN14E	Finances: Support	Received federal benefit: WIC 2014
FEDBEN17	Finances: Support	Received federal benefit: any in 2017
FEDBENA	Finances: Support	Received federal benefit: Food Stamp 2011–12
FEDBENB	Finances: Support	Received federal benefit: Free or Reduced Price School Lunch 2011–12
FEDBENC	Finances: Support	Received federal benefit: Supplemental Security Income 2011–12
FEDBEND	Finances: Support	Received federal benefit: TANF 2011–12
FEDBENE	Finances: Support	Received federal benefit: WIC 2011–12
FEDGRPCT	Financial aid: Ratios	Ratio of federal grants to total aid 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
FEDLNPAK	Financial aid: Package	Federal loan package by type of loan 2011–12
FEDNEED	Financial aid: Federal	Federal need-based aid 2011–12
FEDPACK	Financial aid: Package	Federal aid package by type of aid 2011–12
FEDPCT	Financial aid: Ratios	Ratio of federal aid to total aid 2011–12
FEDRPY14	Financial aid: Debt and repayment	Loan repayment (federal): monthly payment amount 2014
FEDRPY17	Financial aid: Debt and repayment	Loan repayment (federal): monthly payment amount in 2017
FGRTLN	Financial aid: Federal	Total federal loans and grants 2011–12
FHSUPP	Socioemotional support	Supportive of PSE: friends from home 2011–12
FHSUPP14	Socioemotional support	Supportive of PSE: friends from outside of college 2013–14
FIN2K17	Finances	Financial security: \$2,000 within the next month in 2017
FINLITA17	Finances	Financial literacy: effect of inflation on purchasing in 2017
FINLITB17	Finances	Financial literacy: effect of interest on savings in 2017
FINLITC17	Finances	Financial literacy: effect of diversification on risk in 2017
FLACMAX	Financial aid: Federal loans	Federal loans: accepted maximum amount offered in 2011–12
FLAVDL1	Financial aid: Federal loans	Way to avoid additional federal loans: attend less costly school 2011–12
FLAVDL2	Financial aid: Federal loans	Way to avoid additional federal loans: fewer classes 2011–12
FLAVDL3	Financial aid: Federal loans	Way to avoid additional federal loans: work more 2011–12
FLDENY	Financial aid: Federal loans	Federal loans: turned down any in 2011–12
FLDENYRS	Financial aid: Federal loans	Federal loans: main reason for not accepting additional loans 2011–12
FLEVEL	Institution type	Level of first institution in 2011–12
FLNPCT6	Financial aid: Ratios	Ratio of fed loans to fed aid (excl Direct PLUS to parents, Veterans/DoD) 2011–12
FLNST17	Financial aid: Debt and repayment	Loan repayment status: federal loan through 2017
FMERGE	Institution characteristics	First institution attended merged as of June 2017
FORBAR17	Financial aid: Debt and repayment	Title IV loans (excl Parent PLUS): ever had a forbearance through 2017
FRSTCOL	Parents and family	First immediate family member to go to college
FSEDOC	Institution type	Doctorate-granting status of first institution in 2011–12
FSECTOR	Institution type	Control and level of first institution (IPEDS sector) in 2011–12
FSSUPP	Socioemotional support	Supportive of PSE: friends from school 2011–12
FSSUPP14	Socioemotional support	Supportive of PSE: friends from school 2013–14
GENDER	Student's characteristics	Gender
GPA	Education: Courses	Grade point average 2011–12
GPAEST14	Education: Courses	Grade point average estimate 2014
GPAEST17	Education: Courses	Grade point average estimate in 2017
GPALAST14	Education: Courses	Grade point average estimate when last enrolled through June 2014
GPALAST17	Education: Courses	Grade point average estimate when last enrolled through June 2017
GPLUSCUM17	Financial aid: PLUS	Graduate PLUS loans: cumulative amount borrowed through 2017
GRDEG17	Education: Attainment	Enrolled in degree/certificate program since earning bachelor's degree
GRNTSRC	Financial aid: Package	Grant package by source of grant 2011–12
GRTCST	Financial aid: Ratios	Ratio of grant aid to student budget 2011–12
GRTLOAN	Financial aid: Ratios	Ratio of grants to total loans 2011–12
GRTPCT	Financial aid: Ratios	Ratio of grants to total aid 2011–12
GRTPCTTN	Financial aid: Ratios	Ratio of grant aid to tuition 2011–12
GRTRATIO	Financial aid: Ratios	Ratio of grants to grants and loans 2011–12
GRTSNEED	Financial aid: Need	Grant amount exceeding federal need 2011–12
HBCU	Institution characteristics	Historical black college indicator at first institution in 2011–12
HCHONORS	High school	Number of high school honors subjects
HCMATHHI	High school	Highest level of high school mathematics
HCSCINUM	High school	Number of high school science courses taken
HCTKBIOL	High school	Took or planned to take biology
HCTKCHEM	High school	Took or planned to take chemistry
HCTKPHYS	High school	Took or planned to take physics
HCYSENGL	High school	Years completed or planned English
HCYSLANG	High school	Years completed or planned foreign languages
HCYSMATH	High school	Years completed or planned math
HCYSSCIE	High school	Years completed or planned science
HCYSSOCI	High school	Years completed or planned social studies

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
HIDEGEVR14	Education: Experiences	Likelihood of completing the highest level of education ever expected in 2014
HIEXPWGE	Employment: Future	Expected job: highest annual salary expected 2012
HIEXPWGE14	Employment: Future	Expected job: highest annual salary expected in 2014
HIEXPWGE3Y	Employment	Expected job: Percent change in highest expected annual salary from 2012 to 2014
HIEXWGINC	Employment	Highest expected annual salary increased from 2012 to 2014
HIGHLVEX	Education: Future	Highest level of education ever expected 2012
HISPANIC	Student's characteristics	Race: Hispanic or Latino origin
HISPTYPE	Student's characteristics	Hispanic type
HLOFFER	Institution characteristics	Highest level of offering at first institution in 2011–12
HLPOTH	Employment: Values	Job nonmonetary benefits: importance of helping others 2012
HLPOTH14	Employment: Values	Job nonmonetary benefits: importance of helping others in 2014
HLPOTH17	Employment: Values	Job nonmonetary benefits: importance of helping others in 2017
HLPOTH6Y	Employment	Job nonmonetary benefits: change to importance of helping others from 2012 to 2017
HOMELESS	Student's characteristics	Homeless or at risk of homelessness
HOMESTUD	Finances	Student owns home or pays mortgage 2012
HRSWK12	Employment: While enrolled	Jobs while enrolled: hours worked 2011–12
HRSWK13	Employment: While enrolled	Jobs while enrolled: hours worked 2012–13
HRSWK14	Employment: While enrolled	Jobs while enrolled: hours worked 2013–14
HRSWK15	Employment: While enrolled	Jobs while enrolled: hours worked in 2014–15
HRSWK16	Employment: While enrolled	Jobs while enrolled: hours worked in 2015–16
HRSWK17	Employment: While enrolled	Jobs while enrolled: number of months worked in 2016–17
HRSWK3Y	Employment: While enrolled	Jobs while enrolled: hours worked when last enrolled through June 2014
HRSWK6Y	Employment: While enrolled	Jobs while enrolled: hours worked when last enrolled through June 2017
HSCRDCOL	High school	Took college-level courses while in high school
HSDEG	High school	High school degree type
HSGPA	High school	Grade point average in high school
HSGRADYM	High school	High school completion date
HSGRADYY	High school	High school graduation year
HSIZE	Student's family	Family size (dependent & independent) 2012
HSIZE14	Student's family	Family size 2013–14
HSIZE17	Student's family	Family Size in 2016–17
HSTKANY	High school	Took any college credits in high school
HSTKAP	High school	Took AP courses while in high school
HSTKIB	High school	Took IB courses while in high school
HSTYPE	High school	Type of high school attended
ID	Survey sample	Analysis ID
IMMIAGE	Student's characteristics	Age when arrived in the United States
IMMIGEN	Student's characteristics	Immigrant generation status
IMMIGRA	Student's characteristics	Immigrant status 2011–12
IMPACAD	Education: Services	PSE service importance: academic advising in 2011–12
IMPACAD14	Education: Services	PSE service importance: academic advising in 2013–14
IMPACSP	Education: Services	PSE service importance: academic support services in 2011–12
IMPACSP14	Education: Services	PSE service importance: academic support services in 2013–14
IMPCPP	Education: Services	PSE service importance: career planning services in 2011–12
IMPCPP14	Education: Services	PSE service importance: career planning services in 2013–14
IMPFINAID	Education: Services	PSE service importance: financial aid services in 2011–12
IMPFINAID14	Education: Services	PSE service importance: financial aid services in 2013–14
IMPHLTH	Education: Services	PSE service importance: student health services in 2011–12
IMPHLTH14	Education: Services	PSE service importance: student health services in 2013–14
INATHAMT	Financial aid: Institution	Athletic scholarships 2011–12
INCGRP	Finances: Income	Income group 2012
INCOME	Finances: Income	Total income by dependency (categorical) 2012
INCSPS14	Finances: Income	Independent students: spouse's income 2013–14
INCSPS17	Finances: Income	Independent students: spouse's income in 2016–17
INDEPINC	Finances: Income	Independent students: student and spouse's income 2012

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
INDINC14	Finances: Income	Independent students: student and spouse's income 2013–14
INDINC17	Finances: Income	Independent students: student and spouse's income in 2016–17
INGRTAMT	Financial aid: Institution	Institutional grants total 2011–12
INJURIS	Institution expenses	Tuition jurisdiction 2011–12
INLNAMT	Financial aid: Institution	Institutional loans 2011–12
INSMERIT	Financial aid: Institution	Institutional merit-only grants 2011–12
INSTAMT	Financial aid: Institution	Institutional aid total 2011–12
INSCAT	Institution type	Institutional category 2011–12
INSCAT2	Institution type	Institutional category and control 2011–12
INSTGPCT	Financial aid: Ratios	Ratio of institutional grants to total aid 2011–12
INSTNEED	Financial aid: Institution	Institutional need-based grants 2011–12
INSTNOND	Financial aid: Institution	Institutional non-need & merit grants 2011–12
INSTPACK	Financial aid: Package	Aid package with institutional aids 2011–12
INSTPCT	Financial aid: Ratios	Ratio of institution aid to total aid 2011–12
INSTSTAT	Institution characteristics	Location of first institution: state in 2011–12
INSTWRK	Financial aid: Institution	Institutional work-study 2011–12
INSWAIV	Financial aid: Institution	Institutional tuition & fee waivers 2011–12
ISTUINC	Finances: Income	Independent students: income (continuous) 2012
ISTUINC14	Finances: Income	Independent students: income 2013–14
ISTUINC17	Finances: Income	Independent students: income in 2016–17
IT2YFP3Y	Institution type	Ever attended 2-year for-profit institution 2014
IT2YFP6Y	Institution type	Ever attended 2-year for-profit institution through 2017
IT2YPU3Y	Institution type	Ever attended 2-year public institution 2014
IT2YPU6Y	Institution type	Ever attended 2-year public institution through 2017
IT4Y3Y	Institution type	Ever attended 4-year institution 2014
IT4Y6Y	Institution type	Ever attended 4-year institution through 2017
IT4YFP3Y	Institution type	Ever attended 4-year for-profit institution 2014
IT4YFP6Y	Institution type	Ever attended 4-year for-profit institution 2017
IT4YPN3Y	Institution type	Ever attended 4-year private nonprofit institution 2014
IT4YPN6Y	Institution type	Ever attended 4-year private nonprofit institution through 2017
IT4YPU3Y	Institution type	Ever attended 4-year public institution 2014
IT4YPU6Y	Institution type	Ever attended 4-year public institution through 2017
ITCTLA3Y	Institution type	Institution control last attended through June 2014
ITCTLA6Y	Institution type	Institution control last attended through June 2017
ITFP3Y	Institution type	Ever attended for-profit institution 2014
ITFP6Y	Institution type	Ever attended for-profit institution through 2017
ITL2FP3Y	Institution type	Ever attended less than 2-year for-profit institution 2014
ITL2FP6Y	Institution type	Ever attended less than 2-year for-profit institution through 2017
ITLVLA3Y	Institution type	Institution level last attended through June 2014
ITLVLA6Y	Institution type	Institution level last attended through June 2017
ITTYLA3Y	Institution type	Institution type last attended through June 2014
ITTYLA6Y	Institution type	Institution type last attended through June 2017
JBEN14	Employment: Benefits	Job 2014: eligible for life, health, and retirement
JBEN14A	Employment: Benefits	Job 2014: eligible for life insurance
JBEN14B	Employment: Benefits	Job 2014: eligible for health insurance
JBEN14C	Employment: Benefits	Job 2014: eligible for retirement benefits
JBEN17	Employment: Benefits	Job 2017: eligible for life, health, retirement
JBEN17A	Employment: Benefits	Job 2017: eligible for life insurance
JBEN17B	Employment: Benefits	Job 2017: eligible for health insurance
JBEN17C	Employment: Benefits	Job 2017: eligible for retirement benefits
JBEN17D	Employment: Benefits	Job 2017: eligible for vacation or holidays
JBEN17E	Employment: Benefits	Job 2017: eligible for overtime pay
JBENALL17	Employment: Benefits	Job 2017: eligible for life, health, retirement
JOBEARN2	Employment	Earnings from all work while enrolled as of 2012
JOBFT12	Employment: While enrolled	Jobs while enrolled: work intensity 2011–12
JOBFT13	Employment: While enrolled	Jobs while enrolled: work intensity 2012–13
JOBFT14	Employment: While enrolled	Jobs while enrolled: work intensity 2013–14
JOBFT15	Employment: While enrolled	Jobs while enrolled: work intensity 2014–15
JOBFT16	Employment: While enrolled	Jobs while enrolled: work intensity 2015–16

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
JOBFT17	Employment: While enrolled	Jobs while enrolled: work intensity in 2016–17
JOBHRS14	Employment: Year 3 job	Job 2014: hours worked weekly
JOBHRS17	Employment: Year 3 job	Job 2017: hours worked weekly
JOBIND17	Employment: Year 3 job	Primary employer: industry of employer
JOBLFP14	Employment: Not working	Labor force participation status in June 2014
JOBLFP17	Employment: Not working	Labor force participation status in June 2017
JOBLIC14	Employment: Year 3 job	Job 2014: has industry certification or license
JOBLIC17	Employment: Year 3 job	Job 2017: has industry certification or license
JOBMNT3Y	Employment: Year 3 job	Job 2014: number of months worked since beginning PSE
JOBMNT6Y	Employment: Year 3 job	Job 2017: number of months worked since beginning PSE
JOBOCC14	Employment: Year 3 job	Job 2014: occupation
JOBOCC17	Employment: Year 3 job	Job 2017: occupation
JOBRCLG14	Employment: Year 3 job	Job 2014: related to college studies
JOBRCLG17	Employment: Year 3 job	Job 2017: related to college studies
JOBRCL14	Employment: Year 3 job	Job 2014: job required industry certification or license
JOBRCL17	Employment: Year 3 job	Job 2017: job required industry certification or license
JOBRFLT14	Employment: Year 3 job	Job 2014: related to intended future work
JOBRFLT17	Employment: Year 3 job	Job 2017: related to intended future work
JOBROLE2	Employment: While enrolled	Jobs while enrolled: primary role as student or employee 2012
JOBS17	Employment: Satisfaction	Primary employer: job satisfaction
JOBSELF14	Employment: Year 3 job	Job 2014: self employed
JOBSELF17	Employment: Year 3 job	Job 2017: self employed
JOBST14	Employment: Year 3 job	Job 2014: employment status
JOBST17	Employment: Year 3 job	Job 2017: employment status
JOBTIM14	Employment: Year 3 job	Job 2014: years worked in same or similar job
JOBTIM17	Employment: Year 3 job	Job 2017: years worked in same or similar job
JOBZIP17	Employment characteristics	Primary employer: zip code
KNOWCLAS	Education: Courses	Knew requirements needed to complete degree at first institution 2012
KNOWCLAS14	Education: Courses	Knew requirements needed to complete degree when last enrolled 2014
LCLOSE	Institution type	Last institution attended closed as of June 2017
LEISTIME	Employment: Values	Job nonmonetary benefits: importance of balancing work/leisure 2012
LEISTIME14	Employment: Values	Job nonmonetary benefits: importance of balancing work/leisure in 2014
LEISTIME17	Employment: Values	Job nonmonetary benefits: importance of balancing work/leisure in 2017
LEISTIME6Y	Employment	Job nonmonetary benefits: importance of balancing work/leisure from 2012 to 2017
LEVEL	Institution type	Level of first institution 2011–12
LKOCCATHD	Employment: Future	Expected job: likelihood of holding job after highest attainment 2012
LKOCCATHD14	Employment: Future	Expected job: likelihood of holding job after highest attainment in 2014
LKOCCATHD3Y	Employment	Change to likelihood of holding job after highest attainment, change from 2012 to 2014
LNLITALL17	Finances	Loan literacy: correctly answered all three items in 2017
LNLITTOT17	Finances	Loan literacy: Number of correct responses
LNREPAY	Financial aid: Debt and repayment	Expect help with repaying student loans 2011–12
LOANCST	Financial aid: Ratios	Ratio of loans to student budget (excludes Direct PLUS to parents) 2011–12
LOANCST2	Financial aid: Ratios	Ratio of loans to student budget (includes Direct PLUS to parents) 2011–12
LOANLITA17	Finances	Loan literacy: Govt. can report unpaid debt to credit bureaus in 2017
LOANLITB17	Finances	Loan literacy: Govt. can garnish wages for unpaid fed. loan debt in 2017
LOANLITC17	Finances	Loan literacy: Govt. can retain tax refunds, Soc Sec for loan debt in 2017
LOANPCT	Financial aid: Ratios	Ratio of loans to total aid (excluding Direct PLUS Loans to parents) 2011–12
LOANPCT2	Financial aid: Ratios	Ratio of loans to total aid (including Direct PLUS Loans to parents) 2011–12
LOANSRC	Financial aid: Package	Loan package by source of loan 2011–12
LOCALE	Institution characteristics	Degree of urbanization 2011–12
LOCALEST	Residence	Degree of urbanization of student's permanent address 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
LOCALR14	Residence	Housing when last enrolled 2014
LOCALR17	Residence	Housing when last enrolled in 2017
LOCALRES	Residence	Residence while enrolled 2011–12
LOCJOB12	Employment: While enrolled	Jobs while enrolled: on or off campus 2011–12
LOCJOB13	Employment: While enrolled	Jobs while enrolled: on or off campus 2012–13
LOCJOB14	Employment: While enrolled	Jobs while enrolled: on or off campus 2013–14
LOCJOB15	Employment: While enrolled	Jobs while enrolled: on or off campus in 2014–15
LOCJOB16	Employment: While enrolled	Jobs while enrolled: on or off campus in 2015–16
LOCJOB17	Employment: While enrolled	Jobs while enrolled: on or off campus in 2016–17
LOCJOB3Y	Employment: While enrolled	Jobs while enrolled: ever on campus through June 2014
LOCJOB6Y	Employment: While enrolled	Jobs while enrolled: ever on campus through June 2017
LOEXPWGE	Employment: Future	Expected job: lowest annual salary expected 2012
LOEXPWGE14	Employment: Future	Expected job: lowest annual salary expected in 2014
LOEXPWGE3Y	Employment	Percent change in lowest expected annual salary, change from 2012 to 2014
LOEXWGINC	Employment	Lowest expected annual salary increased 2012–2014
MAJ14	Education: Majors	Field of study: last enrolled any degree 2014 (23 categories)
MAJ17	Education: Majors	Field of study: last enrolled any degree through 2017 (23 categories)
MAJ2Y14	Education: Majors	Field of study: last enrolled any degree 2014 (11 categories)
MAJ2Y17	Education: Majors	Field of study: last enrolled any degree 2017 (11 categories)
MAJ2YAA14	Education: Majors	Field of study: last enrolled in associate's 2014 (11 categories)
MAJ2YAA17	Education: Majors	Field of study: last enrolled in associate's 2017 through (11 categories)
MAJ2YCT14	Education: Majors	Field of study: last enrolled in certificate 2014 (11 categories)
MAJ2YCT17	Education: Majors	Field of study: last enrolled in certificate 2017 through (11 categories)
MAJ4Y14	Education: Majors	Field of study: last enrolled any degree 2014 (10 categories)
MAJ4Y17	Education: Majors	Field of study: last enrolled any degree 2017 through (10 categories)
MAJ4YBA14	Education: Majors	Field of study: last enrolled in bachelor's 2014 (10 categories)
MAJ4YBA17	Education: Majors	Field of study: last enrolled in bachelor's 2017 through (10 categories)
MAJAA14	Education: Majors	Field of study: last enrolled in associate's 2014 (23 categories)
MAJAA17	Education: Majors	Field of study: last enrolled in associate's 2017 through (23 categories)
MAJBA14	Education: Majors	Field of study: last enrolled in bachelor's 2014 (23 categories)
MAJBA17	Education: Majors	Field of study: last enrolled in bachelor's 2017 through (23 categories)
MAJCHG14	Education: Majors	Major changes: number anywhere through June 2014
MAJCHG17	Education: Majors	Major changes: number anywhere through June 2017
MAJCHGAA14	Education: Majors	Major changes (associate's): number anywhere through June 2014
MAJCHGAA17	Education: Majors	Major changes (associate's): number anywhere through June 2017
MAJCHGBA14	Education: Majors	Major changes (bachelor's): number anywhere through June 2014
MAJCHGBA17	Education: Majors	Major changes (bachelor's): number anywhere through June 2017
MAJCHGFQ	Education: Majors	Majors: frequency of formally changed 2011–12
MAJCT14	Education: Majors	Field of study: last enrolled in certificate 2014 (23 categories)
MAJCT17	Education: Majors	Field of study: last enrolled in certificate through 2017 (23 categories)
MAJORCTE	Education: Majors	Major field of study in career and technical education (CTE) field
MAJORNSF	Education: Majors	Major field of study with a focus on NSF STEM fields 2011–12
MAJORS	Education: Majors	Field of study or major (detailed)
MAJORS23	Education: Majors	Field of study: undergraduate (23 categories) 2011–12
MAJORS2Y	Education: Majors	Field of study: undergraduate (11 categories) 2011–12
MAJORS4Y	Education: Majors	Field of study: undergraduate (10 categories) 2011–12
MENTH	Characteristics: Disability/Health	Health: mental 2012
MENTH14	Characteristics: Disability/Health	Health: mental 2014
MENTH17	Characteristics: Disability/Health	Health: mental in 2017
MENTHDIF	Characteristics: Disability/Health	Health: mental from 2012 to 2014
MENTHDIF3Y	Characteristics: Disability/Health	Health: change in mental from 2014 to 2017
MENTHDIF6Y	Characteristics: Disability/Health	Health: change in mental from 2012 to 2017
MERITAID	Financial aid: Total	Total merit-only grants 2011–12
MFT	Education: Attendance	First institution: months enrolled full time in 2011–12
MHT	Education: Attendance	First institution: months enrolled half time in 2011–12
MILSERV17	Student's characteristics	Military status through 2017
MILTYP14	Student's characteristics	Military type 2014
MILTYP17	Student's characteristics	Military type in 2017

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
MILTYPE	Student's characteristics	Military type 2012
MILTYPE17B	Student's characteristics	Military type in 2017 (for dependency)
MISSH	Characteristics: Disability/Health	Health: amount missed school/work in past 30 days: 2012
MISSH14	Characteristics: Disability/Health	Health: amount missed school/work in past 30 days: 2014
MISSH17	Characteristics: Disability/Health	Health: amount missed school/work in past 30 days: 2017
MJCHFI14	Education: Majors	Major changes: number at first institution through June 2014
MJCHFI17	Education: Majors	Major changes: number at first institution through June 2017
MJCHFIAA14	Education: Majors	Major changes (associate's): number at first institution through June 2014
MJCHFIAA17	Education: Majors	Major changes (associate's): number at first institution through June 2017
MJCHFIBA14	Education: Majors	Major changes (bachelor's): number at first institution through June 2014
MJCHFIBA17	Education: Majors	Major changes (bachelor's): number at first institution through June 2017
MJNSF14	Education: Majors	Major field of study with a focus on NSF STEM fields
MJNSF17	Education: Majors	Major field of study with a focus on NSF STEM fields
MLT	Education: Attendance	First institution: months enrolled less than half time in 2011–12
MLTJBNE12	Employment: History	Jobs while not enrolled: number of simultaneous jobs 2011–12
MLTJBNE13	Employment: History	Jobs while not enrolled: number of simultaneous jobs 2012–13
MLTJBNE14	Employment: History	Jobs while not enrolled: number of simultaneous jobs 2013–14
MLTJBNE15	Employment: History	Jobs while not enrolled: number of simultaneous jobs 2014–15
MLTJBNE16	Employment: History	Jobs while not enrolled: number of simultaneous jobs 2015–16
MLTJBNE17	Employment: History	Jobs while not enrolled: number of simultaneous jobs 2016–17
MNTJBNE12	Employment: History	Jobs while not enrolled: number of months worked 2011–12
MNTJBNE13	Employment: History	Jobs while not enrolled: number of months worked 2012–13
MNTJBNE14	Employment: History	Jobs while not enrolled: number of months worked 2013–14
MNTJBNE15	Employment: History	Jobs while not enrolled: number of months worked 2014–15
MNTJBNE16	Employment: History	Jobs while not enrolled: number of months worked 2015–16
MNTJBNE17	Employment: History	Jobs while not enrolled: number of months worked 2016–17
MNTJOB12	Employment: While enrolled	Jobs while enrolled: number of months worked 2011–12
MNTJOB13	Employment: While enrolled	Jobs while enrolled: number of months worked 2012–13
MNTJOB14	Employment: While enrolled	Jobs while enrolled: number of months worked 2013–14
MNTJOB15	Employment: While enrolled	Jobs while enrolled: number of months worked in 2014–15
MNTJOB16	Employment: While enrolled	Jobs while enrolled: number of months worked in 2015–16
MNTJOB17	Employment: While enrolled	Jobs while enrolled: number of months worked in 2016–17
MNTRENT	Finances	Monthly mortgage or rent amount 2012
MPT	Education: Attendance	First institution: months enrolled part time in 2011–12
MTGAMT14	Finances	Monthly mortgage or rent amount: 2014
MTGAMT17	Finances	Monthly mortgage or rent amount in: 2017
MULTJOB12	Employment: While enrolled	Jobs while enrolled: number of simultaneous jobs 2011–12
MULTJOB13	Employment: While enrolled	Jobs while enrolled: number of simultaneous jobs 2012–13
MULTJOB14	Employment: While enrolled	Jobs while enrolled: number of simultaneous jobs 2013–14
MULTJOB15	Employment: While enrolled	Jobs while enrolled: number of simultaneous jobs in 2014–15
MULTJOB16	Employment: While enrolled	Jobs while enrolled: number of simultaneous jobs in 2015–16
MULTJOB17	Employment: While enrolled	Jobs while enrolled: number of simultaneous jobs in 2016–17
NEEDAID	Financial aid: Total	Total need-based grant aid 2011–12
NETCST1	Financial aid: Net price	Student budget minus all aid 2011–12
NETCST10	Financial aid: Net price	Tuition and fees minus federal grants 2011–12
NETCST12	Financial aid: Net price	Tuition and fees minus state grants 2011–12
NETCST13	Financial aid: Net price	Tuition and fees minus institutional grants 2011–12
NETCST14	Financial aid: Net price	Tuition and fees minus all nonfederal grants 2011–12
NETCST15	Financial aid: Net price	Tuition and fees minus state and institutional grants 2011–12
NETCST16	Financial aid: Net price	Student budget minus federal and state grants 2011–12
NETCST17	Financial aid: Net price	Student budget minus all grants and loans in 2011–12
NETCST18	Financial aid: Net price	Student budget minus all aid except work-study 2011–12
NETCST2	Financial aid: Net price	Student budget minus federal grants 2011–12
NETCST20	Financial aid: Net price	Student budget minus all grants & loans (incl Direct PLUS to parents) 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
NETCST3	Financial aid: Net price	Student budget minus all grants 2011–12
NETCST4	Financial aid: Net price	Student budget minus grants and half of loans 2011–12
NETCST41	Financial aid: Net price	Student budget minus all aid except private loans 2011–12
NETCST9	Financial aid: Net price	Tuition and fees minus all grants 2011–12
NUMAA3Y	Education: Program	Associate's degree: number pursued through June 2014
NUMAA6Y	Education: Attainment	Associate's degree: number pursued through June 2017
NUMAAFI3Y	Education: Program	Associate's degree: number pursued at first institution through June 2014
NUMAAFI6Y	Education: Attainment	Associate's degree: number pursued at first institution through June 2017
NUMBA3Y	Education: Program	Bachelor's degree: number pursued through June 2014
NUMBA6Y	Education: Attainment	Bachelor's degree: number pursued through June 2017
NUMBAFI3Y	Education: Program	Bachelor's degree: number pursued at first institution through June 2014
NUMBAFI6Y	Education: Attainment	Bachelor's degree: number pursued at first institution through June 2017
NUMCT3Y	Education: Program	Certificate: number pursued through June 2014
NUMCT6Y	Education: Attainment	Certificate: number pursued through June 2017
NUMCTFI3Y	Education: Program	Certificate: number pursued at first institution through June 2014
NUMCTFI6Y	Education: Attainment	Certificate: number pursued at first institution through June 2017
NUMJBNE12	Employment: History	Jobs while not enrolled: number of jobs 2011–12
NUMJBNE13	Employment: History	Jobs while not enrolled: number of jobs 2012–13
NUMJBNE14	Employment: History	Jobs while not enrolled: number of jobs 2013–14
NUMJBNE15	Employment: History	Jobs while not enrolled: number of jobs in 2014–15
NUMJBNE16	Employment: History	Jobs while not enrolled: number of jobs in 2015–16
NUMJBNE17	Employment: History	Jobs while not enrolled: number of jobs in 2016–17
NUMJOB12	Employment: While enrolled	Jobs while enrolled: number of jobs 2011–12
NUMJOB13	Employment: While enrolled	Jobs while enrolled: number of jobs 2012–13
NUMJOB14	Employment: While enrolled	Jobs while enrolled: number of jobs 2013–14
NUMJOB15	Employment: While enrolled	Jobs while enrolled: number of jobs in 2014–15
NUMJOB16	Employment: While enrolled	Jobs while enrolled: number of jobs in 2015–16
NUMJOB17	Employment: While enrolled	Jobs while enrolled: number of jobs in 2016–17
OBereg	Institution characteristics	Region of first institution in 2011–12
OPCJOBANY	Employment: Foregone wages	Opportunity cost: work if had not attended college
OPCJOBearn	Employment: Foregone wages	Opportunity cost: annual earnings if had not attended college
OPCJOBHR	Employment: Foregone wages	Opportunity cost: hours worked per week if had not attended college
OPCNUMJOB	Employment: Foregone wages	Opportunity cost: number of jobs if had not attended college
ORGMAJ17	Education: Majors	Original declared field of study at first degree program (23 categories)
ORGMAJ2Y	Education: Majors	Original declared field of study at first degree program (11 categories)
ORGMAJ4Y	Education: Majors	Original declared field of study at first degree program (10 categories)
ORPHAN	Student's characteristics	Orphan, ward of court, emancipated minor, or in legal guardianship
ORPHHOME	Student's characteristics	Orphan or homeless
OTHFDGRT	Financial aid: Federal grants	Other federal grants (not Title IV) 2011–12
OTHGTAMT	Financial aid: Grants	Outside grants (private & employer): amount received 2011–12
OTHRSCR	Financial aid: Total	Outside sources total 2011–12
OTHTYPE	Financial aid: Total	Total other type of aid (Direct PLUS, job training, VA) 2011–12
PAGI	Finances: Income	Dependent students: parents adjusted gross income 2011–12
PARAMT14	Finances: Support	Help from parents: total amount received 2013–14
PARAMT17	Finances: Support	Help from parents: total amount received in 2016–17
PARBORN	Student's characteristics	Parent born in US, PR, or US Territory
PARDIE17	Parents and family	Parents deceased
PAREduc	Parents and family	Parents' highest education level
PARHELP	Finances: Support	Help from parents: housing, tuition, and other expenses 2011–12
PARHPAMT	Finances: Support	Help from parents: amount parents helped pay for expenses in 2011–12
PARSUPP	Socioemotional support	Supportive of PSE: parents 2011–12
PARSUPP14	Socioemotional support	Supportive of PSE: parents 2013–14
PCTALL	Finances: Income	Income percentile rank for all students 2012
PCTDEP	Finances: Income	Income percentile dependent students 2012
PCTENR2M	Institution characteristics	Percent enrolled: two or more races 2012

See notes at end of table.



**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
PCTENRAN	Institution characteristics	Percent enrolled: American Indian/Alaskan Native 2011–12
PCTENRAP	Institution characteristics	Percent enrolled: Asian/Pacific Islander 2011–12
PCTENRAS	Institution characteristics	Percent enrolled: Asian 2011–12
PCTENRBK	Institution characteristics	Percent enrolled: Black, non-Hispanic 2011–12
PCTENRHS	Institution characteristics	Percent enrolled: Hispanic 2011–12
PCTENRNH	Institution characteristics	Percent enrolled: Native Hawaiian or Other Pacific Islander 2011–12
PCTENRNR	Institution characteristics	Percent enrolled: Nonresident alien 2011–12
PCTENRUN	Institution characteristics	Percent enrolled: Race/ethnicity unknown 2011–12
PCTENRWH	Institution characteristics	Percent enrolled: White 2011–12
PCTINDEP	Finances: Income	Income percentile independent students 2012
PCTPOV	Finances: Income	Income percent of poverty level 2012
PDADED	Parents and family	Father's highest education level
PEERINT	Education: Experiences	Engagement: interactions with other students 2012
PEERINT14	Education: Experiences	Engagement: interactions with other students 2014
PELL12	Financial aid: Federal grants	Federal Pell Grant: amount received in 2011–12
PELL13	Financial aid: Federal grants	Federal Pell Grant: amount received in 2012–13
PELL14	Financial aid: Federal grants	Federal Pell Grant: amount received in 2013–14
PELL15	Financial aid: Federal grants	Federal Pell Grant: amount received in 2014–15
PELL16	Financial aid: Federal grants	Federal Pell Grant: amount received in 2015–16
PELL17	Financial aid: Federal grants	Federal Pell Grant: amount received in 2016–17
PELLCST	Financial aid: Ratios	Ratio of Pell Grant to student budget 2011–12
PELLCU14	Financial aid: Federal grants	Federal Pell Grant: cumulative amount received through 2014
PELLCU17	Financial aid: Federal grants	Federal Pell Grant: cumulative amount received through 2017
PELLPACK	Financial aid: Package	Aid package with Pell Grants 2011–12
PELLRAT1	Financial aid: Ratios	Ratio of Pell Grant to total aid 2011–12
PELLRAT2	Financial aid: Ratios	Ratio of Pell Grant to total grants 2011–12
PELYRS14	Financial aid: Federal grants	Federal Pell Grant: number of years received through 2014
PELYRS17	Financial aid: Federal grants	Federal Pell Grant: number of years received through 2017
PERCUM17	Financial aid: Perkins	Federal Perkins loan: cumulative amount borrowed for undergraduate or graduate education through 2017
PERKAMT	Financial aid: Perkins	Perkins loan 2011–12
PERUCUM17	Financial aid: Perkins	Federal Perkins loan: cumulative amount borrowed for undergraduate education through 2017
PFAMNM14	Parents and family	Dependent students: family size 2013–14
PFAMNM17	Parents and family	Dependent students: family size in 2016–17
PFAMNUM	Parents and family	Dependent students: family size 2012
PHYSH	Characteristics: Disability/Health	Health: physical in 2012
PHYSH14	Characteristics: Disability/Health	Health: physical in 2014
PHYSH17	Characteristics: Disability/Health	Health: physical in 2017
PHYSHDIF	Characteristics: Disability/Health	Health: physical from 2012 to 2014
PHYSHDIF3Y	Characteristics: Disability/Health	Health: physical from 2014 to 2017
PHYSHDIF6Y	Characteristics: Disability/Health	Health: change in physical from 2012 to 2017
PINCOL	Parents and family	Dependent students: number of family members in college 2011–12
PINCOL14	Parents and family	Dependent students: number family members in college 2013–14
PINCOL17	Parents and family	Dependent students: number family members in college in 2016–17
PLFYRS14	Financial aid: PLUS	Direct PLUS Loans to parents: number of years borrowed through 2014
PLFYRS17	Financial aid: PLUS	Direct PLUS Loans to parents: number of years borrowed through 2017
PLUCUM14	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed through 2014
PLUCUM17	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed through 2017
PLUS12	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed in 2011–12
PLUS13	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed in 2012–13
PLUS14	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed in 2013–14
PLUS15	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed in 2014–15
PLUS16	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed in 2015–16
PLUS17	Financial aid: PLUS	Direct PLUS Loans to parents: amount borrowed in 2016–17
PLUSPCT	Financial aid: Ratios	Ratio of Direct PLUS Loans to parents to total aid 2011–12
PMARIT14	Parents and family	Parents' marital status 2014
PMARIT17	Parents and family	Parents' marital status in 2017
PMARITAL	Parents and family	Parents' marital status 2012

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
PMOMED	Parents and family	Mother's highest education level
POCCMN	Employment: Pre-Postsecondary	PSE Delayers: number of years employed at job held prior to 2011–12
PRAT3Y	Education: Persistence	Persistence anywhere through June 2014
PRAT6Y	Education: Persistence	Persistence anywhere through June 2017
PRATBA6Y	Education: Persistence	Persistence anywhere (incl. BA attainers) through June 2017
PRATY1	Education: Attainment	Attainment and enrollment during 2011–12
PRATY2	Education: Attainment	Attainment and enrollment during 2012–13
PRATY3	Education: Attainment	Attainment and enrollment during 2013–14
PRATY4	Education: Attainment	Attainment and enrollment in 2014–15
PRATY5	Education: Attainment	Attainment and enrollment in 2015–16
PRATY6	Education: Attainment	Attainment and enrollment in 2016–17
PRECONF	Education: Experiences	Academic confidence: prior to attending school 2011–12
PRICUM14	Financial aid: Private loans	Private (alternative) loans: cumulative amount borrowed through 2014
PRICUM17	Financial aid: Private loans	Private (alternative) loans: cumulative amount borrowed through 2017
PRIMLANG	Student's characteristics	English primary language spoken 2012
PRIMLGQ	Student's characteristics	Frequency of speaking non-English language with primary caregiver 2012
PRIVAI	Financial aid: Grants	Private source grants: amount received in 2011–12
PRIVAI14	Financial aid: Grants	Private source grants: amount received in 2013–14
PRIVAI17	Financial aid: Other	Private source grants: amount received 2016–17
PRIVAMT	Financial aid: Total	Total private sources grants and loans 2011–12
PRIVLN17	Financial aid: PLUS	Private (alternative) loans: amount borrowed 2016–17
PRIVLOAN	Financial aid: Private loans	Private (alternative) loans 2011–12
PRIVLRAT	Financial aid: Ratios	Ratio of private loans to total loans 2011–12
PRIVPCT	Financial aid: Ratios	Ratio of private loans to total aid 2011–12
PRJBAMT	Employment: Pre-Postsecondary	PSE delayers: estimated annual earnings at job held prior to 2011–12
PRLVL3Y	Education: Attainment	Attainment or level of last institution enrolled through June 2014
PRLVL6Y	Education: Attainment	Attainment or level of last institution enrolled through June 2017
PROUT1	Education: Persistence	Cumulative persistence and attainment anywhere through 2011–12
PROUT2	Education: Persistence	Cumulative persistence and attainment anywhere through 2012–13
PROUT3	Education: Persistence	Cumulative persistence and attainment anywhere through 2013–14
PROUT4	Education: Persistence	Cumulative persistence and attainment anywhere through 2014–15
PROUT5	Education: Persistence	Cumulative persistence and attainment anywhere through 2015–16
PROUT6	Education: Persistence	Cumulative persistence and attainment anywhere through 2016–17
PROUTF1	Education: Persistence	Cumulative retention and attainment at first institution through 2011–12
PROUTF2	Education: Persistence	Cumulative retention and attainment at first institution through 2012–13
PROUTF3	Education: Persistence	Cumulative retention and attainment at first institution through 2013–14
PROUTF3Y	Education: Persistence	Retention at the first institution through June 2014
PROUTF4	Education: Persistence	Cumulative retention and attainment at first institution through 2014–15
PROUTF5	Education: Persistence	Cumulative retention and attainment at first institution through 2015–16
PROUTF6	Education: Persistence	Cumulative retention and attainment at first institution through 2016–17
PROUTF6Y	Education: Persistence	Retention at first institution through June 2017
PRVHRSWK	Employment: Pre-Postsecondary	PSE delayers: hours worked per week at job held prior to 2011–12
PRVJOB	Employment: Pre-Postsecondary	PSE delayers: jobs for pay prior to 2011–12
PRVMTHWK	Employment: Pre-Postsecondary	PSE delayers: months worked in year prior to 2011–12
PRVOCC	Employment: Pre-Postsecondary	PSE delayers: occupation held prior to 2011–12
RAASIAN	Student's characteristics	Race: Asian
RABLACK	Student's characteristics	Race: Black or African American
RACE	Student's characteristics	Race/ethnicity (with multiple)
RACE2	Student's characteristics	Race/ethnicity (with separate multiple and foreign student categories)
RACECEN	Student's characteristics	Race/ethnicity census categories
RACESEX	Student's characteristics	Race/ethnicity (with multiple) and gender
RAINDIAN	Student's characteristics	Race: American Indian or Alaska Native
RAINDTRB	Student's characteristics	Race: American Indian or Alaska Native recognized tribe
RAISLAND	Student's characteristics	Race: Native Hawaiian or Other Pacific Islander
RAWHITE	Student's characteristics	Race: White
RCNTGRAD	High school	Recent (2011) high school graduate
REANOAPA	Financial aid: Application	Reason for not applying for aid: did not want to take on debt 2011–12
REANOAPB	Financial aid: Application	Reason for not applying for aid: forms were too much work 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
REANOAPC	Financial aid: Application	Reason for not applying for aid: no info about how to apply 2011–12
REANOAPD	Financial aid: Application	Reason for not applying for aid: no need 2011–12
REANOAPE	Financial aid: Application	Reason for not applying for aid: thought ineligible 2011–12
REANOAPF	Financial aid: Application	Reason for not applying for aid: other 2011–12
REGSUPP14	Education: Experiences	Regular monthly support in 2014
REGSUPP17	Education: Experiences	Regular monthly support in 2017
REGSUPPEVR	Education: Experiences	Ever regularly supported family or friends
REMENGL	Education: Courses	Remedial courses: number taken in English in 2011–12
REMETOOK	Education: Courses	Remedial courses: took in 2011–12
REMEV3Y	Education: Courses	Remedial courses: ever taken through 2013–14
REMEV6Y	Education: Courses	Remedial courses: ever taken through 2016–17
REMMATH	Education: Courses	Remedial courses: number taken in math in 2011–12
REMREAD	Education: Courses	Remedial courses: number taken in reading in 2011–12
REMSTAT	Education: Courses	Remedial courses: year taken and subjects taken in 2011–12
REMWRITE	Education: Courses	Remedial courses: number taken in writing in 2011–12
REPLN17	Financial aid: Debt and repayment	Loan repayment (federal): plan type in 2017
RISKIND2	Student's characteristics	Index of risk and nontraditional students, modified 2012
RISKINDX	Student's characteristics	Index of risk and nontraditional students 2012
SAGI	Finances: Income	Independent students: adjusted gross income 2012
SALARY14	Employment: Year 3 job	Job 2014: annual salary 2014
SALARY17	Employment: Year 3 job	Job 2017: annual salary in 2017
SALOLD14	Employment: Year 3 job	Job 2014: salary comparable to BPS:04/06
SALOLD17	Employment: Year 3 job	Job 2017: salary comparable to BPS:04/09
SAMEJOB	Employment: Pre-Postsecondary	PSE delayers: same or similar job while enrolled 2011–12
SAMESTAT	Residence	Attend institution in state of legal residence 2011–12
SECTOR10	Institution type	Sector of first institution - 10 categories in 2011–12
SEEND3Y	Education: Attendance	Enrollment spell (first): date ended through June 2014
SEEND6Y	Education: Attendance	Enrollment spell (first): date ended through June 2017
SEINT3Y	Education: Attendance	Enrollment spell (first): intensity through June 2014
SEINT6Y	Education: Attendance	Enrollment spell (first): intensity through June 2017
SELECT3Y	Institution characteristics	Selectivity of last institution enrolled through June 2014
SELECT6Y	Institution characteristics	Selectivity of last institution enrolled through June 2017
SELECTV2	Institution characteristics	Selectivity of first institution (4-year institutions) 2011–12
SELFEMP14	Employment: History	All jobs: ever self-employed through June 2014
SELFEMP17	Employment	All jobs: ever self-employed from 2015 to 2017
SEMEN3Y	Education: Attendance	Enrollment spell (first): months enrolled through June 2014
SEMEN6Y	Education: Attendance	Enrollment spell (first): months enrolled through June 2017
SENUM3Y	Education: Attendance	Enrollment spells: number through June 2014
SENUM6Y	Education: Attendance	Enrollment spells: number through June 2017
SEOGAMT	Financial aid: Federal grants	Federal Supplemental Educational Opportunity Grant (SEOG) 2011–12
SEROLE14	Employment: While enrolled	Jobs while enrolled: primarily student or employee 2014
SEROLE17	Employment: While enrolled	Jobs while enrolled: primarily student or employee through 2017
SFAMNM14	Student's family	Independent students: family size 2013–14
SFAMNM17	Student's family	Independent students: family size in 2016–17
SFAMNUM	Student's family	Independent students: family size 2012
SIBCOLFT	Parents and family	Sibling attended college first 2011–12
SIBINCOL	Parents and family	Dependent students: have siblings in college 2011–12
SIEND3Y	Education: Attendance	Institution spell (first): date ended through June 2014
SIEND6Y	Education: Attendance	Institution spell (first): date ended through June 2017
SIINT3Y	Education: Attendance	Institution spell (first): intensity through June 2014
SIINT6Y	Education: Attendance	Institution spell (first): intensity through June 2017
SINCOL	Student's family	Independent students: number of family members in college 2011–12
SINCOL14	Student's family	Independent students: number of family members in college 2013–14
SINCOL17	Student's family	Independent students: number of family members in college in 2016–17
SINGLPAR	Student's family	Single parent independent students 2012
SMAR14	Student's characteristics	Student's marital status 2014
SMAR17	Student's characteristics	Student's marital status in 2017
SMARITAL	Student's characteristics	Marital status 2012
SNEED1	Financial aid: Need	Student budget minus EFC 2011–12

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
SNEED2	Financial aid: Need	Student budget minus c minus total aid 2011–12
SNEED3	Financial aid: Need	Student budget minus EFC minus federal grants 2011–12
SNEED4	Financial aid: Need	Student budget minus EFC minus grants and federal need aid 2011–12
SNEED5	Financial aid: Need	Student budget minus EFC minus all grants 2011–12
SNEED7	Financial aid: Need	Student budget minus EFC, federal and state grants 2011–12
SNEED8	Financial aid: Need	Student budget minus EFC & federal, state, and other grants 2011–12
SNEED9	Financial aid: Need	Student budget minus EFC & all aid except private loans 2011–12
SOCSATIS	Education: Experiences	Engagement: satisfaction with social experience at first institution 2012
SOCSATIS14	Education: Experiences	Engagement: satisfaction with social experience at first institution in 2014
SPINCOL	Student's family	Independent students: spouse attending college 2011–12
SPNM13	Student's characteristics	Not married to spouse in 2013
SPNM16	Student's characteristics	Not married to spouse in 2016
SPPSUPP	Socioemotional support	Supportive of PSE: spouse 2011–12
SPPSUPP14	Socioemotional support	Supportive of PSE: spouse 2013–14
SPSED14	Student's family	Spouse's highest education level 2014
SPSED17	Student's family	Spouse's highest education level in 2017
SPSINC	Finances: Income	Independent students: spouse's income 2012
STAFCT1	Financial aid: Direct Loans	Direct Subsidized Loan maximum 2011–12
STAFCT2	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loan total maximum 2011–12
STAFCTYPE	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loan types received 2011–12
STAPCT	Financial aid: Ratios	Ratio of state aid to total aid
STATEAMT	Financial aid: State	State aid total 2011–12
STATNEED	Financial aid: State	State need-based grants 2011–12
STATNOND	Financial aid: State	State non-need & merit grants 2011–12
STDT3Y	Education: Stopout	Stopout (first): date began anywhere through June 2014
STDT6Y	Education: Stopout	Stopout (first): date began anywhere through June 2017
STDTFI3Y	Education: Stopout	Stopout (first): date began at first institution through June 2014
STDTFI6Y	Education: Stopout	Stopout (first): date began at first institution through June 2017
STDYABR3Y	Education: Experiences	Ever studied abroad while attending first institution through June 2014
STDYABR6Y	Education: Experiences	Ever studied abroad while attending first institution through June 2017
STEMMAJ	Education: Majors	Major field of study with a focus on STEM fields 2011–12
STEMMAJ17	Education: Majors	Major field of study with a focus on STEM fields in 2016–17
STFCUM14	Financial aid: Direct Loans	Direct Sub. and Unsub. Loans: cumulative amt borrowed through 2014
STFCUM17	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: cumulative amount borrowed for undergraduate and graduate education through 2017
STFGCUM17	Financial aid: Direct Loans	Direct Unsubsidized Loans: cumulative amount borrowed for graduate education through 2017
STFUCUM17	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: cumulative amount borrowed for undergraduate education through 2017
STFUGY12	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate education in 2011–12
STFUGY13	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate education in 2012–13
STFUGY14	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate education in 2013–14
STFUGY15	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate education in 2014–15
STFUGY16	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate education in 2015–16
STFUGY17	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate education in 2016–17
STFY12	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: total borrowed in 2011–12
STFY13	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: total borrowed in 2012–13
STFY14	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: total borrowed in 2013–14
STFY15	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate or graduate education in 2014–15
STFY16	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate or graduate education in 2015–16

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
STFY17	Financial aid: Direct Loans	Direct Subsidized and Unsubsidized Loans: amount borrowed for undergraduate or graduate education in 2016–17
STGRPCT	Financial aid: Ratios	Ratio of state grants to total aid 2011–12
STGTAMT	Financial aid: State	State grants total 2011–12
STLNAMT	Financial aid: State	State loans 2011–12
STLSTUL17	Financial aid: Direct Loans	Direct Subsidized or Unsubsidized Loans: last undergraduate class level borrowed through 2017
STLSTY17	Financial aid: Direct Loans	Direct Subsidized or Unsubsidized Loans: last academic year borrowed through 2017
STMERIT	Financial aid: State	State merit-only grants 2011–12
STMN3Y	Education: Stopout	Stopout (first): number of months 2014
STMN6Y	Education: Stopout	Stopout (first): number of months 2017
STNOND1	Financial aid: State	State non-need grants 2011–12
STNUFI3Y	Education: Stopout	Stopouts: number at first institution through June 2014
STNUFI6Y	Education: Stopout	Stopouts: number at first institution through June 2017
STNUM3Y	Education: Stopout	Stopouts: number anywhere through June 2014
STNUM6Y	Education: Stopout	Stopouts: number anywhere through June 2017
STSCUM14	Financial aid: Direct Loans	Direct Subsidized Loans: cumulative amount borrowed through 2014
STSCUM17	Financial aid: Direct Loans	Direct Subsidized Loans: cumulative amount borrowed for undergraduate education through 2017
STSTA1	Education: Stopout	Stopouts: status: anywhere during 2011–12
STSTA2	Education: Stopout	Stopouts: status anywhere during 2012–13
STSTA3	Education: Stopout	Stopouts: status anywhere during 2013–14
STSTA4	Education: Stopout	Stopouts: status: anywhere in 2014–15
STSTA5	Education: Stopout	Stopouts: status anywhere in 2015–16
STSTA6	Education: Stopout	Stopouts: status anywhere in 2016–17
STSUB12	Financial aid: Direct Loans	Direct Subsidized Loans: total borrowed in 2011–12
STSUB13	Financial aid: Direct Loans	Direct Subsidized Loans: total borrowed in 2012–13
STSUB14	Financial aid: Direct Loans	Direct Subsidized Loans: total borrowed in 2013–14
STSUB15	Financial aid: Direct Loans	Direct Subsidized Loans: amount borrowed for undergraduate education in 2014–15
STSUB16	Financial aid: Direct Loans	Direct Subsidized Loans: amount borrowed for undergraduate education in 2015–16
STSUB17	Financial aid: Direct Loans	Direct Subsidized Loans: amount borrowed for undergraduate education in 2016–17
STUCUM14	Financial aid: Direct Loans	Direct Unsubsidized Loans: cumulative amount borrowed through 2014
STUCUM17	Financial aid: Direct Loans	Direct Unsubsidized Loans: cumulative amount borrowed for undergraduate or graduate education through 2017
STUDMULT	Education: Attendance	Number of institutions attended in 2011–12
STUGUCUM17	Financial aid: Direct Loans	Direct Unsubsidized Loans: cumulative amount borrowed for undergraduate education through 2017
STUGUNS12	Financial aid: Direct Loans	Direct Unsubsidized Loans: amount borrowed for undergraduate education in 2011–12
STUGUNS13	Financial aid: Direct Loans	Direct Unsubsidized Loans: amount borrowed for undergraduate education in 2012–13
STUGUNS14	Financial aid: Direct Loans	Direct Unsubsidized Loans: amount borrowed for undergraduate education in 2013–14
STUGUNS15	Financial aid: Direct Loans	Direct Unsubsidized Loans: amount borrowed for undergraduate education in 2014–15
STUGUNS16	Financial aid: Direct Loans	Direct Unsubsidized Loans: amount borrowed for undergraduate education in 2015–16
STUGUNS17	Financial aid: Direct Loans	Direct Unsubsidized Loans: amount borrowed for undergraduate education in 2016–17
STUSTATE	Residence	State of legal residence 2011–12
STWKAMT	Financial aid: State	State work-study 2011–12
STYB3Y	Education: Stopout	Stopout (first): academic year began anywhere through June 2014
STYB6Y	Education: Stopout	Stopout (first): academic year began anywhere through June 2017
STYBFI3Y	Education: Stopout	Stopout (first): academic year began at first institution through June 2014

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
SUBCUM17	Financial aid: Borrowed cumulative	Direct Sub. and Perkins Loans: cumulative amount borrowed through 2017
SUBLOAN	Financial aid: Federal loans	Federal subsidized loans (Direct Subsidized & Perkins) 2011–12
T4LNAMT1	Financial aid: Federal loans	Title IV loans (excludes Direct PLUS Loans to parents) 2011–12
T4LNAMT2	Financial aid: Federal loans	Title IV loans (includes Direct PLUS Loans to parents) 2011–12
T4TCUM17	Financial aid: Borrowed cumulative	Title IV loans (including Parent PLUS): cumulative borrowed for undergraduate or graduate education through 2017
T4TDUE17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in interest and principal for undergraduate and graduate education as of 2017
T4TGCUM17	Financial aid: Federal loans	Title IV loans: cumulative amount borrowed for graduate education through 2017
T4TGDUE17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in interest and principal on loans borrowed for graduate education as of 2017
T4TGINT17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in interest on loans borrowed for graduate education as of 2017
T4TGOWE17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in principal on loans borrowed for graduate education as of 2017
T4TINT17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in interest for undergraduate and graduate education as of 2017
T4TOWE17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in principal for undergraduate and graduate education as of 2017
T4TUCUM17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): cumulative amount borrowed for undergraduate through 2017
T4TUDUE17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in interest and principal on loans borrowed for undergraduate education as of 2017
T4TUGLN12	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount borrowed for undergraduate education in 2011–12
T4TUGLN13	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount borrowed for undergraduate education in 2012–13
T4TUGLN14	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount borrowed for undergraduate education in 2013–14
T4TUGLN15	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount borrowed for undergraduate education in 2014–15
T4TUGLN16	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount borrowed for undergraduate education in 2015–16
T4TUGLN17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount borrowed for undergraduate education in 2016–17
T4TUINT17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in interest on loans for undergraduate education as of 2017
T4TUOWE17	Financial aid: Federal loans	Title IV loans (including Parent PLUS): amount owed in principal on loans borrowed for undergraduate education as of 2017
T4XCUM17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): cumulative amount borrowed for undergraduate or graduate education through 2017
T4XDUE17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount owed in interest and principal for undergraduate and graduate education as of 2017
T4XINT17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount owed in interest for undergraduate and graduate education as of 2017
T4XOWE17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount owed in principal for undergraduate and graduate education as of 2017
T4XUCUM17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): cumulative amount borrowed for undergraduate education through 2017
T4XUDUE17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount owed in interest and principal on loans borrowed for undergraduate education as of 2017
T4XUGLN12	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount borrowed for undergraduate education in 2011–12
T4XUGLN13	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount borrowed for undergraduate education in 2012–13
T4XUGLN14	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount borrowed for undergraduate education in 2013–14
T4XUGLN15	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount borrowed for undergraduate education in 2014–15

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
T4XUGLN16	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount borrowed for undergraduate education in 2015–16
T4XUGLN17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount borrowed for undergraduate education in 2016–17
T4XUINT17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount owed in interest on loans for undergraduate education as of 2017
T4XUOWE17	Financial aid: Federal loans	Title IV loans (excluding Parent PLUS): amount owed in principal on loans borrowed for undergraduate education as of 2017
TEACTDER	High school	ACT derived composite score
TESATDER	High school	SAT derived composite score
TESATMDE	High school	SAT derived math score
TESATVDE	High school	SAT derived verbal score
TETOOK	High school	Took SAT or ACT exams
TFATT3Y	Education: Transfer	Transfer after attainment through 2014
TFATT6Y	Education: Transfer	Transfer after attainment through 2017
TFDEG3Y	Education: Transfer	Transfer (first): degree program 2014
TFDEG6Y	Education: Transfer	Transfer (first): degree program through 2017
TFDTDI3Y	Education: Transfer	Transfer (first): date began at destination institution 2014
TFDTDI6Y	Education: Transfer	Transfer (first): date began at destination institution through 2017
TFDTOI3Y	Education: Transfer	Transfer (first): date left origin institution 2014
TFDTOI6Y	Education: Transfer	Transfer (first): date left origin institution through 2017
TFEDAID	Financial aid: Federal	Total federal aid (excludes Veterans/DoD) 2011–12
TFEDAID2	Financial aid: Federal	Total federal aid (includes Veterans/DoD) 2011–12
TFEDAID6	Financial aid: Federal	Total federal aid (excludes Direct PLUS to parents and Veterans/DoD) 2011–12
TFEDGRT	Financial aid: Federal grants	Total federal grants 2011–12
TFEDGRT2	Financial aid: Federal	Total federal grants and Veterans/DoD 2011–12
TFEDLN	Financial aid: Federal loans	Total federal loans (excludes Direct PLUS Loans to parents) 2011–12
TFEDLN2	Financial aid: Federal loans	Total federal loans (includes Direct PLUS Loans to parents) 2011–12
TFEDWRK	Financial aid: Federal	Federal work-study 2011–12
TFIFTY3Y	Education: Transfer	Transfer (first): destination institution type 2014
TFIFTY6Y	Education: Transfer	Transfer (first): destination institution type through 2017
TFILTY3Y	Education: Transfer	Transfer (last): destination institution type 2014
TFILTY6Y	Education: Transfer	Transfer (last): destination institution type through 2017
TFINCT3Y	Education: Transfer	Transfer direction (first): institution control 2014
TFINCT6Y	Education: Transfer	Transfer direction (first): institution control through 2017
TFINLV3Y	Education: Transfer	Transfer direction (first): institution level 2014
TFINLV6Y	Education: Transfer	Transfer direction (first): institution level through 2017
TFINOI3Y	Education: Transfer	Transfer (first): intensity pattern before transfer 2014
TFINOI6Y	Education: Transfer	Transfer (first): intensity pattern before transfer through 2017
TFINTY6Y	Education: Transfer	Transferred to any 4-year or public 2-year institution through 2017
TFMN2I3Y	Education: Transfer	Transfer (first): months between institutions 2014
TFMN2I6Y	Education: Transfer	Transfer (first): months between institutions through 2017
TFMNDI3Y	Education: Transfer	Transfer (first): months elapsed before destination institution 2014
TFMNFT3Y	Education: Transfer	Transfer (first): full-time months before destination as of 2014
TFMNFT6Y	Education: Transfer	Transfer (first): full-time months before destination through 2017
TFMNOI3Y	Education: Transfer	Transfer (first): months elapsed at origin institution 2014
TFMNOI6Y	Education: Transfer	Transfer (first): months elapsed at origin institution through 2017
TFMNPT3Y	Education: Transfer	Transfer (first): part-time months before destination as of 2014
TFMNPT6Y	Education: Transfer	Transfer (first): part-time months before destination through 2017
TFMNT3Y	Education: Transfer	Transfer (first): months enrolled before destination as of 2014
TFMNT6Y	Education: Transfer	Transfer (first): months enrolled before destination through 2017
TFNPATT3Y	Education: Transfer	Ever attempt to transfer credits from first institution through June 2014
TFNPATT6Y	Education: Transfer	Ever attempt to transfer credits from first institution through June 2017
TFNUM3Y	Education: Transfer	Transfer status through June 2014
TFNUM6Y	Education: Transfer	Transfer status through June 2017
TFTYPE1	Education: Transfer	Transfer status during 2011–12
TFTYPE2	Education: Transfer	Transfer status during 2012–13
TFTYPE3	Education: Transfer	Transfer status during 2013–14

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
TFTYPE3Y	Education: Transfer	Transfer direction (first): type
TFTYPE4	Education: Transfer	Transfer status in 2014–15
TFTYPE5	Education: Transfer	Transfer status in 2015–16
TFTYPE6	Education: Transfer	Transfer status in 2016–17
TFTYPE6Y	Education: Transfer	Transfer direction (first): type
TFYRDI3Y	Education: Transfer	Transfer (first): year began at destination institution
TFYRDI6Y	Education: Transfer	Transfer (first): year began at destination institution
TFYROI3Y	Education: Transfer	Transfer (first): year left origin institution
TFYROI6Y	Education: Transfer	Transfer (first): year left origin institution
TGRTLN	Financial aid: Total	Total loans and grants 2011–12
TITIVAMT	Financial aid: Federal	Total federal Title IV aid 2011–12
TNFEDAID	Financial aid: Total	Total nonfederal aid 2011–12
TNFEDGRT	Financial aid: Total	Total nonfederal grants 2011–12
TNFEDLN	Financial aid: Total	Total nonfederal loans 2011–12
TOTAID	Financial aid: Total	Total aid amount 2011–12
TOTAID2	Financial aid: Total	Total federal (Title IV), state, & institutional aid 2011–12
TOTAID4	Financial aid: Total	Total aid excluding Direct PLUS Loans to parents 2011–12
TOTAID5	Financial aid: Total	Total aid excluding work-study 2011–12
TOTAID6	Financial aid: Total	Total aid (excludes Direct PLUS Loans to parents and Veterans/DoD) 2011–12
TOTAID7	Financial aid: Total	Total aid (excludes Veterans/DoD) 2011–12
TOTAID8	Financial aid: Total	Total aid (excludes private loans) private loans 2011–12
TOTGRT	Financial aid: Total	Total grants 2011–12
TOTGRT2	Financial aid: Total	Total grants and Veterans/DoD 2011–12
TOTGRT4	Financial aid: Total	Total state and institutional grants 2011–12
TOTLOAN	Financial aid: Total	Total loans (excluding Direct PLUS Loans to parents) 2011–12
TOTLOAN2	Financial aid: Total	Total loans (including Direct PLUS Loans to parents) 2011–12
TOTLOAN3	Financial aid: Total	Total loans excluding private loans 2011–12
TOTNOND3	Financial aid: Total	Institutional no-need and state no-need grants 2011–12
TOTWKST	Financial aid: Total	Total work-study 2011–12
TRIO	Student's characteristics	TRIO program eligibility criteria 2011–12
TRLNPAVT	Residence	Traveling from residence to first institution: minutes per day 2011–12
TRLNPAVT14	Residence	Traveling from residence to last school enrolled: minutes per day 2014
TRLNPDAY	Residence	Traveling between residence and first institution: days per week 2011–12
TRLNPDAY14	Residence	Traveling from residence to last school enrolled: days per week 2014
TRLWKAVT	Employment	Traveling from residence to work: average minutes per day 2011–12
TRLWKDAY	Employment	Traveling between residence and work: days per week 2011–12
TUITION2	Institution expenses	Tuition and fees paid 2011–12
UGDEG	Education: Program	Undergraduate degree program 2011–12
UGDEG14	Education: Program	Degree program when last enrolled 2014
UGDEG17	Education: Program	Degree program when last enrolled through 2017
UGDEGAA	Education: Program	Associate's degree type 2011–12
UGLVL14	Education: Program	Class level at most recent institution 2014
UMNEED1	Financial aid: Need	Would have borrowed more money in 2011–12
UMNEED2	Financial aid: Need	Additional amount would have borrowed in 2011–12
UNEMCP17	Employment	Received unemployment benefits while unemployed through 2017
UNEMPL14	Employment: Not working	Unemployment: currently looking for a job 2014
UNEMPL17	Employment: Not working	Unemployment: currently looking for a job 2017
UNEMPLN14	Employment: Not working	Unemployment: number of spells through June 2014
UNEMPLN17	Employment: Not working	Unemployment: number of spells through June 2017
UNEMPM14	Employment: Not working	Unemployment: number of months through June 2014
UNEMPM17	Employment: Not working	Unemployment: number of months through June 2017
UNEMPST14	Employment: Not working	Not working in 2014
UNEMPST17	Employment: Not working	Not working in 2017
UNEMPSTR14	Employment: Not working	Unemployment: looking for work through June 2014
UNEMPSTR17	Employment	Unemployment: looking for work through June 2017
UNEMPT14	Employment: Not working	Unemployment: longest period in months through June 2014
UNEMPT17	Employment: Not working	Unemployment: longest period in months through June 2017

See notes at end of table.



**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
UNSBLOAN	Financial aid: Total	Total unsubsidized loans (all sources) 2011–12
USBORN	Student's characteristics	Born in the U.S. (student)
USEACAD	Education: Services	PSE services used: academic advising in 2011–12
USEACAD14	Education: Services	PSE services used: academic advising in 2013–14
USEACSP	Education: Services	PSE services used: academic support services in 2011–12
USEACSP14	Education: Services	PSE services used: academic support services in 2013–14
USECPP	Education: Services	PSE services used: career services in 2011–12
USECPP14	Education: Services	PSE services used: career services in 2013–14
USEFINAID	Education: Services	PSE services used: financial aid services in 2011–12
USEFINAID14	Education: Services	PSE services used: financial aid services in 2013–14
USEHLTH	Education: Services	PSE services used: student health services in 2011–12
USEHLTH14	Education: Services	PSE services used: student health services in 2013–14
USENONE	Education: Services	PSE services used: none in 2011–12
USENONE14	Education: Services	PSE services used: none in 2013–14
VADODAMT	Financial aid: Federal	Veterans benefits and Department of Defense 2011–12
VETBENY12	Financial aid: Federal	Veterans/DoD benefits 2011–12
VETBENY13	Financial aid: Federal	Veterans/DoD benefits 2012–13
VETBENY14	Financial aid: Federal	Veterans/DoD benefits 2013–14
VETBENY15	Financial aid: Federal	Veterans/DoD benefits 2014–15
VETBENY16	Financial aid: Federal	Veterans/DoD benefits 2015–16
VETBENY17	Financial aid: Federal	Veterans/DoD benefits in 2016–17
VETCUM	Military service	Cumulative veterans benefits
VETERAN	Student's characteristics	Veteran status 2011–12
VOCHelp	Financial aid: Total	Vocational rehabilitation and training 2011–12
VOTE17	Student's characteristics	Vote 2016: Voted in last presidential election
WDDEBT17	Finances	Unexpected money: pay off some household debts in 2017
WDDONAT17	Finances	Unexpected money: donate it to family or charity in 2017
WDOTH17	Finances	Unexpected money: other in 2017
WDSAVE17	Finances	Unexpected money: put it in savings or investments in 2017
WDSPND17	Finances	Unexpected money: spend it on something the household wants or needs in 2017
WORKPCT	Financial aid: Ratios	Ratio of work-study to total aid 2011–12
WRKTSKS	Employment: Values	Job nonmonetary benefits: importance of making decisions 2012
WRKTSKS14	Employment: Values	Job nonmonetary benefits: importance of making decisions 2014
WRKTSKS17	Employment: Values	Job nonmonetary benefits: importance of making decisions in 2017
WRKTSKS6Y	Employment	Job nonmonetary benefits: change to importance of making decisions from 2012 to 2017
WTA000	Survey Weights	BPS:17 Cross-sectional student analysis weight (product of B17WT1 * B17AWT1 * B17AWT2 * B17AWT3 * B17AWT4 * B17AWT5 * B17AWT6)
WTA001	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 1
WTA002	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 2
WTA003	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 3
WTA004	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 4
WTA005	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 5
WTA006	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 6
WTA007	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 7
WTA008	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 8
WTA009	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 9
WTA010	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 10
WTA011	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 11
WTA012	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 12
WTA013	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 13
WTA014	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 14
WTA015	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 15
WTA016	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 16
WTA017	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 17
WTA018	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 18
WTA019	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 19

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
WTA020	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 20
WTA021	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 21
WTA022	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 22
WTA023	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 23
WTA024	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 24
WTA025	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 25
WTA026	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 26
WTA027	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 27
WTA028	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 28
WTA029	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 29
WTA030	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 30
WTA031	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 31
WTA032	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 32
WTA033	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 33
WTA034	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 34
WTA035	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 35
WTA036	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 36
WTA037	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 37
WTA038	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 38
WTA039	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 39
WTA040	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 40
WTA041	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 41
WTA042	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 42
WTA043	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 43
WTA044	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 44
WTA045	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 45
WTA046	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 46
WTA047	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 47
WTA048	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 48
WTA049	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 49
WTA050	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 50
WTA051	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 51
WTA052	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 52
WTA053	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 53
WTA054	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 54
WTA055	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 55
WTA056	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 56
WTA057	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 57
WTA058	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 58
WTA059	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 59
WTA060	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 60
WTA061	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 61
WTA062	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 62
WTA063	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 63
WTA064	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 64
WTA065	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 65
WTA066	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 66
WTA067	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 67
WTA068	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 68
WTA069	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 69
WTA070	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 70
WTA071	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 71
WTA072	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 72
WTA073	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 73
WTA074	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 74
WTA075	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 75
WTA076	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 76
WTA077	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 77
WTA078	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 78

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
WTA079	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 79
WTA080	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 80
WTA081	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 81
WTA082	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 82
WTA083	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 83
WTA084	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 84
WTA085	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 85
WTA086	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 86
WTA087	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 87
WTA088	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 88
WTA089	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 89
WTA090	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 90
WTA091	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 91
WTA092	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 92
WTA093	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 93
WTA094	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 94
WTA095	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 95
WTA096	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 96
WTA097	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 97
WTA098	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 98
WTA099	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 99
WTA100	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 100
WTA101	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 101
WTA102	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 102
WTA103	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 103
WTA104	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 104
WTA105	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 105
WTA106	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 106
WTA107	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 107
WTA108	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 108
WTA109	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 109
WTA110	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 110
WTA111	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 111
WTA112	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 112
WTA113	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 113
WTA114	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 114
WTA115	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 115
WTA116	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 116
WTA117	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 117
WTA118	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 118
WTA119	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 119
WTA120	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 120
WTA121	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 121
WTA122	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 122
WTA123	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 123
WTA124	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 124
WTA125	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 125
WTA126	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 126
WTA127	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 127
WTA128	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 128
WTA129	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 129
WTA130	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 130
WTA131	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 131
WTA132	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 132
WTA133	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 133
WTA134	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 134
WTA135	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 135
WTA136	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 136
WTA137	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 137

See notes at end of table.



**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
WTA197	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 197
WTA198	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 198
WTA199	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 199
WTA200	Survey Weights	BPS:17 Cross-sectional Bootstrap replicate weight 200
WTB000	Survey Weights	BPS:17 Panel student analysis weight (product of B17WT1 * B17AWT1 * B17AWT2 * B17BWT1 * B17BWT2 * B17BWT3 * B17BWT4)
WTB001	Survey Weights	BPS:17 Panel Bootstrap replicate weight 1
WTB002	Survey Weights	BPS:17 Panel Bootstrap replicate weight 2
WTB003	Survey Weights	BPS:17 Panel Bootstrap replicate weight 3
WTB004	Survey Weights	BPS:17 Panel Bootstrap replicate weight 4
WTB005	Survey Weights	BPS:17 Panel Bootstrap replicate weight 5
WTB006	Survey Weights	BPS:17 Panel Bootstrap replicate weight 6
WTB007	Survey Weights	BPS:17 Panel Bootstrap replicate weight 7
WTB008	Survey Weights	BPS:17 Panel Bootstrap replicate weight 8
WTB009	Survey Weights	BPS:17 Panel Bootstrap replicate weight 9
WTB010	Survey Weights	BPS:17 Panel Bootstrap replicate weight 10
WTB011	Survey Weights	BPS:17 Panel Bootstrap replicate weight 11
WTB012	Survey Weights	BPS:17 Panel Bootstrap replicate weight 12
WTB013	Survey Weights	BPS:17 Panel Bootstrap replicate weight 13
WTB014	Survey Weights	BPS:17 Panel Bootstrap replicate weight 14
WTB015	Survey Weights	BPS:17 Panel Bootstrap replicate weight 15
WTB016	Survey Weights	BPS:17 Panel Bootstrap replicate weight 16
WTB017	Survey Weights	BPS:17 Panel Bootstrap replicate weight 17
WTB018	Survey Weights	BPS:17 Panel Bootstrap replicate weight 18
WTB019	Survey Weights	BPS:17 Panel Bootstrap replicate weight 19
WTB020	Survey Weights	BPS:17 Panel Bootstrap replicate weight 20
WTB021	Survey Weights	BPS:17 Panel Bootstrap replicate weight 21
WTB022	Survey Weights	BPS:17 Panel Bootstrap replicate weight 22
WTB023	Survey Weights	BPS:17 Panel Bootstrap replicate weight 23
WTB024	Survey Weights	BPS:17 Panel Bootstrap replicate weight 24
WTB025	Survey Weights	BPS:17 Panel Bootstrap replicate weight 25
WTB026	Survey Weights	BPS:17 Panel Bootstrap replicate weight 26
WTB027	Survey Weights	BPS:17 Panel Bootstrap replicate weight 27
WTB028	Survey Weights	BPS:17 Panel Bootstrap replicate weight 28
WTB029	Survey Weights	BPS:17 Panel Bootstrap replicate weight 29
WTB030	Survey Weights	BPS:17 Panel Bootstrap replicate weight 30
WTB031	Survey Weights	BPS:17 Panel Bootstrap replicate weight 31
WTB032	Survey Weights	BPS:17 Panel Bootstrap replicate weight 32
WTB033	Survey Weights	BPS:17 Panel Bootstrap replicate weight 33
WTB034	Survey Weights	BPS:17 Panel Bootstrap replicate weight 34
WTB035	Survey Weights	BPS:17 Panel Bootstrap replicate weight 35
WTB036	Survey Weights	BPS:17 Panel Bootstrap replicate weight 36
WTB037	Survey Weights	BPS:17 Panel Bootstrap replicate weight 37
WTB038	Survey Weights	BPS:17 Panel Bootstrap replicate weight 38
WTB039	Survey Weights	BPS:17 Panel Bootstrap replicate weight 39
WTB040	Survey Weights	BPS:17 Panel Bootstrap replicate weight 40
WTB041	Survey Weights	BPS:17 Panel Bootstrap replicate weight 41
WTB042	Survey Weights	BPS:17 Panel Bootstrap replicate weight 42
WTB043	Survey Weights	BPS:17 Panel Bootstrap replicate weight 43
WTB044	Survey Weights	BPS:17 Panel Bootstrap replicate weight 44
WTB045	Survey Weights	BPS:17 Panel Bootstrap replicate weight 45
WTB046	Survey Weights	BPS:17 Panel Bootstrap replicate weight 46
WTB047	Survey Weights	BPS:17 Panel Bootstrap replicate weight 47
WTB048	Survey Weights	BPS:17 Panel Bootstrap replicate weight 48
WTB049	Survey Weights	BPS:17 Panel Bootstrap replicate weight 49
WTB050	Survey Weights	BPS:17 Panel Bootstrap replicate weight 50
WTB051	Survey Weights	BPS:17 Panel Bootstrap replicate weight 51
WTB052	Survey Weights	BPS:17 Panel Bootstrap replicate weight 52
WTB053	Survey Weights	BPS:17 Panel Bootstrap replicate weight 53

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
WTB054	Survey Weights	BPS:17 Panel Bootstrap replicate weight 54
WTB055	Survey Weights	BPS:17 Panel Bootstrap replicate weight 55
WTB056	Survey Weights	BPS:17 Panel Bootstrap replicate weight 56
WTB057	Survey Weights	BPS:17 Panel Bootstrap replicate weight 57
WTB058	Survey Weights	BPS:17 Panel Bootstrap replicate weight 58
WTB059	Survey Weights	BPS:17 Panel Bootstrap replicate weight 59
WTB060	Survey Weights	BPS:17 Panel Bootstrap replicate weight 60
WTB061	Survey Weights	BPS:17 Panel Bootstrap replicate weight 61
WTB062	Survey Weights	BPS:17 Panel Bootstrap replicate weight 62
WTB063	Survey Weights	BPS:17 Panel Bootstrap replicate weight 63
WTB064	Survey Weights	BPS:17 Panel Bootstrap replicate weight 64
WTB065	Survey Weights	BPS:17 Panel Bootstrap replicate weight 65
WTB066	Survey Weights	BPS:17 Panel Bootstrap replicate weight 66
WTB067	Survey Weights	BPS:17 Panel Bootstrap replicate weight 67
WTB068	Survey Weights	BPS:17 Panel Bootstrap replicate weight 68
WTB069	Survey Weights	BPS:17 Panel Bootstrap replicate weight 69
WTB070	Survey Weights	BPS:17 Panel Bootstrap replicate weight 70
WTB071	Survey Weights	BPS:17 Panel Bootstrap replicate weight 71
WTB072	Survey Weights	BPS:17 Panel Bootstrap replicate weight 72
WTB073	Survey Weights	BPS:17 Panel Bootstrap replicate weight 73
WTB074	Survey Weights	BPS:17 Panel Bootstrap replicate weight 74
WTB075	Survey Weights	BPS:17 Panel Bootstrap replicate weight 75
WTB076	Survey Weights	BPS:17 Panel Bootstrap replicate weight 76
WTB077	Survey Weights	BPS:17 Panel Bootstrap replicate weight 77
WTB078	Survey Weights	BPS:17 Panel Bootstrap replicate weight 78
WTB079	Survey Weights	BPS:17 Panel Bootstrap replicate weight 79
WTB080	Survey Weights	BPS:17 Panel Bootstrap replicate weight 80
WTB081	Survey Weights	BPS:17 Panel Bootstrap replicate weight 81
WTB082	Survey Weights	BPS:17 Panel Bootstrap replicate weight 82
WTB083	Survey Weights	BPS:17 Panel Bootstrap replicate weight 83
WTB084	Survey Weights	BPS:17 Panel Bootstrap replicate weight 84
WTB085	Survey Weights	BPS:17 Panel Bootstrap replicate weight 85
WTB086	Survey Weights	BPS:17 Panel Bootstrap replicate weight 86
WTB087	Survey Weights	BPS:17 Panel Bootstrap replicate weight 87
WTB088	Survey Weights	BPS:17 Panel Bootstrap replicate weight 88
WTB089	Survey Weights	BPS:17 Panel Bootstrap replicate weight 89
WTB090	Survey Weights	BPS:17 Panel Bootstrap replicate weight 90
WTB091	Survey Weights	BPS:17 Panel Bootstrap replicate weight 91
WTB092	Survey Weights	BPS:17 Panel Bootstrap replicate weight 92
WTB093	Survey Weights	BPS:17 Panel Bootstrap replicate weight 93
WTB094	Survey Weights	BPS:17 Panel Bootstrap replicate weight 94
WTB095	Survey Weights	BPS:17 Panel Bootstrap replicate weight 95
WTB096	Survey Weights	BPS:17 Panel Bootstrap replicate weight 96
WTB097	Survey Weights	BPS:17 Panel Bootstrap replicate weight 97
WTB098	Survey Weights	BPS:17 Panel Bootstrap replicate weight 98
WTB099	Survey Weights	BPS:17 Panel Bootstrap replicate weight 99
WTB100	Survey Weights	BPS:17 Panel Bootstrap replicate weight 100
WTB101	Survey Weights	BPS:17 Panel Bootstrap replicate weight 101
WTB102	Survey Weights	BPS:17 Panel Bootstrap replicate weight 102
WTB103	Survey Weights	BPS:17 Panel Bootstrap replicate weight 103
WTB104	Survey Weights	BPS:17 Panel Bootstrap replicate weight 104
WTB105	Survey Weights	BPS:17 Panel Bootstrap replicate weight 105
WTB106	Survey Weights	BPS:17 Panel Bootstrap replicate weight 106
WTB107	Survey Weights	BPS:17 Panel Bootstrap replicate weight 107
WTB108	Survey Weights	BPS:17 Panel Bootstrap replicate weight 108
WTB109	Survey Weights	BPS:17 Panel Bootstrap replicate weight 109
WTB110	Survey Weights	BPS:17 Panel Bootstrap replicate weight 110
WTB111	Survey Weights	BPS:17 Panel Bootstrap replicate weight 111
WTB112	Survey Weights	BPS:17 Panel Bootstrap replicate weight 112

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
WTB113	Survey Weights	BPS:17 Panel Bootstrap replicate weight 113
WTB114	Survey Weights	BPS:17 Panel Bootstrap replicate weight 114
WTB115	Survey Weights	BPS:17 Panel Bootstrap replicate weight 115
WTB116	Survey Weights	BPS:17 Panel Bootstrap replicate weight 116
WTB117	Survey Weights	BPS:17 Panel Bootstrap replicate weight 117
WTB118	Survey Weights	BPS:17 Panel Bootstrap replicate weight 118
WTB119	Survey Weights	BPS:17 Panel Bootstrap replicate weight 119
WTB120	Survey Weights	BPS:17 Panel Bootstrap replicate weight 120
WTB121	Survey Weights	BPS:17 Panel Bootstrap replicate weight 121
WTB122	Survey Weights	BPS:17 Panel Bootstrap replicate weight 122
WTB123	Survey Weights	BPS:17 Panel Bootstrap replicate weight 123
WTB124	Survey Weights	BPS:17 Panel Bootstrap replicate weight 124
WTB125	Survey Weights	BPS:17 Panel Bootstrap replicate weight 125
WTB126	Survey Weights	BPS:17 Panel Bootstrap replicate weight 126
WTB127	Survey Weights	BPS:17 Panel Bootstrap replicate weight 127
WTB128	Survey Weights	BPS:17 Panel Bootstrap replicate weight 128
WTB129	Survey Weights	BPS:17 Panel Bootstrap replicate weight 129
WTB130	Survey Weights	BPS:17 Panel Bootstrap replicate weight 130
WTB131	Survey Weights	BPS:17 Panel Bootstrap replicate weight 131
WTB132	Survey Weights	BPS:17 Panel Bootstrap replicate weight 132
WTB133	Survey Weights	BPS:17 Panel Bootstrap replicate weight 133
WTB134	Survey Weights	BPS:17 Panel Bootstrap replicate weight 134
WTB135	Survey Weights	BPS:17 Panel Bootstrap replicate weight 135
WTB136	Survey Weights	BPS:17 Panel Bootstrap replicate weight 136
WTB137	Survey Weights	BPS:17 Panel Bootstrap replicate weight 137
WTB138	Survey Weights	BPS:17 Panel Bootstrap replicate weight 138
WTB139	Survey Weights	BPS:17 Panel Bootstrap replicate weight 139
WTB140	Survey Weights	BPS:17 Panel Bootstrap replicate weight 140
WTB141	Survey Weights	BPS:17 Panel Bootstrap replicate weight 141
WTB142	Survey Weights	BPS:17 Panel Bootstrap replicate weight 142
WTB143	Survey Weights	BPS:17 Panel Bootstrap replicate weight 143
WTB144	Survey Weights	BPS:17 Panel Bootstrap replicate weight 144
WTB145	Survey Weights	BPS:17 Panel Bootstrap replicate weight 145
WTB146	Survey Weights	BPS:17 Panel Bootstrap replicate weight 146
WTB147	Survey Weights	BPS:17 Panel Bootstrap replicate weight 147
WTB148	Survey Weights	BPS:17 Panel Bootstrap replicate weight 148
WTB149	Survey Weights	BPS:17 Panel Bootstrap replicate weight 149
WTB150	Survey Weights	BPS:17 Panel Bootstrap replicate weight 150
WTB151	Survey Weights	BPS:17 Panel Bootstrap replicate weight 151
WTB152	Survey Weights	BPS:17 Panel Bootstrap replicate weight 152
WTB153	Survey Weights	BPS:17 Panel Bootstrap replicate weight 153
WTB154	Survey Weights	BPS:17 Panel Bootstrap replicate weight 154
WTB155	Survey Weights	BPS:17 Panel Bootstrap replicate weight 155
WTB156	Survey Weights	BPS:17 Panel Bootstrap replicate weight 156
WTB157	Survey Weights	BPS:17 Panel Bootstrap replicate weight 157
WTB158	Survey Weights	BPS:17 Panel Bootstrap replicate weight 158
WTB159	Survey Weights	BPS:17 Panel Bootstrap replicate weight 159
WTB160	Survey Weights	BPS:17 Panel Bootstrap replicate weight 160
WTB161	Survey Weights	BPS:17 Panel Bootstrap replicate weight 161
WTB162	Survey Weights	BPS:17 Panel Bootstrap replicate weight 162
WTB163	Survey Weights	BPS:17 Panel Bootstrap replicate weight 163
WTB164	Survey Weights	BPS:17 Panel Bootstrap replicate weight 164
WTB165	Survey Weights	BPS:17 Panel Bootstrap replicate weight 165
WTB166	Survey Weights	BPS:17 Panel Bootstrap replicate weight 166
WTB167	Survey Weights	BPS:17 Panel Bootstrap replicate weight 167
WTB168	Survey Weights	BPS:17 Panel Bootstrap replicate weight 168
WTB169	Survey Weights	BPS:17 Panel Bootstrap replicate weight 169
WTB170	Survey Weights	BPS:17 Panel Bootstrap replicate weight 170
WTB171	Survey Weights	BPS:17 Panel Bootstrap replicate weight 171

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

Variable name	Subject	Variable label
WTB172	Survey Weights	BPS:17 Panel Bootstrap replicate weight 172
WTB173	Survey Weights	BPS:17 Panel Bootstrap replicate weight 173
WTB174	Survey Weights	BPS:17 Panel Bootstrap replicate weight 174
WTB175	Survey Weights	BPS:17 Panel Bootstrap replicate weight 175
WTB176	Survey Weights	BPS:17 Panel Bootstrap replicate weight 176
WTB177	Survey Weights	BPS:17 Panel Bootstrap replicate weight 177
WTB178	Survey Weights	BPS:17 Panel Bootstrap replicate weight 178
WTB179	Survey Weights	BPS:17 Panel Bootstrap replicate weight 179
WTB180	Survey Weights	BPS:17 Panel Bootstrap replicate weight 180
WTB181	Survey Weights	BPS:17 Panel Bootstrap replicate weight 181
WTB182	Survey Weights	BPS:17 Panel Bootstrap replicate weight 182
WTB183	Survey Weights	BPS:17 Panel Bootstrap replicate weight 183
WTB184	Survey Weights	BPS:17 Panel Bootstrap replicate weight 184
WTB185	Survey Weights	BPS:17 Panel Bootstrap replicate weight 185
WTB186	Survey Weights	BPS:17 Panel Bootstrap replicate weight 186
WTB187	Survey Weights	BPS:17 Panel Bootstrap replicate weight 187
WTB188	Survey Weights	BPS:17 Panel Bootstrap replicate weight 188
WTB189	Survey Weights	BPS:17 Panel Bootstrap replicate weight 189
WTB190	Survey Weights	BPS:17 Panel Bootstrap replicate weight 190
WTB191	Survey Weights	BPS:17 Panel Bootstrap replicate weight 191
WTB192	Survey Weights	BPS:17 Panel Bootstrap replicate weight 192
WTB193	Survey Weights	BPS:17 Panel Bootstrap replicate weight 193
WTB194	Survey Weights	BPS:17 Panel Bootstrap replicate weight 194
WTB195	Survey Weights	BPS:17 Panel Bootstrap replicate weight 195
WTB196	Survey Weights	BPS:17 Panel Bootstrap replicate weight 196
WTB197	Survey Weights	BPS:17 Panel Bootstrap replicate weight 197
WTB198	Survey Weights	BPS:17 Panel Bootstrap replicate weight 198
WTB199	Survey Weights	BPS:17 Panel Bootstrap replicate weight 199
WTB200	Survey Weights	BPS:17 Panel Bootstrap replicate weight 200
ZAGE	Survey Source	Source variable for AGE
ZAGEGROUP	Survey Source	Source variable for AGEGROUP
ZALTANY	Survey Source	Source variable for ALTANY
ZALTNIGH	Survey Source	Source variable for ALTNIGHT
ZALTONL2	Survey Source	Source variable for ALTONLND
ZALTONLN	Survey Source	Source variable for ALTONLN
ZALTWKND	Survey Source	Source variable for ALTWKND
ZATTENDM	Survey Source	Source variable for ATTENDMR
ZBANK1	Survey Source	Source variable for BANK1
ZBANK2	Survey Source	Source variable for BANK2
ZBUDGETBK	Survey Source	Source variable for BUDGETBK
ZBUDNONA	Survey Source	Source variable for BUDNONAJ
ZCAMP	Survey Source	Source variable for CAMPAMT
ZCITIZEN	Survey Source	Source variable for CITIZEN2
ZCRBALCR	Survey Source	Source variable for CRBALCR
ZCRBALDU	Survey Source	Source variable for CRBALDUE
ZCRNUMCR	Survey Source	Source variable for CRNUMCRD
ZCRTUIT	Survey Source	Source variable for CRTUIT
ZCRTUIT2	Survey Source	Source variable for CRTUIT2
ZDECMAJ	Survey Source	Source variable for DECMAJ
ZDEPANY	Survey Source	Source variable for DEPANY
ZDEPCARE	Survey Source	Source variable for DEPCARE
ZDEPCHIL	Survey Source	Source variable for DEPCHILD
ZDEPCOL	Survey Source	Source variable for DEPCOL
ZDEPCOLC	Survey Source	Source variable for DEPCOLCS
ZDEPCOST	Survey Source	Source variable for DEPCOST
ZDEPEND	Survey Source	Source variable for DEPEND
ZDEPINC	Survey Source	Source variable for DEPINC
ZDEPNUM	Survey Source	Source variable for DEPNUM
ZDEPNUMC	Survey Source	Source variable for DEPNUMCH

See notes at end of table.



**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ZDEPNUMO	Survey Source	Source variable for DEPNUMOT
ZDEPOTCS	Survey Source	Source variable for DEPOTCST
ZDEPOTHE	Survey Source	Source variable for DEPOTHER
ZDEPYNG	Survey Source	Source variable for DEPYNG
ZDIS16A	Survey Source	Source variable for DIS16A
ZDIS16B	Survey Source	Source variable for DIS16B
ZDIS17A	Survey Source	Source variable for DIS17A
ZDIS17B	Survey Source	Source variable for DIS17B
ZDISABLE	Survey Source	Source variable for DISABLE
ZDISTANC	Survey Source	Source variable for DISTANCE
ZDISTYPE	Survey Source	Source variable for DISTYPES
ZDSTUINC	Survey Source	Source variable for DSTUINC
ZEFC	Survey Source	Source variable for EFC
ZEFCAPS	Survey Source	Source variable for EFCCPS
ZEMPLWV	Survey Source	Source variable for EMPLWAIV
ZEMPLYA3	Survey Source	Source variable for EMPLOYAM3
ZEMPLYAM	Survey Source	Source variable for EMPLOYAMT
ZENR01	Survey Source	Source variable for ENR01
ZENR02	Survey Source	Source variable for ENR02
ZENR03	Survey Source	Source variable for ENR03
ZENR04	Survey Source	Source variable for ENR04
ZENR05	Survey Source	Source variable for ENR05
ZENR06	Survey Source	Source variable for ENR06
ZENR07	Survey Source	Source variable for ENR07
ZENR08	Survey Source	Source variable for ENR08
ZENR09	Survey Source	Source variable for ENR09
ZENR10	Survey Source	Source variable for ENR10
ZENR11	Survey Source	Source variable for ENR11
ZENR12	Survey Source	Source variable for ENR12
ZFAMHELP	Survey Source	Source variable for FAMHELP
ZFAMHPAM	Survey Source	Source variable for FAMHPAM
ZFEDBEN	Survey Source	Source variable for FEDBEN
ZFEDBENA	Survey Source	Source variable for FEDBENA
ZFEDBENB	Survey Source	Source variable for FEDBENB
ZFEDBENC	Survey Source	Source variable for FEDBENC
ZFEDBEND	Survey Source	Source variable for FEDBEND
ZFEDBENE	Survey Source	Source variable for FEDBENE
ZFEDNEED	Survey Source	Source variable for FEDNEED
ZFLACMAX	Survey Source	Source variable for FLACMAX
ZFLAVDL1	Survey Source	Source variable for FLAVDL1
ZFLAVDL2	Survey Source	Source variable for FLAVDL2
ZFLAVDL3	Survey Source	Source variable for FLAVDL3
ZFLDENY	Survey Source	Source variable for FLDENY
ZFLDENYR	Survey Source	Source variable for FLDENYRS
ZFRSTCOL	Survey Source	Source variable for FRSTCOL
ZGENDER	Survey Source	Source variable for GENDER
ZGPA	Survey Source	Source variable for GPA
ZHCMATHI	Survey Source	Source variable for HCMATHHI
ZHCTKBIO	Survey Source	Source variable for HCTKBIOL
ZHCTKCHE	Survey Source	Source variable for HCTKCHEM
ZHCTKPHY	Survey Source	Source variable for HCTKPHYS
ZHCYSENG	Survey Source	Source variable for HCYSENGL
ZHCYSLAN	Survey Source	Source variable for HCYSLANG
ZHCYSMTH	Survey Source	Source variable for HCYSMATH
ZHCYSSCI	Survey Source	Source variable for HCYSSCIE
ZHCYSSOC	Survey Source	Source variable for HCYSSOCI
ZHISPANI	Survey Source	Source variable for HISPANIC
ZHISPTYP	Survey Source	Source variable for HISPTYPE
ZHOMELES	Survey Source	Source variable for HOMELESS

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ZHOMESTU	Survey Source	Source variable for HOMESTUD
ZHSCRDCO	Survey Source	Source variable for HSCRDCOL
ZHSDEG	Survey Source	Source variable for HSDEG
ZHSGRADY	Survey Source	Source variable for HSGRADYY
ZHSGRADYM	Survey Source	Source variable for HSGRADYM
ZHSTKAP	Survey Source	Source variable for HSTKAP
ZHSTKIB	Survey Source	Source variable for HSTKIB
ZHSTYPE	Survey Source	Source variable for HSTYPE
ZIMMIAGE	Survey Source	Source variable for IMMIAGE
ZINATHAM	Survey Source	Source variable for INATHAMT
ZINCOME	Survey Source	Source variable for INCOME
ZINDEINC	Survey Source	Source variable for INDEPINC
ZINGRTAM	Survey Source	Source variable for INGRTAMT
ZINJURIS	Survey Source	Source variable for INJURIS
ZINLNAMT	Survey Source	Source variable for INLNAMT
ZINSMERI	Survey Source	Source variable for INSMERIT
ZINSTAMT	Survey Source	Source variable for INSTAMT
ZINSTND	Survey Source	Source variable for INSTNEED
ZINSTNON	Survey Source	Source variable for INSTNOND
ZINSTWRK	Survey Source	Source variable for INSTWRK
ZINSWAIV	Survey Source	Source variable for INSWAIV
ZISTUINC	Survey Source	Source variable for ISTUINC
ZJOBROLE2	Survey Source	Source variable for JOBROLE2
ZLNREPAY	Survey Source	Source variable for LNREPAY
ZLOCALRE	Survey Source	Source variable for LOCALRES
ZMAJCHGF	Survey Source	Source variable for MAJCHGFQ
ZMAJORNS	Survey Source	Source variable for MAJORNSF
ZMAJORS	Survey Source	Source variable for MAJORS
ZMILTYPE	Survey Source	Source variable for MILTYPE
ZMNTRENT	Survey Source	Source variable for MNTRENT
ZORPHAN	Survey Source	Source variable for ORPHAN
ZOTHFDGT	Survey Source	Source variable for OTHFDGRT
ZOTHGTAM	Survey Source	Source variable for OTHGTAMT
ZOTHRSCR	Survey Source	Source variable for OTHRSCR
ZOTHTYPE	Survey Source	Source variable for OTHTYPE
ZPAGI	Survey Source	Source variable for PAGI
ZPARBORN	Survey Source	Source variable for PARBORN
ZPAREduc	Survey Source	Source variable for PAREduc
ZPARHELP	Survey Source	Source variable for PARHELP
ZPARHPAM	Survey Source	Source variable for PARHPAMT
ZPDADED	Survey Source	Source variable for PDADED
ZPERK	Survey Source	Source variable for PERKAMT
ZPFAMNUM	Survey Source	Source variable for PFAMNUM
ZPINCOL	Survey Source	Source variable for PINCOL
ZPLUS	Survey Source	Source variable for PLUS12
ZPMARITA	Survey Source	Source variable for PMARITAL
ZPMOMED	Survey Source	Source variable for PMOMED
ZPRIMLAN	Survey Source	Source variable for PRIMLANG
ZPRIMLGF	Survey Source	Source variable for PRIMLGFQ
ZPRIVAI	Survey Source	Source variable for PRIVAI
ZPRIVAMT	Survey Source	Source variable for PRIVAMT
ZPRIVLON	Survey Source	Source variable for PRIVLOAN
ZRAASIAN	Survey Source	Source variable for RAASIAN
ZRABlack	Survey Source	Source variable for RABlack
ZRAINDIA	Survey Source	Source variable for RAINDIAN
ZRAINDTR	Survey Source	Source variable for RAINDTRB
ZRAISLAN	Survey Source	Source variable for RAISLAND
ZRAWHITE	Survey Source	Source variable for RAWHITE
ZREANOAA	Survey Source	Source variable for REANOAPA

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ZREANOAB	Survey Source	Source variable for REANOAPB
ZREANOAC	Survey Source	Source variable for REANOAPC
ZREANOAD	Survey Source	Source variable for REANOAPD
ZREANOAE	Survey Source	Source variable for REANOAPE
ZREANOAF	Survey Source	Source variable for REANOAPF
ZREMENGL	Survey Source	Source variable for REMENGL
ZREMETOO	Survey Source	Source variable for REMETOOK
ZREMMATH	Survey Source	Source variable for REMMATH
ZREMREAD	Survey Source	Source variable for REMREAD
ZREMWRIT	Survey Source	Source variable for REMWRITE
ZSAGI	Survey Source	Source variable for SAGI
ZSAMESTA	Survey Source	Source variable for SAMESTAT
ZSEOG	Survey Source	Source variable for SEOGAMT
ZSIBCOLF	Survey Source	Source variable for SIBCOLFT
ZSINCOL	Survey Source	Source variable for SINCOL
ZSMAR	Survey Source	Source variable for SMARITAL
ZSPINCOL	Survey Source	Source variable for SPINCOL
ZSPSINC	Survey Source	Source variable for SPSINC
ZSTATEAM	Survey Source	Source variable for STATEAMT
ZSTATND	Survey Source	Source variable for STATNEED
ZSTATNON	Survey Source	Source variable for STATNOND
ZSTGTAMT	Survey Source	Source variable for STGTAMT
ZSTLNAMT	Survey Source	Source variable for STLNAMT
ZSTMERIT	Survey Source	Source variable for STMERIT
ZSTNOND1	Survey Source	Source variable for STNOND1
ZSTUSTAT	Survey Source	Source variable for STUSTATE
ZSTWKAMT	Survey Source	Source variable for STWKAMT
ZT4LNAM1	Survey Source	Source variable for T4LNAMT1
ZT4LNAM2	Survey Source	Source variable for T4LNAMT2
ZTEACTDER	Survey Source	Source variable for TEACTDER
ZTESATDER	Survey Source	Source variable for TESATDER
ZTESATMDE	Survey Source	Source variable for TESATMDE
ZTESATVDE	Survey Source	Source variable for TESATVDE
ZTFEDAID	Survey Source	Source variable for TFEDAID
ZTFEDAID2	Survey Source	Source variable for TFEDAID2
ZTFEDGRT	Survey Source	Source variable for TFEDGRT
ZTFEDLN	Survey Source	Source variable for TFEDLN
ZTFEDLN2	Survey Source	Source variable for TFEDLN2
ZTFEDWRK	Survey Source	Source variable for TFEDWRK
ZTITIVAM	Survey Source	Source variable for TITIVAMT
ZTOTAID	Survey Source	Source variable for TOTAID
ZTOTGRT	Survey Source	Source variable for TOTGRT
ZTOTLOAN	Survey Source	Source variable for TOTLOAN
ZTOTWKST	Survey Source	Source variable for TOTWKST
ZTRLNPAV	Survey Source	Source variable for TRLNPAVT
ZTRLNPDA	Survey Source	Source variable for TRLNPDAV
ZTRLWKAV	Survey Source	Source variable for TRLWKAV
ZTRLWKDA	Survey Source	Source variable for TRLWKDA
ZTUITION	Survey Source	Source variable for TUITION
ZUGDEG	Survey Source	Source variable for UGDEG
ZUGDEGAA	Survey Source	Source variable for UGDEGAA
ZUMNEED1	Survey Source	Source variable for UMNEED1
ZUMNEED2	Survey Source	Source variable for UMNEED2
ZUSBORN	Survey Source	Source variable for USBORN

See notes at end of table.

**Table I-1. Analysis variables: 2017—Continued**

<b>Variable name</b>	<b>Subject</b>	<b>Variable label</b>
ZVADODAM	Survey Source	Source variable for VADODAMT
ZVETERAN	Survey Source	Source variable for VETERAN
ZVOCHELP	Survey Source	Source variable for VOCHELP

NOTE: NSF = National Science Foundation; STEM = science, technology, engineering, and mathematics; PSE = postsecondary education; DoD = Department of Defense; EFC = expected family contribution; PLUS = Parent Loan for Undergraduate Students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## Appendix J. Design Effects



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**Table J-1. Design effects, using the cross-sectional weight, for selected variables for all first-time beginning students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.65	0.49	0.26	1.89	3.59
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	56.14	0.92	0.33	2.78	7.73
No degree from any institution as of June 2017	PRAT6Y = 3, 4	43.86	0.92	0.33	2.78	7.73
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.53	0.28	0.15	1.83	3.33
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.20	0.38	0.21	1.80	3.22
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	27.44	0.84	0.30	2.83	8.00
Attended more than one institution in 2011–12	STUDMULT > 1	12.97	0.70	0.22	3.15	9.91
Ever transferred through June 2017	TFNUM6Y > 0	34.73	0.58	0.32	1.84	3.39
Ever stopped out anywhere through June 2017	STNUM6Y > 0	38.75	0.67	0.32	2.06	4.26
Health care major when last enrolled through June 2017	MAJ17 = 14	16.17	0.48	0.26	1.82	3.31
Used academic advising services in 2011–12	USEACAD = 1	63.03	0.70	0.34	2.05	4.19
Received any aid in 2011–12	TOTAID > 0	81.28	0.70	0.26	2.71	7.32
Received any loans in 2011–12	TOTLOAN2 > 0	46.64	1.08	0.33	3.24	10.51
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	57.24	0.96	0.33	2.92	8.54
Received any federal benefits in 2017	FEDBEN17 = 1	18.84	0.45	0.26	1.73	2.99
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	23.82	0.50	0.30	1.66	2.77
Currently employed in 2017	JOBST17 = 1	73.49	0.54	0.33	1.61	2.60
Eligible for employer health insurance in 2017	JBEN17B = 1	69.06	0.69	0.41	1.67	2.80
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	61.63	0.71	0.43	1.65	2.71
Single parent in 2011–12	SINGLPAR = 1	8.02	0.33	0.18	1.83	3.35
Had two or more risk factors during 2011–12	RISKIND2 > 1	26.84	0.98	0.30	3.32	11.00
Single, not married as of 2017	SMAR17 = 1	74.17	0.59	0.29	2.03	4.12
Has any dependent children as of 2017	DEPANY17 = 1	25.42	0.65	0.29	2.26	5.10
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.62	0.40	0.23	1.75	3.07
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	21.55	0.40	0.27	1.47	2.17
Has any credit cards in 2017	CRDNUM17 = 1, 2	69.15	0.56	0.31	1.82	3.31
Pay off credit card balance each month in 2017	CRDPAY17 = 1	60.36	0.62	0.40	1.56	2.43
Summary statistics						
Mean	†	†	†	†	2.15	4.94
Minimum	†	†	†	†	1.47	2.17
25th percentile	†	†	†	†	1.73	2.99
Median	†	†	†	†	1.84	3.39
75th percentile	†	†	†	†	2.78	7.73
Maximum	†	†	†	†	3.32	11.00

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-2. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students whose base-year institution was public 2-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	25.33	0.87	0.53	1.64	2.68
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	39.16	1.11	0.60	1.86	3.45
No degree from any institution as of June 2017	PRAT6Y = 3, 4	60.84	1.11	0.60	1.86	3.45
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.79	0.41	0.26	1.58	2.51
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	22.07	0.95	0.51	1.88	3.53
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	#	#	#	†	†
Attended more than one institution in 2011–12	STUDMULT > 1	5.84	0.71	0.29	2.50	6.23
Ever transferred through June 2017	TFNUM6Y > 0	40.44	1.19	0.60	1.99	3.94
Ever stopped out anywhere through June 2017	STNUM6Y > 0	45.43	1.05	0.61	1.72	2.95
Health care major when last enrolled through June 2017	MAJ17 = 14	18.42	0.87	0.50	1.73	3.00
Used academic advising services in 2011–12	USEACAD = 1	51.73	1.14	0.65	1.74	3.04
Received any aid in 2011–12	TOTAID > 0	69.95	1.13	0.56	2.02	4.07
Received any loans in 2011–12	TOTLOAN2 > 0	19.90	0.73	0.49	1.50	2.24
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	39.34	1.10	0.60	1.85	3.41
Received any federal benefits in 2017	FEDBEN17 = 1	21.67	0.86	0.50	1.72	2.95
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	16.14	0.71	0.48	1.48	2.20
Currently employed in 2017	JOBST17 = 1	72.39	0.95	0.64	1.47	2.17
Eligible for employer health insurance in 2017	JBEN17B = 1	68.08	1.38	0.79	1.74	3.04
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	53.95	1.52	0.85	1.80	3.23
Single parent in 2011–12	SINGLPAR = 1	8.58	0.59	0.34	1.72	2.96
Had two or more risk factors during 2011–12	RISKIND2 > 1	37.78	1.35	0.59	2.28	5.20
Single, not married as of 2017	SMAR17 = 1	70.55	1.09	0.56	1.96	3.83
Has any dependent children as of 2017	DEPANY17 = 1	32.54	1.09	0.57	1.91	3.66
Had a long-lasting disability or condition in 2014	DISABL14 = 1	13.04	0.71	0.44	1.62	2.61
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	22.06	0.79	0.51	1.56	2.44
Has any credit cards in 2017	CRDNUM17 = 1, 2	65.77	1.02	0.58	1.76	3.10
Pay off credit card balance each month in 2017	CRDPAY17 = 1	55.33	1.09	0.75	1.45	2.10
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	1.78	3.23
Minimum	†	†	†	†	1.45	2.10
25th percentile	†	†	†	†	1.62	2.61
Median	†	†	†	†	1.74	3.04
75th percentile	†	†	†	†	1.88	3.53
Maximum	†	†	†	†	2.50	6.23

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-3. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students whose base-year institution was public 4-year, non-doctorate granting or public 4-year, doctorate-granting: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	14.40	0.79	0.55	1.42	2.02
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	68.35	1.14	0.73	1.55	2.41
No degree from any institution as of June 2017	PRAT6Y = 3, 4	31.65	1.14	0.73	1.55	2.41
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	#	#	#	†	†
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	3.37	0.33	0.28	1.16	1.34
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	52.55	1.26	0.79	1.60	2.57
Attended more than one institution in 2011–12	STUDMULT > 1	12.69	0.72	0.53	1.36	1.85
Ever transferred through June 2017	TFNUM6Y > 0	32.95	0.94	0.74	1.26	1.60
Ever stopped out anywhere through June 2017	STNUM6Y > 0	27.69	1.01	0.71	1.43	2.03
Health care major when last enrolled through June 2017	MAJ17 = 14	11.62	0.71	0.53	1.34	1.79
Used academic advising services in 2011–12	USEACAD = 1	79.47	0.82	0.67	1.22	1.48
Received any aid in 2011–12	TOTAID > 0	84.45	0.83	0.57	1.45	2.10
Received any loans in 2011–12	TOTLOAN2 > 0	55.47	0.87	0.78	1.11	1.22
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	63.04	0.91	0.76	1.19	1.41
Received any federal benefits in 2017	FEDBEN17 = 1	11.30	0.75	0.50	1.50	2.25
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	16.73	0.81	0.62	1.30	1.68
Currently employed in 2017	JOBST17 = 1	76.62	1.05	0.75	1.40	1.96
Eligible for employer health insurance in 2017	JBEN17B = 1	70.43	1.05	0.92	1.14	1.30
Consider current job related to intended future work in 2017	JOBRFLT17 = 1	67.00	1.23	0.95	1.29	1.67
Single parent in 2011–12	SINGLPAR = 1	2.13	0.41	0.23	1.82	3.30
Had two or more risk factors during 2011–12	RISKIND2 > 1	8.00	1.01	0.43	2.35	5.55
Single, not married as of 2017	SMAR17 = 1	82.12	0.71	0.60	1.17	1.36
Has any dependent children as of 2017	DEPANY17 = 1	10.75	0.71	0.49	1.45	2.11
Had a long-lasting disability or condition in 2014	DISABL14 = 1	9.28	0.54	0.48	1.13	1.27
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	20.89	0.68	0.64	1.07	1.13
Has any credit cards in 2017	CRDNUM17 = 1, 2	75.72	0.85	0.68	1.25	1.57
Pay off credit card balance each month in 2017	CRDPAY17 = 1	62.44	1.16	0.87	1.33	1.77
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	1.38	1.97
Minimum	†	†	†	†	1.07	1.13
25th percentile	†	†	†	†	1.19	1.41
Median	†	†	†	†	1.33	1.78
75th percentile	†	†	†	†	1.45	2.11
Maximum	†	†	†	†	2.35	5.55

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-4. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students whose base-year institution was private nonprofit 4-year, non-doctorate granting or private nonprofit 4-year, doctorate-granting: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	8.19	0.62	0.44	1.42	2.01
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	79.51	1.31	0.65	2.01	4.06
No degree from any institution as of June 2017	PRAT6Y = 3, 4	20.49	1.31	0.65	2.01	4.06
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	#	#	#	†	†
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	1.02	0.39	0.16	2.42	5.87
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	65.83	1.43	0.76	1.88	3.54
Attended more than one institution in 2011–12	STUDMULT > 1	10.30	0.83	0.49	1.70	2.88
Ever transferred through June 2017	TFNUM6Y > 0	29.39	1.23	0.73	1.68	2.81
Ever stopped out anywhere through June 2017	STNUM6Y > 0	23.24	1.38	0.68	2.03	4.12
Health care major when last enrolled through June 2017	MAJ17 = 14	8.80	0.76	0.48	1.59	2.53
Used academic advising services in 2011–12	USEACAD = 1	82.80	0.99	0.63	1.56	2.44
Received any aid in 2011–12	TOTAID > 0	90.98	0.89	0.46	1.93	3.72
Received any loans in 2011–12	TOTLOAN2 > 0	65.60	1.69	0.76	2.22	4.93
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	67.87	1.23	0.75	1.64	2.68
Received any federal benefits in 2017	FEDBEN17 = 1	8.36	0.78	0.44	1.76	3.08
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	16.80	1.09	0.63	1.73	3.00
Currently employed in 2017	JOBST17 = 1	77.79	1.02	0.71	1.43	2.05
Eligible for employer health insurance in 2017	JBEN17B = 1	71.80	1.23	0.88	1.41	1.98
Consider current job related to intended future work in 2017	JOBRFLT17 = 1	72.80	1.48	0.87	1.70	2.91
Single parent in 2011–12	SINGLPAR = 1	1.21	0.57	0.18	3.27	10.67
Had two or more risk factors during 2011–12	RISKIND2 > 1	3.65	1.02	0.30	3.37	11.38
Single, not married as of 2017	SMAR17 = 1	83.52	1.17	0.60	1.96	3.83
Has any dependent children as of 2017	DEPANY17 = 1	9.61	0.99	0.47	2.08	4.33
Had a long-lasting disability or condition in 2014	DISABL14 = 1	9.88	0.87	0.50	1.75	3.05
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	21.30	0.77	0.66	1.18	1.39
Has any credit cards in 2017	CRDNUM17 = 1, 2	76.29	1.16	0.68	1.70	2.88
Pay off credit card balance each month in 2017	CRDPAY17 = 1	71.63	1.21	0.83	1.47	2.16
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	1.88	3.78
Minimum	†	†	†	†	1.18	1.39
25th percentile	†	†	†	†	1.59	2.53
Median	†	†	†	†	1.74	3.02
75th percentile	†	†	†	†	2.01	4.06
Maximum	†	†	†	†	3.37	11.38

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-5. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students whose base-year institution was private for-profit less-than-2-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	23.64	3.73	1.53	2.44	5.93
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	62.96	3.48	1.74	2.00	4.00
No degree from any institution as of June 2017	PRAT6Y = 3, 4	37.04	3.48	1.74	2.00	4.00
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	48.53	4.29	1.80	2.38	5.68
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	#	#	#	†	†
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	#	#	#	†	†
Attended more than one institution in 2011–12	STUDMULT > 1	47.57	13.19	1.80	7.33	53.75
Ever transferred through June 2017	TFNUM6Y > 0	24.91	2.86	1.56	1.84	3.38
Ever stopped out anywhere through June 2017	STNUM6Y > 0	70.27	5.98	1.65	3.63	13.16
Health care major when last enrolled through June 2017	MAJ17 = 14	37.27	6.00	1.80	3.33	11.10
Used academic advising services in 2011–12	USEACAD = 1	27.07	4.32	1.76	2.45	6.01
Received any aid in 2011–12	TOTAID > 0	96.66	1.45	0.65	2.24	5.00
Received any loans in 2011–12	TOTLOAN2 > 0	84.08	3.49	1.32	2.65	7.02
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	84.89	3.35	1.29	2.59	6.72
Received any federal benefits in 2017	FEDBEN17 = 1	45.71	3.88	1.80	2.16	4.66
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	78.81	4.31	1.62	2.66	7.08
Currently employed in 2017	JOBST17 = 1	59.92	4.15	1.99	2.08	4.34
Eligible for employer health insurance in 2017	JBEN17B = 1	57.50	4.54	2.57	1.77	3.13
Consider current job related to intended future work in 2017	JOBRFT17 = 1	45.90	3.75	2.59	1.45	2.10
Single parent in 2011–12	SINGLPAR = 1	31.15	3.37	1.67	2.02	4.09
Had two or more risk factors during 2011–12	RISKIND2 > 1	61.38	2.82	1.75	1.61	2.58
Single, not married as of 2017	SMAR17 = 1	58.83	3.38	1.77	1.90	3.63
Has any dependent children as of 2017	DEPANY17 = 1	60.87	3.17	1.76	1.81	3.26
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.47	1.49	1.26	1.18	1.39
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	20.58	2.57	1.46	1.76	3.11
Has any credit cards in 2017	CRDNUM17 = 1, 2	58.46	3.02	1.78	1.70	2.89
Pay off credit card balance each month in 2017	CRDPAY17 = 1	57.09	5.09	2.34	2.18	4.73
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	2.37	6.91
Minimum	†	†	†	†	1.18	1.39
25th percentile	†	†	†	†	1.81	3.26
Median	†	†	†	†	2.08	4.34
75th percentile	†	†	†	†	2.45	6.01
Maximum	†	†	†	†	7.33	53.75

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-6. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students whose base-year institution was private for-profit 2-year or 4-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.72	0.93	0.49	1.90	3.59
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	43.57	1.19	0.60	1.99	3.95
No degree from any institution as of June 2017	PRAT6Y = 3, 4	56.43	1.19	0.60	1.99	3.95
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	13.23	1.19	0.41	2.91	8.45
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	13.56	0.94	0.41	2.27	5.17
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	6.77	0.35	0.30	1.14	1.31
Attended more than one institution in 2011–12	STUDMULT > 1	33.37	2.06	0.57	3.62	13.07
Ever transferred through June 2017	TFNUM6Y > 0	30.34	1.02	0.56	1.83	3.35
Ever stopped out anywhere through June 2017	STNUM6Y > 0	59.29	1.53	0.59	2.58	6.63
Health care major when last enrolled through June 2017	MAJ17 = 14	26.12	1.53	0.61	2.52	6.33
Used academic advising services in 2011–12	USEACAD = 1	38.32	1.17	0.63	1.85	3.41
Received any aid in 2011–12	TOTAID > 0	95.22	1.13	0.26	4.38	19.18
Received any loans in 2011–12	TOTLOAN2 > 0	80.28	2.05	0.48	4.27	18.22
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	83.02	1.74	0.45	3.83	14.66
Received any federal benefits in 2017	FEDBEN17 = 1	37.53	1.29	0.59	2.20	4.86
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	68.26	1.87	0.61	3.10	9.60
Currently employed in 2017	JOBST17 = 1	65.14	1.36	0.66	2.06	4.23
Eligible for employer health insurance in 2017	JBEN17B = 1	67.54	1.68	0.79	2.12	4.48
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	53.07	1.72	0.85	2.03	4.12
Single parent in 2011–12	SINGLPAR = 1	26.08	1.26	0.53	2.38	5.66
Had two or more risk factors during 2011–12	RISKIND2 > 1	64.58	1.17	0.58	2.03	4.11
Single, not married as of 2017	SMAR17 = 1	56.00	1.32	0.60	2.20	4.82
Has any dependent children as of 2017	DEPANY17 = 1	55.07	1.19	0.60	1.98	3.93
Had a long-lasting disability or condition in 2014	DISABL14 = 1	17.26	0.91	0.49	1.85	3.41
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.42	0.99	0.51	1.92	3.71
Has any credit cards in 2017	CRDNUM17 = 1, 2	55.24	1.27	0.60	2.11	4.46
Pay off credit card balance each month in 2017	CRDPAY17 = 1	51.76	1.78	0.80	2.22	4.92
Summary statistics						
Mean	†	†	†	†	2.42	6.43
Minimum	†	†	†	†	1.14	1.31
25th percentile	†	†	†	†	1.98	3.93
Median	†	†	†	†	2.12	4.48
75th percentile	†	†	†	†	2.58	6.63
Maximum	†	†	†	†	4.38	19.18

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table J-7. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students whose base-year institution was public less-than-2-year or private nonprofit less-than-4-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	19.73	3.62	2.19	1.65	2.73
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	60.47	6.89	2.69	2.56	6.55
No degree from any institution as of June 2017	PRAT6Y = 3, 4	39.53	6.89	2.69	2.56	6.55
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	37.57	7.68	2.67	2.88	8.30
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.69	5.26	1.77	2.97	8.83
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	#	#	#	†	†
Attended more than one institution in 2011–12	STUDMULT > 1	14.58	8.16	1.94	4.20	17.65
Ever transferred through June 2017	TFNUM6Y > 0	33.53	6.84	2.60	2.63	6.93
Ever stopped out anywhere through June 2017	STNUM6Y > 0	50.32	7.20	2.75	2.61	6.84
Health care major when last enrolled through June 2017	MAJ17 = 14	26.49	6.21	2.59	2.40	5.74
Used academic advising services in 2011–12	USEACAD = 1	28.12	4.88	2.66	1.84	3.37
Received any aid in 2011–12	TOTAID > 0	76.78	3.83	2.32	1.65	2.72
Received any loans in 2011–12	TOTLOAN2 > 0	41.66	4.32	2.71	1.59	2.53
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	50.30	4.03	2.75	1.46	2.14
Received any federal benefits in 2017	FEDBEN17 = 1	26.32	3.93	2.42	1.62	2.63
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	32.64	6.62	2.77	2.39	5.70
Currently employed in 2017	JOBST17 = 1	70.43	6.45	2.75	2.35	5.51
Eligible for employer health insurance in 2017	JBEN17B = 1	58.38	7.44	3.55	2.10	4.39
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	66.81	6.60	3.39	1.95	3.80
Single parent in 2011–12	SINGLPAR = 1	14.46	3.45	1.94	1.78	3.17
Had two or more risk factors during 2011–12	RISKIND2 > 1	52.20	6.22	2.75	2.26	5.12
Single, not married as of 2017	SMAR17 = 1	58.38	3.94	2.71	1.45	2.11
Has any dependent children as of 2017	DEPANY17 = 1	33.86	4.74	2.61	1.82	3.32
Had a long-lasting disability or condition in 2014	DISABL14 = 1	7.56	2.46	1.56	1.57	2.47
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	14.17	2.69	1.92	1.40	1.96
Has any credit cards in 2017	CRDNUM17 = 1, 2	60.66	5.99	2.69	2.23	4.97
Pay off credit card balance each month in 2017	CRDPAY17 = 1	55.30	5.97	3.43	1.74	3.03
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	2.14	4.96
Minimum	†	†	†	†	1.40	1.96
25th percentile	†	†	†	†	1.65	2.72
Median	†	†	†	†	2.02	4.10
75th percentile	†	†	†	†	2.56	6.55
Maximum	†	†	†	†	4.20	17.65

† Not applicable.

#Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-8. Design effects, using the cross-sectional weight, for selected variables for first-time beginning male students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.36	0.69	0.40	1.73	3.01
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	52.06	1.14	0.51	2.21	4.90
No degree from any institution as of June 2017	PRAT6Y = 3, 4	47.94	1.14	0.51	2.21	4.90
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.33	0.39	0.21	1.88	3.55
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.41	0.59	0.33	1.81	3.28
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	25.86	1.08	0.45	2.39	5.72
Attended more than one institution in 2011–12	STUDMULT > 1	10.82	0.64	0.32	2.00	3.98
Ever transferred through June 2017	TFNUM6Y > 0	32.15	0.88	0.48	1.83	3.35
Ever stopped out anywhere through June 2017	STNUM6Y > 0	36.83	0.87	0.50	1.76	3.10
Health care major when last enrolled through June 2017	MAJ17 = 14	6.22	0.42	0.27	1.56	2.44
Used academic advising services in 2011–12	USEACAD = 1	61.05	1.08	0.54	2.00	3.99
Received any aid in 2011–12	TOTAID > 0	78.26	0.92	0.42	2.16	4.67
Received any loans in 2011–12	TOTLOAN2 > 0	42.38	1.30	0.51	2.57	6.58
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	51.68	1.30	0.51	2.54	6.44
Received any federal benefits in 2017	FEDBEN17 = 1	12.33	0.57	0.34	1.70	2.88
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	21.31	0.76	0.45	1.69	2.86
Currently employed in 2017	JOBST17 = 1	74.49	0.77	0.51	1.52	2.32
Eligible for employer health insurance in 2017	JBEN17B = 1	72.32	1.07	0.61	1.76	3.10
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	62.07	1.25	0.66	1.90	3.60
Single parent in 2011–12	SINGLPAR = 1	4.52	0.48	0.21	2.25	5.06
Had two or more risk factors during 2011–12	RISKIND2 > 1	26.22	1.33	0.45	2.95	8.70
Single, not married as of 2017	SMAR17 = 1	77.15	0.86	0.43	2.00	4.00
Has any dependent children as of 2017	DEPANY17 = 1	19.27	0.96	0.41	2.36	5.56
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.47	0.58	0.35	1.65	2.74
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	17.60	0.65	0.39	1.65	2.73
Has any credit cards in 2017	CRDNUM17 = 1, 2	68.64	0.87	0.48	1.83	3.36
Pay off credit card balance each month in 2017	CRDPAY17 = 1	64.51	0.94	0.60	1.55	2.41
Summary statistics						
Mean	†	†	†	†	1.98	4.05
Minimum	†	†	†	†	1.52	2.32
25th percentile	†	†	†	†	1.70	2.88
Median	†	†	†	†	1.88	3.55
75th percentile	†	†	†	†	2.21	4.90
Maximum	†	†	†	†	2.95	8.70

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-9. Design effects, using the cross-sectional weight, for selected variables for first-time beginning female students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.87	0.62	0.34	1.81	3.29
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	59.29	0.98	0.43	2.27	5.16
No degree from any institution as of June 2017	PRAT6Y = 3, 4	40.71	0.98	0.43	2.27	5.16
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	6.44	0.41	0.21	1.91	3.65
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.04	0.40	0.27	1.47	2.16
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	28.65	0.85	0.40	2.16	4.65
Attended more than one institution in 2011–12	STUDMULT > 1	14.63	1.00	0.31	3.25	10.57
Ever transferred through June 2017	TFNUM6Y > 0	36.72	0.76	0.42	1.80	3.23
Ever stopped out anywhere through June 2017	STNUM6Y > 0	40.23	0.90	0.43	2.10	4.40
Health care major when last enrolled through June 2017	MAJ17 = 14	23.78	0.72	0.40	1.79	3.21
Used academic advising services in 2011–12	USEACAD = 1	64.52	0.85	0.44	1.92	3.70
Received any aid in 2011–12	TOTAID > 0	83.61	0.75	0.32	2.33	5.44
Received any loans in 2011–12	TOTLOAN2 > 0	49.91	1.17	0.44	2.69	7.21
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	61.52	1.00	0.43	2.35	5.50
Received any federal benefits in 2017	FEDBEN17 = 1	23.84	0.65	0.37	1.74	3.01
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	25.70	0.73	0.41	1.80	3.24
Currently employed in 2017	JOBST17 = 1	72.72	0.77	0.44	1.72	2.97
Eligible for employer health insurance in 2017	JBEN17B = 1	66.47	0.89	0.56	1.59	2.52
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	61.28	0.93	0.58	1.61	2.58
Single parent in 2011–12	SINGLPAR = 1	10.72	0.44	0.27	1.62	2.61
Had two or more risk factors during 2011–12	RISKIND2 > 1	27.31	0.91	0.39	2.35	5.52
Single, not married as of 2017	SMAR17 = 1	71.88	0.71	0.39	1.80	3.22
Has any dependent children as of 2017	DEPANY17 = 1	30.15	0.74	0.40	1.84	3.38
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.73	0.53	0.30	1.78	3.18
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	24.59	0.57	0.38	1.50	2.25
Has any credit cards in 2017	CRDNUM17 = 1, 2	69.54	0.64	0.40	1.60	2.56
Pay off credit card balance each month in 2017	CRDPAY17 = 1	57.21	0.80	0.53	1.50	2.26
Summary statistics						
Mean	†	†	†	†	1.95	3.95
Minimum	†	†	†	†	1.47	2.16
25th percentile	†	†	†	†	1.62	2.61
Median	†	†	†	†	1.80	3.24
75th percentile	†	†	†	†	2.27	5.16
Maximum	†	†	†	†	3.25	10.57

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-10. Design effects, using the cross-sectional weight, for selected variables for first-time beginning White students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	15.55	0.62	0.33	1.90	3.59
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	60.89	1.12	0.44	2.53	6.38
No degree from any institution as of June 2017	PRAT6Y = 3, 4	39.11	1.12	0.44	2.53	6.38
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.87	0.39	0.20	2.02	4.08
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.80	0.48	0.29	1.65	2.71
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	32.30	1.19	0.42	2.79	7.78
Attended more than one institution in 2011–12	STUDMULT > 1	11.30	0.58	0.29	2.03	4.11
Ever transferred through June 2017	TFNUM6Y > 0	33.02	0.80	0.43	1.88	3.52
Ever stopped out anywhere through June 2017	STNUM6Y > 0	33.97	0.79	0.43	1.83	3.34
Health care major when last enrolled through June 2017	MAJ17 = 14	14.08	0.54	0.34	1.58	2.51
Used academic advising services in 2011–12	USEACAD = 1	66.88	0.89	0.46	1.96	3.85
Received any aid in 2011–12	TOTAID > 0	78.70	0.73	0.37	1.96	3.83
Received any loans in 2011–12	TOTLOAN2 > 0	47.11	1.18	0.45	2.59	6.73
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	55.91	1.00	0.45	2.21	4.88
Received any federal benefits in 2017	FEDBEN17 = 1	14.32	0.56	0.32	1.77	3.13
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	21.11	0.58	0.39	1.47	2.16
Currently employed in 2017	JOBST17 = 1	77.43	0.66	0.42	1.56	2.44
Eligible for employer health insurance in 2017	JBEN17B = 1	70.72	0.80	0.53	1.51	2.29
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	66.80	0.90	0.54	1.66	2.76
Single parent in 2011–12	SINGLPAR = 1	5.85	0.43	0.21	2.03	4.14
Had two or more risk factors during 2011–12	RISKIND2 > 1	24.70	1.24	0.39	3.16	9.98
Single, not married as of 2017	SMAR17 = 1	71.62	0.77	0.41	1.89	3.56
Has any dependent children as of 2017	DEPANY17 = 1	21.03	0.85	0.37	2.28	5.22
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.90	0.49	0.31	1.55	2.41
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	20.87	0.55	0.37	1.49	2.22
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.20	0.74	0.41	1.80	3.23
Pay off credit card balance each month in 2017	CRDPAY17 = 1	63.75	0.79	0.53	1.50	2.24
Summary statistics						
Mean	†	†	†	†	1.97	4.05
Minimum	†	†	†	†	1.47	2.16
25th percentile	†	†	†	†	1.58	2.51
Median	†	†	†	†	1.89	3.56
75th percentile	†	†	†	†	2.21	4.88
Maximum	†	†	†	†	3.16	9.98

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-11. Design effects, using the cross-sectional weight, for selected variables for first-time beginning Black or African American students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	21.86	1.30	0.69	1.88	3.55
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	41.58	1.59	0.82	1.93	3.72
No degree from any institution as of June 2017	PRAT6Y = 3, 4	58.42	1.59	0.82	1.93	3.72
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.95	0.56	0.36	1.54	2.36
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	7.94	0.84	0.45	1.86	3.47
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	16.85	1.16	0.63	1.86	3.45
Attended more than one institution in 2011–12	STUDMULT > 1	16.29	1.40	0.62	2.27	5.14
Ever transferred through June 2017	TFNUM6Y > 0	41.48	1.49	0.82	1.81	3.29
Ever stopped out anywhere through June 2017	STNUM6Y > 0	50.29	1.80	0.84	2.15	4.63
Health care major when last enrolled through June 2017	MAJ17 = 14	21.44	1.44	0.75	1.92	3.70
Used academic advising services in 2011–12	USEACAD = 1	57.35	1.63	0.89	1.83	3.36
Received any aid in 2011–12	TOTAID > 0	91.89	1.16	0.46	2.55	6.50
Received any loans in 2011–12	TOTLOAN2 > 0	60.48	2.06	0.82	2.52	6.36
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	74.48	1.86	0.73	2.55	6.49
Received any federal benefits in 2017	FEDBEN17 = 1	31.98	1.42	0.78	1.82	3.32
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	38.06	1.65	0.87	1.89	3.55
Currently employed in 2017	JOBST17 = 1	63.24	1.71	0.93	1.84	3.37
Eligible for employer health insurance in 2017	JBEN17B = 1	66.07	2.11	1.17	1.80	3.24
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	41.67	2.09	1.22	1.71	2.92
Single parent in 2011–12	SINGLPAR = 1	16.91	1.07	0.63	1.71	2.92
Had two or more risk factors during 2011–12	RISKIND2 > 1	36.02	1.75	0.80	2.18	4.74
Single, not married as of 2017	SMAR17 = 1	81.56	1.33	0.65	2.05	4.20
Has any dependent children as of 2017	DEPANY17 = 1	40.11	1.86	0.82	2.27	5.14
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.79	1.14	0.58	1.97	3.87
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.23	1.11	0.71	1.57	2.48
Has any credit cards in 2017	CRDNUM17 = 1, 2	56.93	1.45	0.83	1.75	3.08
Pay off credit card balance each month in 2017	CRDPAY17 = 1	52.40	2.06	1.16	1.77	3.15
Summary statistics						
Mean	†	†	†	†	1.96	3.92
Minimum	†	†	†	†	1.54	2.36
25th percentile	†	†	†	†	1.80	3.24
Median	†	†	†	†	1.88	3.55
75th percentile	†	†	†	†	2.15	4.63
Maximum	†	†	†	†	2.55	6.50

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-12. Design effects, using the cross-sectional weight, for selected variables for first-time beginning Hispanic or Latino students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	25.15	1.18	0.63	1.85	3.43
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	50.10	1.47	0.73	2.01	4.05
No degree from any institution as of June 2017	PRAT6Y = 3, 4	49.90	1.47	0.73	2.01	4.05
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	8.94	0.84	0.42	2.01	4.06
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.53	0.88	0.48	1.81	3.27
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	16.90	0.79	0.55	1.44	2.07
Attended more than one institution in 2011–12	STUDMULT > 1	15.76	2.01	0.53	3.77	14.18
Ever transferred through June 2017	TFNUM6Y > 0	35.28	1.25	0.70	1.79	3.21
Ever stopped out anywhere through June 2017	STNUM6Y > 0	47.61	1.51	0.73	2.07	4.29
Health care major when last enrolled through June 2017	MAJ17 = 14	19.55	1.21	0.64	1.90	3.62
Used academic advising services in 2011–12	USEACAD = 1	54.51	1.20	0.78	1.55	2.40
Received any aid in 2011–12	TOTAID > 0	82.77	1.41	0.55	2.55	6.51
Received any loans in 2011–12	TOTLOAN2 > 0	38.16	1.73	0.71	2.43	5.89
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	51.18	1.71	0.73	2.34	5.47
Received any federal benefits in 2017	FEDBEN17 = 1	23.64	1.22	0.62	1.97	3.86
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	25.14	1.50	0.68	2.22	4.94
Currently employed in 2017	JOBST17 = 1	71.11	1.30	0.78	1.67	2.79
Eligible for employer health insurance in 2017	JBEN17B = 1	65.67	1.77	0.98	1.81	3.28
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	56.76	1.62	1.02	1.58	2.50
Single parent in 2011–12	SINGLPAR = 1	8.98	0.72	0.42	1.72	2.96
Had two or more risk factors during 2011–12	RISKIND2 > 1	30.14	1.39	0.67	2.08	4.31
Single, not married as of 2017	SMAR17 = 1	72.26	1.30	0.65	1.99	3.96
Has any dependent children as of 2017	DEPANY17 = 1	30.83	1.34	0.68	1.99	3.94
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.36	1.00	0.49	2.03	4.11
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	21.47	1.08	0.60	1.79	3.20
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.16	1.27	0.66	1.92	3.68
Pay off credit card balance each month in 2017	CRDPAY17 = 1	53.70	1.38	0.87	1.58	2.50
Summary statistics						
Mean	†	†	†	†	2.00	4.17
Minimum	†	†	†	†	1.44	2.07
25th percentile	†	†	†	†	1.79	3.20
Median	†	†	†	†	1.97	3.86
75th percentile	†	†	†	†	2.07	4.29
Maximum	†	†	†	†	3.77	14.18

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-13. Design effects, using the cross-sectional weight, for selected variables for first-time beginning Asian students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	21.46	2.11	1.31	1.60	2.57
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	67.90	2.78	1.49	1.86	3.45
No degree from any institution as of June 2017	PRAT6Y = 3, 4	32.10	2.78	1.49	1.86	3.45
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	1.92	0.55	0.44	1.26	1.59
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.36	1.28	0.89	1.45	2.10
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	43.88	2.33	1.59	1.47	2.15
Attended more than one institution in 2011–12	STUDMULT > 1	10.03	1.12	0.96	1.17	1.37
Ever transferred through June 2017	TFNUM6Y > 0	32.98	2.26	1.50	1.50	2.25
Ever stopped out anywhere through June 2017	STNUM6Y > 0	30.46	2.14	1.47	1.45	2.11
Health care major when last enrolled through June 2017	MAJ17 = 14	12.64	1.44	1.13	1.27	1.62
Used academic advising services in 2011–12	USEACAD = 1	68.70	2.13	1.57	1.36	1.84
Received any aid in 2011–12	TOTAID > 0	75.34	2.88	1.38	2.09	4.35
Received any loans in 2011–12	TOTLOAN2 > 0	34.83	2.16	1.52	1.42	2.01
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	46.75	2.58	1.60	1.62	2.62
Received any federal benefits in 2017	FEDBEN17 = 1	12.22	1.59	1.05	1.51	2.29
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	8.90	1.17	0.96	1.22	1.48
Currently employed in 2017	JOBST17 = 1	66.29	2.50	1.78	1.41	1.99
Eligible for employer health insurance in 2017	JBEN17B = 1	69.88	2.85	2.14	1.33	1.78
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	65.44	3.17	2.22	1.43	2.05
Single parent in 2011–12	SINGLPAR = 1	2.15	0.56	0.46	1.21	1.46
Had two or more risk factors during 2011–12	RISKIND2 > 1	14.45	2.34	1.13	2.08	4.32
Single, not married as of 2017	SMAR17 = 1	86.70	1.72	1.09	1.58	2.50
Has any dependent children as of 2017	DEPANY17 = 1	9.45	1.34	0.94	1.44	2.06
Had a long-lasting disability or condition in 2014	DISABL14 = 1	7.05	1.18	0.87	1.36	1.84
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	22.72	1.59	1.34	1.19	1.41
Has any credit cards in 2017	CRDNUM17 = 1, 2	78.09	1.87	1.32	1.41	1.99
Pay off credit card balance each month in 2017	CRDPAY17 = 1	69.03	2.31	1.69	1.37	1.86
Summary statistics						
Mean	†	†	†	†	1.48	2.24
Minimum	†	†	†	†	1.17	1.37
25th percentile	†	†	†	†	1.33	1.78
Median	†	†	†	†	1.43	2.05
75th percentile	†	†	†	†	1.58	2.50
Maximum	†	†	†	†	2.09	4.35

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-14. Design effects, using the cross-sectional weight, for selected variables for first-time beginning students of other race/ethnicities including two or more races: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	17.27	1.63	1.09	1.49	2.21
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	54.03	2.49	1.44	1.73	2.99
No degree from any institution as of June 2017	PRAT6Y = 3, 4	45.97	2.49	1.44	1.73	2.99
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.45	1.61	0.66	2.45	6.02
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.50	1.76	0.92	1.90	3.62
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	24.81	1.84	1.25	1.47	2.17
Attended more than one institution in 2011–12	STUDMULT > 1	15.14	2.31	1.04	2.23	4.97
Ever transferred through June 2017	TFNUM6Y > 0	34.91	2.32	1.38	1.68	2.82
Ever stopped out anywhere through June 2017	STNUM6Y > 0	35.42	2.51	1.38	1.82	3.29
Health care major when last enrolled through June 2017	MAJ17 = 14	16.67	2.62	1.18	2.22	4.93
Used academic advising services in 2011–12	USEACAD = 1	61.69	2.98	1.49	1.99	3.96
Received any aid in 2011–12	TOTAID > 0	81.14	1.98	1.13	1.75	3.05
Received any loans in 2011–12	TOTLOAN2 > 0	46.49	2.47	1.44	1.71	2.93
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	57.41	2.55	1.43	1.78	3.18
Received any federal benefits in 2017	FEDBEN17 = 1	21.75	2.39	1.19	2.01	4.02
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	26.54	1.88	1.36	1.39	1.92
Currently employed in 2017	JOBST17 = 1	70.85	2.33	1.48	1.58	2.49
Eligible for employer health insurance in 2017	JBEN17B = 1	66.43	3.34	1.83	1.82	3.32
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	58.54	3.66	1.91	1.92	3.67
Single parent in 2011–12	SINGLPAR = 1	10.18	2.07	0.87	2.37	5.62
Had two or more risk factors during 2011–12	RISKIND2 > 1	25.52	2.83	1.26	2.24	5.03
Single, not married as of 2017	SMAR17 = 1	76.50	1.74	1.23	1.42	2.02
Has any dependent children as of 2017	DEPANY17 = 1	29.88	2.39	1.32	1.81	3.26
Had a long-lasting disability or condition in 2014	DISABL14 = 1	13.85	1.87	1.06	1.76	3.11
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.67	1.81	1.23	1.47	2.16
Has any credit cards in 2017	CRDNUM17 = 1, 2	63.39	2.41	1.39	1.73	2.98
Pay off credit card balance each month in 2017	CRDPAY17 = 1	54.36	2.99	1.82	1.64	2.69
Summary statistics						
Mean	†	†	†	†	1.82	3.39
Minimum	†	†	†	†	1.39	1.92
25th percentile	†	†	†	†	1.64	2.69
Median	†	†	†	†	1.76	3.11
75th percentile	†	†	†	†	1.99	3.96
Maximum	†	†	†	†	2.45	6.02

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table J-15. Design effects, using the cross-sectional weight, for selected variables for first-time beginning male, White students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	15.24	0.89	0.50	1.79	3.22
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	56.58	1.53	0.69	2.23	4.99
No degree from any institution as of June 2017	PRAT6Y = 3, 4	43.42	1.53	0.69	2.23	4.99
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.05	0.53	0.27	1.95	3.80
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.63	0.71	0.44	1.60	2.55
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	30.19	1.49	0.64	2.35	5.50
Attended more than one institution in 2011–12	STUDMULT > 1	9.59	0.67	0.41	1.65	2.74
Ever transferred through June 2017	TFNUM6Y > 0	30.96	1.31	0.64	2.04	4.17
Ever stopped out anywhere through June 2017	STNUM6Y > 0	33.09	1.15	0.65	1.76	3.11
Health care major when last enrolled through June 2017	MAJ17 = 14	4.38	0.44	0.31	1.43	2.04
Used academic advising services in 2011–12	USEACAD = 1	64.41	1.39	0.71	1.96	3.84
Received any aid in 2011–12	TOTAID > 0	75.30	1.13	0.60	1.90	3.61
Received any loans in 2011–12	TOTLOAN2 > 0	42.85	1.48	0.69	2.16	4.65
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	50.44	1.46	0.69	2.10	4.43
Received any federal benefits in 2017	FEDBEN17 = 1	9.54	0.65	0.41	1.61	2.58
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	19.43	0.95	0.59	1.61	2.60
Currently employed in 2017	JOBST17 = 1	78.41	0.99	0.63	1.56	2.44
Eligible for employer health insurance in 2017	JBEN17B = 1	72.44	1.20	0.78	1.54	2.36
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	66.75	1.39	0.82	1.69	2.85
Single parent in 2011–12	SINGLPAR = 1	3.07	0.41	0.24	1.71	2.92
Had two or more risk factors during 2011–12	RISKIND2 > 1	24.94	1.62	0.60	2.71	7.33
Single, not married as of 2017	SMAR17 = 1	75.47	1.08	0.60	1.82	3.30
Has any dependent children as of 2017	DEPANY17 = 1	16.73	1.06	0.52	2.05	4.21
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.04	0.74	0.47	1.58	2.51
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	16.50	0.83	0.51	1.62	2.63
Has any credit cards in 2017	CRDNUM17 = 1, 2	70.99	1.10	0.63	1.75	3.06
Pay off credit card balance each month in 2017	CRDPAY17 = 1	69.22	1.25	0.77	1.62	2.64
Summary statistics						
Mean	†	†	†	†	1.85	3.52
Minimum	†	†	†	†	1.43	2.04
25th percentile	†	†	†	†	1.61	2.60
Median	†	†	†	†	1.76	3.11
75th percentile	†	†	†	†	2.05	4.21
Maximum	†	†	†	†	2.71	7.33

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-16. Design effects, using the cross-sectional weight, for selected variables for first-time beginning male, Black or African American students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.61	1.92	1.07	1.79	3.20
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	38.73	2.60	1.29	2.01	4.05
No degree from any institution as of June 2017	PRAT6Y = 3, 4	61.27	2.60	1.29	2.01	4.05
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.17	1.02	0.53	1.92	3.67
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.80	1.38	0.75	1.83	3.34
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	16.48	1.88	0.99	1.91	3.64
Attended more than one institution in 2011–12	STUDMULT > 1	14.18	1.83	0.93	1.97	3.90
Ever transferred through June 2017	TFNUM6Y > 0	35.55	2.42	1.27	1.91	3.64
Ever stopped out anywhere through June 2017	STNUM6Y > 0	46.41	2.64	1.32	1.99	3.97
Health care major when last enrolled through June 2017	MAJ17 = 14	9.10	1.40	0.83	1.68	2.81
Used academic advising services in 2011–12	USEACAD = 1	55.79	3.00	1.42	2.11	4.44
Received any aid in 2011–12	TOTAID > 0	89.61	1.75	0.81	2.16	4.67
Received any loans in 2011–12	TOTLOAN2 > 0	55.29	3.11	1.32	2.36	5.55
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	68.92	3.19	1.23	2.59	6.73
Received any federal benefits in 2017	FEDBEN17 = 1	18.79	2.22	1.04	2.14	4.60
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	34.57	2.55	1.36	1.87	3.50
Currently employed in 2017	JOBST17 = 1	60.04	2.79	1.48	1.88	3.53
Eligible for employer health insurance in 2017	JBEN17B = 1	69.83	3.10	1.78	1.74	3.02
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	41.97	3.33	1.92	1.74	3.02
Single parent in 2011–12	SINGLPAR = 1	11.46	1.94	0.85	2.29	5.25
Had two or more risk factors during 2011–12	RISKIND2 > 1	36.12	2.75	1.28	2.16	4.65
Single, not married as of 2017	SMAR17 = 1	79.83	2.42	1.07	2.27	5.17
Has any dependent children as of 2017	DEPANY17 = 1	30.42	2.77	1.22	2.27	5.13
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.88	1.94	0.96	2.02	4.07
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	20.49	1.91	1.07	1.78	3.18
Has any credit cards in 2017	CRDNUM17 = 1, 2	54.77	2.48	1.32	1.87	3.51
Pay off credit card balance each month in 2017	CRDPAY17 = 1	54.88	2.97	1.80	1.65	2.74
Summary statistics						
Mean	†	†	†	†	2.00	4.04
Minimum	†	†	†	†	1.65	2.74
25th percentile	†	†	†	†	1.83	3.34
Median	†	†	†	†	1.97	3.90
75th percentile	†	†	†	†	2.16	4.65
Maximum	†	†	†	†	2.59	6.73

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-17. Design effects, using the cross-sectional weight, for selected variables for first-time beginning male, Hispanic or Latino students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	25.58	1.60	1.00	1.60	2.55
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	46.04	1.95	1.14	1.71	2.91
No degree from any institution as of June 2017	PRAT6Y = 3, 4	53.96	1.95	1.14	1.71	2.91
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	6.62	0.95	0.57	1.66	2.76
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.74	1.28	0.77	1.68	2.81
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	15.75	1.23	0.84	1.47	2.16
Attended more than one institution in 2011–12	STUDMULT > 1	13.29	1.50	0.78	1.92	3.70
Ever transferred through June 2017	TFNUM6Y > 0	34.12	1.87	1.09	1.71	2.94
Ever stopped out anywhere through June 2017	STNUM6Y > 0	44.07	2.10	1.14	1.85	3.41
Health care major when last enrolled through June 2017	MAJ17 = 14	9.37	1.28	0.74	1.72	2.97
Used academic advising services in 2011–12	USEACAD = 1	52.48	1.97	1.23	1.60	2.56
Received any aid in 2011–12	TOTAID > 0	81.95	1.77	0.88	2.00	4.00
Received any loans in 2011–12	TOTLOAN2 > 0	34.23	1.97	1.09	1.80	3.26
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	45.21	2.19	1.14	1.91	3.66
Received any federal benefits in 2017	FEDBEN17 = 1	17.06	1.47	0.86	1.70	2.90
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	21.05	1.68	1.00	1.68	2.81
Currently employed in 2017	JOBST17 = 1	74.94	1.95	1.17	1.66	2.77
Eligible for employer health insurance in 2017	JBEN17B = 1	72.03	2.68	1.42	1.89	3.57
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	57.67	2.41	1.56	1.54	2.38
Single parent in 2011–12	SINGLPAR = 1	5.36	1.15	0.52	2.22	4.94
Had two or more risk factors during 2011–12	RISKIND2 > 1	27.20	1.94	1.02	1.90	3.61
Single, not married as of 2017	SMAR17 = 1	75.60	1.91	0.99	1.93	3.74
Has any dependent children as of 2017	DEPANY17 = 1	23.11	1.76	0.97	1.81	3.29
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.56	1.46	0.82	1.79	3.19
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	19.03	1.68	0.90	1.86	3.47
Has any credit cards in 2017	CRDNUM17 = 1, 2	70.70	2.04	1.05	1.95	3.82
Pay off credit card balance each month in 2017	CRDPAY17 = 1	54.51	2.25	1.38	1.62	2.64
Summary statistics						
Mean	†	†	†	†	1.77	3.17
Minimum	†	†	†	†	1.47	2.16
25th percentile	†	†	†	†	1.66	2.77
Median	†	†	†	†	1.72	2.97
75th percentile	†	†	†	†	1.90	3.61
Maximum	†	†	†	†	2.22	4.94

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-18. Design effects, using the cross-sectional weight, for selected variables for first-time beginning male, Asian students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	26.44	3.16	2.12	1.49	2.22
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	58.48	4.16	2.37	1.76	3.09
No degree from any institution as of June 2017	PRAT6Y = 3, 4	41.52	4.16	2.37	1.76	3.09
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	1.51	0.68	0.59	1.15	1.33
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.27	1.92	1.32	1.45	2.11
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	37.08	3.07	2.32	1.32	1.76
Attended more than one institution in 2011–12	STUDMULT > 1	9.37	1.68	1.40	1.20	1.44
Ever transferred through June 2017	TFNUM6Y > 0	31.50	3.46	2.23	1.55	2.40
Ever stopped out anywhere through June 2017	STNUM6Y > 0	37.17	3.47	2.32	1.50	2.24
Health care major when last enrolled through June 2017	MAJ17 = 14	7.87	1.88	1.39	1.36	1.84
Used academic advising services in 2011–12	USEACAD = 1	65.79	3.09	2.44	1.26	1.60
Received any aid in 2011–12	TOTAID > 0	73.08	3.73	2.13	1.75	3.07
Received any loans in 2011–12	TOTLOAN2 > 0	31.79	3.05	2.24	1.36	1.86
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	43.08	3.32	2.38	1.40	1.95
Received any federal benefits in 2017	FEDBEN17 = 1	10.44	2.25	1.47	1.53	2.35
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	8.98	1.92	1.47	1.30	1.70
Currently employed in 2017	JOBST17 = 1	63.36	4.48	2.77	1.62	2.62
Eligible for employer health insurance in 2017	JBEN17B = 1	75.33	4.81	3.13	1.54	2.36
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	59.04	5.20	3.57	1.46	2.12
Single parent in 2011–12	SINGLPAR = 1	1.84	0.80	0.65	1.24	1.53
Had two or more risk factors during 2011–12	RISKIND2 > 1	15.99	3.54	1.76	2.01	4.05
Single, not married as of 2017	SMAR17 = 1	91.16	1.98	1.36	1.45	2.11
Has any dependent children as of 2017	DEPANY17 = 1	5.04	1.45	1.05	1.38	1.91
Had a long-lasting disability or condition in 2014	DISABL14 = 1	5.83	1.55	1.21	1.28	1.65
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	18.67	2.27	1.87	1.21	1.47
Has any credit cards in 2017	CRDNUM17 = 1, 2	74.64	3.04	2.09	1.46	2.12
Pay off credit card balance each month in 2017	CRDPAY17 = 1	71.71	3.27	2.51	1.30	1.69
Summary statistics						
Mean	†	†	†	†	1.45	2.14
Minimum	†	†	†	†	1.15	1.33
25th percentile	†	†	†	†	1.30	1.69
Median	†	†	†	†	1.45	2.11
75th percentile	†	†	†	†	1.54	2.36
Maximum	†	†	†	†	2.01	4.05

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-19. Design effects, using the cross-sectional weight, for selected variables for first-time beginning male students of other race/ethnicities including two or more races: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	13.70	2.81	1.55	1.81	3.28
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	47.34	3.53	2.25	1.57	2.45
No degree from any institution as of June 2017	PRAT6Y = 3, 4	52.66	3.53	2.25	1.57	2.45
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	3.34	0.90	0.81	1.11	1.24
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	14.88	3.43	1.61	2.14	4.57
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	21.72	2.57	1.86	1.38	1.90
Attended more than one institution in 2011–12	STUDMULT > 1	9.40	2.05	1.32	1.55	2.42
Ever transferred through June 2017	TFNUM6Y > 0	31.05	3.50	2.09	1.67	2.81
Ever stopped out anywhere through June 2017	STNUM6Y > 0	29.30	3.38	2.05	1.65	2.72
Health care major when last enrolled through June 2017	MAJ17 = 14	7.34	2.74	1.30	2.11	4.43
Used academic advising services in 2011–12	USEACAD = 1	60.81	4.19	2.36	1.77	3.15
Received any aid in 2011–12	TOTAID > 0	76.14	3.68	1.92	1.91	3.66
Received any loans in 2011–12	TOTLOAN2 > 0	44.31	3.58	2.24	1.60	2.55
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	54.00	3.92	2.25	1.74	3.03
Received any federal benefits in 2017	FEDBEN17 = 1	13.92	3.35	1.56	2.15	4.60
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	24.48	3.05	2.08	1.47	2.15
Currently employed in 2017	JOBST17 = 1	74.59	3.41	2.14	1.59	2.54
Eligible for employer health insurance in 2017	JBEN17B = 1	74.44	3.71	2.50	1.49	2.21
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	61.66	4.77	2.78	1.71	2.93
Single parent in 2011–12	SINGLPAR = 1	3.54	2.01	0.83	2.41	5.80
Had two or more risk factors during 2011–12	RISKIND2 > 1	23.81	3.85	1.92	2.00	4.01
Single, not married as of 2017	SMAR17 = 1	78.45	3.05	1.86	1.64	2.70
Has any dependent children as of 2017	DEPANY17 = 1	23.41	4.05	1.91	2.12	4.50
Had a long-lasting disability or condition in 2014	DISABL14 = 1	15.68	2.91	1.76	1.65	2.73
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	16.56	3.05	1.68	1.82	3.31
Has any credit cards in 2017	CRDNUM17 = 1, 2	62.92	3.90	2.18	1.79	3.20
Pay off credit card balance each month in 2017	CRDPAY17 = 1	52.83	4.38	2.84	1.54	2.37
Summary statistics						
Mean	†	†	†	†	1.74	3.10
Minimum	†	†	†	†	1.11	1.24
25th percentile	†	†	†	†	1.57	2.45
Median	†	†	†	†	1.67	2.81
75th percentile	†	†	†	†	1.91	3.66
Maximum	†	†	†	†	2.41	5.80

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-20. Design effects, using the cross-sectional weight, for selected variables for first-time beginning female, White students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	15.80	0.77	0.44	1.76	3.09
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	64.39	1.16	0.58	2.01	4.05
No degree from any institution as of June 2017	PRAT6Y = 3, 4	35.61	1.16	0.58	2.01	4.05
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.53	0.57	0.28	2.09	4.35
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.93	0.61	0.39	1.57	2.47
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	34.02	1.24	0.57	2.17	4.70
Attended more than one institution in 2011–12	STUDMULT > 1	12.69	0.78	0.40	1.95	3.81
Ever transferred through June 2017	TFNUM6Y > 0	34.69	0.99	0.57	1.72	2.97
Ever stopped out anywhere through June 2017	STNUM6Y > 0	34.69	1.06	0.57	1.84	3.39
Health care major when last enrolled through June 2017	MAJ17 = 14	21.80	0.84	0.53	1.58	2.51
Used academic advising services in 2011–12	USEACAD = 1	68.79	1.08	0.59	1.83	3.35
Received any aid in 2011–12	TOTAID > 0	81.46	0.79	0.47	1.70	2.89
Received any loans in 2011–12	TOTLOAN2 > 0	50.57	1.30	0.60	2.16	4.66
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	60.36	1.14	0.59	1.94	3.76
Received any federal benefits in 2017	FEDBEN17 = 1	18.21	0.83	0.46	1.79	3.21
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	22.42	0.81	0.53	1.52	2.30
Currently employed in 2017	JOBST17 = 1	76.62	0.96	0.57	1.69	2.84
Eligible for employer health insurance in 2017	JBEN17B = 1	69.28	1.00	0.71	1.41	1.99
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	66.84	1.12	0.73	1.54	2.38
Single parent in 2011–12	SINGLPAR = 1	8.11	0.66	0.33	2.00	3.99
Had two or more risk factors during 2011–12	RISKIND2 > 1	24.50	1.21	0.52	2.33	5.43
Single, not married as of 2017	SMAR17 = 1	68.48	0.90	0.56	1.60	2.57
Has any dependent children as of 2017	DEPANY17 = 1	24.53	0.98	0.52	1.90	3.61
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.57	0.68	0.42	1.61	2.59
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	24.42	0.78	0.52	1.51	2.27
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.36	0.85	0.54	1.57	2.46
Pay off credit card balance each month in 2017	CRDPAY17 = 1	59.33	1.00	0.71	1.40	1.96
Summary statistics						
Mean	†	†	†	†	1.79	3.25
Minimum	†	†	†	†	1.40	1.96
25th percentile	†	†	†	†	1.57	2.47
Median	†	†	†	†	1.76	3.09
75th percentile	†	†	†	†	2.00	3.99
Maximum	†	†	†	†	2.33	5.43

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-21. Design effects, using the cross-sectional weight, for selected variables for first-time beginning female, Black or African American students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	22.70	1.86	0.90	2.06	4.25
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	43.51	1.89	1.07	1.77	3.14
No degree from any institution as of June 2017	PRAT6Y = 3, 4	56.49	1.89	1.07	1.77	3.14
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.48	0.67	0.49	1.36	1.84
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	7.36	0.85	0.56	1.51	2.29
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	17.11	1.28	0.81	1.57	2.47
Attended more than one institution in 2011–12	STUDMULT > 1	17.72	1.93	0.82	2.34	5.50
Ever transferred through June 2017	TFNUM6Y > 0	45.50	1.89	1.07	1.76	3.11
Ever stopped out anywhere through June 2017	STNUM6Y > 0	52.93	2.25	1.08	2.09	4.38
Health care major when last enrolled through June 2017	MAJ17 = 14	30.04	1.98	1.07	1.85	3.42
Used academic advising services in 2011–12	USEACAD = 1	58.43	1.79	1.14	1.57	2.47
Received any aid in 2011–12	TOTAID > 0	93.44	1.35	0.53	2.53	6.38
Received any loans in 2011–12	TOTLOAN2 > 0	64.00	2.26	1.03	2.19	4.77
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	78.25	1.90	0.89	2.13	4.55
Received any federal benefits in 2017	FEDBEN17 = 1	40.93	2.11	1.06	1.99	3.95
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	40.47	2.08	1.14	1.83	3.35
Currently employed in 2017	JOBST17 = 1	65.48	2.11	1.20	1.76	3.10
Eligible for employer health insurance in 2017	JBEN17B = 1	63.67	3.07	1.55	1.98	3.92
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	41.48	2.59	1.59	1.63	2.65
Single parent in 2011–12	SINGLPAR = 1	20.60	1.42	0.87	1.62	2.63
Had two or more risk factors during 2011–12	RISKIND2 > 1	35.95	1.87	1.03	1.81	3.27
Single, not married as of 2017	SMAR17 = 1	82.74	1.50	0.81	1.84	3.39
Has any dependent children as of 2017	DEPANY17 = 1	46.70	2.22	1.08	2.06	4.26
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.05	1.39	0.73	1.91	3.67
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	25.09	1.57	0.93	1.68	2.81
Has any credit cards in 2017	CRDNUM17 = 1, 2	58.40	1.69	1.06	1.59	2.53
Pay off credit card balance each month in 2017	CRDPAY17 = 1	50.82	2.58	1.52	1.69	2.87
Summary statistics						
Mean	†	†	†	†	1.85	3.49
Minimum	†	†	†	†	1.36	1.84
25th percentile	†	†	†	†	1.63	2.65
Median	†	†	†	†	1.81	3.27
75th percentile	†	†	†	†	2.06	4.25
Maximum	†	†	†	†	2.53	6.38

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-22. Design effects, using the cross-sectional weight, for selected variables for first-time beginning female, Hispanic or Latino students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	24.85	1.55	0.82	1.89	3.59
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	52.85	1.94	0.95	2.05	4.21
No degree from any institution as of June 2017	PRAT6Y = 3, 4	47.15	1.94	0.95	2.05	4.21
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	10.50	1.14	0.58	1.97	3.87
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.39	1.04	0.63	1.67	2.78
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	17.68	1.04	0.72	1.43	2.06
Attended more than one institution in 2011–12	STUDMULT > 1	17.44	2.85	0.72	3.96	15.65
Ever transferred through June 2017	TFNUM6Y > 0	36.06	1.86	0.91	2.04	4.18
Ever stopped out anywhere through June 2017	STNUM6Y > 0	50.00	1.96	0.95	2.07	4.29
Health care major when last enrolled through June 2017	MAJ17 = 14	26.48	1.64	0.92	1.79	3.19
Used academic advising services in 2011–12	USEACAD = 1	55.87	1.87	1.00	1.87	3.50
Received any aid in 2011–12	TOTAID > 0	83.33	1.77	0.71	2.50	6.26
Received any loans in 2011–12	TOTLOAN2 > 0	40.82	2.33	0.93	2.50	6.24
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	55.21	2.31	0.94	2.45	5.99
Received any federal benefits in 2017	FEDBEN17 = 1	28.08	1.85	0.85	2.17	4.73
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	27.87	2.26	0.90	2.51	6.29
Currently employed in 2017	JOBST17 = 1	68.55	1.73	1.04	1.66	2.76
Eligible for employer health insurance in 2017	JBEN17B = 1	61.02	2.34	1.33	1.76	3.11
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	56.09	2.51	1.35	1.86	3.44
Single parent in 2011–12	SINGLPAR = 1	11.43	1.03	0.60	1.71	2.94
Had two or more risk factors during 2011–12	RISKIND2 > 1	32.12	1.71	0.89	1.93	3.71
Single, not married as of 2017	SMAR17 = 1	70.01	1.72	0.87	1.98	3.92
Has any dependent children as of 2017	DEPANY17 = 1	36.04	1.85	0.91	2.03	4.13
Had a long-lasting disability or condition in 2014	DISABL14 = 1	10.56	1.16	0.62	1.88	3.54
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.12	1.42	0.80	1.78	3.17
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.47	1.53	0.86	1.79	3.20
Pay off credit card balance each month in 2017	CRDPAY17 = 1	53.16	1.81	1.13	1.61	2.58
Summary statistics						
Mean	†	†	†	†	2.03	4.35
Minimum	†	†	†	†	1.43	2.06
25th percentile	†	†	†	†	1.78	3.17
Median	†	†	†	†	1.93	3.71
75th percentile	†	†	†	†	2.07	4.29
Maximum	†	†	†	†	3.96	15.65

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table J-23. Design effects, using the cross-sectional weight, for selected variables for first-time beginning female, Asian students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	16.47	3.06	1.59	1.92	3.69
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	77.32	3.06	1.80	1.70	2.90
No degree from any institution as of June 2017	PRAT6Y = 3, 4	22.68	3.06	1.80	1.70	2.90
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	2.33	0.91	0.65	1.40	1.96
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.45	1.66	1.19	1.39	1.93
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	50.67	3.21	2.15	1.50	2.24
Attended more than one institution in 2011–12	STUDMULT > 1	10.69	1.62	1.33	1.22	1.49
Ever transferred through June 2017	TFNUM6Y > 0	34.47	3.09	2.04	1.52	2.30
Ever stopped out anywhere through June 2017	STNUM6Y > 0	23.74	2.41	1.83	1.32	1.74
Health care major when last enrolled through June 2017	MAJ17 = 14	17.32	2.05	1.73	1.19	1.41
Used academic advising services in 2011–12	USEACAD = 1	71.44	2.71	2.03	1.33	1.78
Received any aid in 2011–12	TOTAID > 0	77.61	3.20	1.79	1.78	3.19
Received any loans in 2011–12	TOTLOAN2 > 0	37.86	2.72	2.08	1.31	1.71
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	50.42	3.24	2.15	1.51	2.28
Received any federal benefits in 2017	FEDBEN17 = 1	14.00	1.77	1.49	1.19	1.42
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	8.83	1.39	1.28	1.09	1.18
Currently employed in 2017	JOBST17 = 1	68.91	3.37	2.30	1.47	2.15
Eligible for employer health insurance in 2017	JBEN17B = 1	65.40	3.93	2.90	1.36	1.84
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	70.69	3.70	2.77	1.34	1.79
Single parent in 2011–12	SINGLPAR = 1	2.46	0.84	0.67	1.27	1.60
Had two or more risk factors during 2011–12	RISKIND2 > 1	12.91	2.65	1.44	1.84	3.38
Single, not married as of 2017	SMAR17 = 1	82.25	2.82	1.64	1.72	2.94
Has any dependent children as of 2017	DEPANY17 = 1	13.86	1.81	1.48	1.22	1.49
Had a long-lasting disability or condition in 2014	DISABL14 = 1	8.20	1.85	1.23	1.50	2.25
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	26.77	2.53	1.90	1.33	1.76
Has any credit cards in 2017	CRDNUM17 = 1, 2	81.55	2.17	1.67	1.30	1.69
Pay off credit card balance each month in 2017	CRDPAY17 = 1	66.57	3.27	2.28	1.43	2.06
Summary statistics						
Mean	†	†	†	†	1.44	2.11
Minimum	†	†	†	†	1.09	1.18
25th percentile	†	†	†	†	1.30	1.69
Median	†	†	†	†	1.39	1.93
75th percentile	†	†	†	†	1.52	2.30
Maximum	†	†	†	†	1.92	3.69

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-24. Design effects, using the cross-sectional weight, for selected variables for first-time beginning female students of other race/ethnicities including two or more races: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	19.87	2.41	1.50	1.61	2.58
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	58.90	2.97	1.85	1.60	2.56
No degree from any institution as of June 2017	PRAT6Y = 3, 4	41.10	2.97	1.85	1.60	2.56
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	6.98	2.76	0.96	2.87	8.26
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	9.03	1.73	1.08	1.60	2.55
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	27.06	2.52	1.67	1.50	2.26
Attended more than one institution in 2011–12	STUDMULT > 1	19.31	3.54	1.49	2.38	5.67
Ever transferred through June 2017	TFNUM6Y > 0	37.72	2.87	1.83	1.57	2.46
Ever stopped out anywhere through June 2017	STNUM6Y > 0	39.86	3.39	1.85	1.84	3.37
Health care major when last enrolled through June 2017	MAJ17 = 14	23.27	3.64	1.73	2.10	4.43
Used academic advising services in 2011–12	USEACAD = 1	62.33	3.79	1.93	1.96	3.86
Received any aid in 2011–12	TOTAID > 0	84.78	2.17	1.35	1.61	2.58
Received any loans in 2011–12	TOTLOAN2 > 0	48.07	3.15	1.88	1.67	2.80
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	59.90	3.02	1.85	1.64	2.68
Received any federal benefits in 2017	FEDBEN17 = 1	27.44	3.02	1.68	1.79	3.22
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	28.05	2.65	1.79	1.48	2.20
Currently employed in 2017	JOBST17 = 1	67.89	3.36	2.03	1.66	2.74
Eligible for employer health insurance in 2017	JBEN17B = 1	59.47	5.01	2.59	1.93	3.72
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	55.83	4.96	2.62	1.89	3.58
Single parent in 2011–12	SINGLPAR = 1	15.01	3.14	1.35	2.34	5.46
Had two or more risk factors during 2011–12	RISKIND2 > 1	26.77	3.39	1.67	2.03	4.13
Single, not married as of 2017	SMAR17 = 1	75.09	2.64	1.63	1.62	2.61
Has any dependent children as of 2017	DEPANY17 = 1	34.58	3.20	1.79	1.78	3.18
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.50	2.31	1.32	1.75	3.07
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	28.85	2.59	1.71	1.52	2.30
Has any credit cards in 2017	CRDNUM17 = 1, 2	63.73	2.97	1.81	1.64	2.69
Pay off credit card balance each month in 2017	CRDPAY17 = 1	55.46	3.89	2.37	1.64	2.68
Summary statistics						
Mean	†	†	†	†	1.80	3.34
Minimum	†	†	†	†	1.48	2.20
25th percentile	†	†	†	†	1.60	2.56
Median	†	†	†	†	1.66	2.74
75th percentile	†	†	†	†	1.93	3.72
Maximum	†	†	†	†	2.87	8.26

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-25. Design effects, using the panel weight, for selected variables for all first-time beginning students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.39	0.77	0.28	2.79	7.77
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	57.99	1.79	0.35	5.12	26.23
No degree from any institution as of June 2017	PRAT6Y = 3, 4	42.01	1.79	0.35	5.12	26.23
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.91	0.48	0.17	2.84	8.08
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.62	1.07	0.23	4.72	22.30
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	28.28	2.14	0.32	6.68	44.60
Attended more than one institution in 2011–12	STUDMULT > 1	12.97	0.85	0.24	3.56	12.70
Ever transferred through June 2017	TFNUM6Y > 0	33.86	0.79	0.34	2.35	5.52
Ever stopped out anywhere through June 2017	STNUM6Y > 0	38.06	0.81	0.34	2.35	5.52
Health care major when last enrolled through June 2017	MAJ17 = 14	16.93	0.69	0.28	2.42	5.85
Used academic advising services in 2011–12	USEACAD = 1	62.18	0.73	0.34	2.11	4.47
Received any aid in 2011–12	TOTAID > 0	81.09	0.57	0.28	2.05	4.19
Received any loans in 2011–12	TOTLOAN2 > 0	46.37	1.26	0.35	3.56	12.65
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	56.93	1.44	0.35	4.11	16.88
Received any federal benefits in 2017	FEDBEN17 = 1	19.53	0.77	0.28	2.74	7.50
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	24.84	0.78	0.31	2.53	6.40
Currently employed in 2017	JOBST17 = 1	74.22	0.79	0.35	2.24	5.00
Eligible for employer health insurance in 2017	JBEN17B = 1	69.06	1.23	0.44	2.83	7.99
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	62.17	1.34	0.46	2.93	8.59
Single parent in 2011–12	SINGLPAR = 1	8.23	0.48	0.20	2.45	6.00
Had two or more risk factors during 2011–12	RISKIND2 > 1	28.00	1.45	0.32	4.56	20.77
Single, not married as of 2017	SMAR17 = 1	72.75	1.14	0.32	3.62	13.10
Has any dependent children as of 2017	DEPANY17 = 1	26.00	1.28	0.31	4.09	16.77
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.83	1.13	0.23	4.93	24.32
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	21.42	0.63	0.29	2.16	4.66
Has any credit cards in 2017	CRDNUM17 = 1, 2	69.25	1.12	0.33	3.43	11.77
Pay off credit card balance each month in 2017	CRDPAY17 = 1	58.98	0.98	0.43	2.29	5.25
Summary statistics						
Mean	†	†	†	†	3.35	12.63
Minimum	†	†	†	†	2.05	4.19
25th percentile	†	†	†	†	2.35	5.52
Median	†	†	†	†	2.84	8.08
75th percentile	†	†	†	†	4.11	16.88
Maximum	†	†	†	†	6.68	44.60

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-26. Design effects, using the panel weight, for selected variables for first-time beginning students whose base-year institution was public 2-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	25.37	1.69	0.57	2.96	8.77
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	40.65	1.47	0.64	2.29	5.25
No degree from any institution as of June 2017	PRAT6Y = 3, 4	59.35	1.47	0.64	2.29	5.25
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.18	0.60	0.29	2.07	4.27
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	23.25	1.69	0.55	3.06	9.33
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	#	#	#	†	†
Attended more than one institution in 2011–12	STUDMULT > 1	5.78	0.67	0.31	2.19	4.81
Ever transferred through June 2017	TFNUM6Y > 0	40.53	1.12	0.64	1.75	3.05
Ever stopped out anywhere through June 2017	STNUM6Y > 0	44.87	1.80	0.65	2.77	7.65
Health care major when last enrolled through June 2017	MAJ17 = 14	18.97	1.31	0.54	2.42	5.83
Used academic advising services in 2011–12	USEACAD = 1	51.24	1.79	0.65	2.74	7.48
Received any aid in 2011–12	TOTAID > 0	69.79	1.34	0.60	2.23	4.98
Received any loans in 2011–12	TOTLOAN2 > 0	19.80	0.89	0.52	1.72	2.94
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	38.88	1.71	0.64	2.68	7.18
Received any federal benefits in 2017	FEDBEN17 = 1	22.10	1.12	0.54	2.06	4.23
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	16.77	0.89	0.49	1.83	3.34
Currently employed in 2017	JOBST17 = 1	72.86	1.26	0.68	1.83	3.37
Eligible for employer health insurance in 2017	JBEN17B = 1	68.84	2.00	0.84	2.37	5.62
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	53.91	1.70	0.91	1.87	3.51
Single parent in 2011–12	SINGLPAR = 1	8.45	0.80	0.36	2.20	4.82
Had two or more risk factors during 2011–12	RISKIND2 > 1	39.25	1.81	0.64	2.83	8.01
Single, not married as of 2017	SMAR17 = 1	69.40	1.60	0.60	2.65	7.01
Has any dependent children as of 2017	DEPANY17 = 1	32.23	1.37	0.61	2.24	5.04
Had a long-lasting disability or condition in 2014	DISABL14 = 1	13.19	1.56	0.44	3.53	12.43
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	22.08	1.07	0.54	1.97	3.88
Has any credit cards in 2017	CRDNUM17 = 1, 2	65.76	1.42	0.62	2.29	5.27
Pay off credit card balance each month in 2017	CRDPAY17 = 1	53.04	2.00	0.81	2.48	6.14
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	2.36	5.75
Minimum	†	†	†	†	1.72	2.94
25th percentile	†	†	†	†	2.06	4.23
Median	†	†	†	†	2.29	5.25
75th percentile	†	†	†	†	2.68	7.18
Maximum	†	†	†	†	3.53	12.43

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-27. Design effects, using the panel weight, for selected variables for first-time beginning students whose base-year institution was public 4-year, non-doctorate granting or public 4-year, doctorate-granting: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	13.49	0.98	0.57	1.72	2.97
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	70.38	2.22	0.76	2.92	8.55
No degree from any institution as of June 2017	PRAT6Y = 3, 4	29.62	2.22	0.76	2.92	8.55
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	#	#	#	†	†
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	3.18	0.41	0.29	1.40	1.96
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	54.33	2.09	0.83	2.53	6.39
Attended more than one institution in 2011–12	STUDMULT > 1	12.35	0.94	0.55	1.72	2.96
Ever transferred through June 2017	TFNUM6Y > 0	31.12	1.13	0.77	1.47	2.17
Ever stopped out anywhere through June 2017	STNUM6Y > 0	26.31	1.23	0.73	1.68	2.83
Health care major when last enrolled through June 2017	MAJ17 = 14	12.43	0.98	0.57	1.71	2.92
Used academic advising services in 2011–12	USEACAD = 1	78.73	1.37	0.68	2.02	4.07
Received any aid in 2011–12	TOTAID > 0	84.19	1.15	0.61	1.90	3.60
Received any loans in 2011–12	TOTLOAN2 > 0	55.43	1.02	0.83	1.24	1.53
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	62.72	1.00	0.80	1.25	1.56
Received any federal benefits in 2017	FEDBEN17 = 1	12.19	0.95	0.54	1.75	3.05
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	17.56	1.34	0.63	2.12	4.49
Currently employed in 2017	JOBST17 = 1	76.80	1.28	0.79	1.62	2.63
Eligible for employer health insurance in 2017	JBEN17B = 1	70.07	1.40	0.97	1.44	2.08
Consider current job related to intended future work in 2017	JOBRFLT17 = 1	68.20	2.00	0.99	2.02	4.10
Single parent in 2011–12	SINGLPAR = 1	2.44	0.76	0.26	2.96	8.78
Had two or more risk factors during 2011–12	RISKIND2 > 1	8.42	1.94	0.46	4.21	17.69
Single, not married as of 2017	SMAR17 = 1	80.35	1.07	0.66	1.62	2.63
Has any dependent children as of 2017	DEPANY17 = 1	11.89	1.11	0.54	2.05	4.22
Had a long-lasting disability or condition in 2014	DISABL14 = 1	9.25	0.65	0.48	1.34	1.79
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	19.93	0.91	0.66	1.36	1.86
Has any credit cards in 2017	CRDNUM17 = 1, 2	76.22	1.63	0.71	2.30	5.29
Pay off credit card balance each month in 2017	CRDPAY17 = 1	61.94	1.55	0.92	1.69	2.85
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	1.96	4.29
Minimum	†	†	†	†	1.24	1.53
25th percentile	†	†	†	†	1.47	2.17
Median	†	†	†	†	1.72	2.97
75th percentile	†	†	†	†	2.12	4.49
Maximum	†	†	†	†	4.21	17.69

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-28. Design effects, using the panel weight, for selected variables for first-time beginning students whose base-year institution was private nonprofit 4-year, non-doctorate granting or private nonprofit 4-year, doctorate-granting: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	7.93	1.06	0.45	2.34	5.46
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	81.05	3.31	0.66	5.03	25.27
No degree from any institution as of June 2017	PRAT6Y = 3, 4	18.95	3.31	0.66	5.03	25.27
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	#	#	#	†	†
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	1.04	0.53	0.17	3.08	9.52
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	67.43	3.08	0.79	3.92	15.36
Attended more than one institution in 2011–12	STUDMULT > 1	10.67	1.30	0.52	2.51	6.31
Ever transferred through June 2017	TFNUM6Y > 0	27.87	2.48	0.75	3.29	10.84
Ever stopped out anywhere through June 2017	STNUM6Y > 0	21.84	3.17	0.69	4.56	20.83
Health care major when last enrolled through June 2017	MAJ17 = 14	9.15	0.99	0.51	1.96	3.84
Used academic advising services in 2011–12	USEACAD = 1	81.93	1.65	0.65	2.56	6.54
Received any aid in 2011–12	TOTAID > 0	90.59	1.24	0.49	2.54	6.43
Received any loans in 2011–12	TOTLOAN2 > 0	64.31	1.77	0.80	2.20	4.85
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	67.72	1.84	0.79	2.34	5.47
Received any federal benefits in 2017	FEDBEN17 = 1	9.43	1.20	0.49	2.43	5.93
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	18.76	1.88	0.66	2.87	8.26
Currently employed in 2017	JOBST17 = 1	77.85	1.79	0.74	2.40	5.78
Eligible for employer health insurance in 2017	JBEN17B = 1	72.06	1.57	0.91	1.73	2.99
Consider current job related to intended future work in 2017	JOBRFLT17 = 1	73.72	1.70	0.89	1.91	3.67
Single parent in 2011–12	SINGLPAR = 1	2.20	0.82	0.25	3.34	11.13
Had two or more risk factors during 2011–12	RISKIND2 > 1	6.15	1.43	0.40	3.55	12.62
Single, not married as of 2017	SMAR17 = 1	82.74	1.72	0.63	2.71	7.37
Has any dependent children as of 2017	DEPANY17 = 1	11.21	2.17	0.53	4.09	16.74
Had a long-lasting disability or condition in 2014	DISABL14 = 1	10.56	2.00	0.52	3.88	15.08
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	22.20	1.34	0.70	1.93	3.71
Has any credit cards in 2017	CRDNUM17 = 1, 2	76.57	1.54	0.71	2.16	4.67
Pay off credit card balance each month in 2017	CRDPAY17 = 1	70.66	1.65	0.87	1.89	3.58
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	2.93	9.52
Minimum	†	†	†	†	1.73	2.99
25th percentile	†	†	†	†	2.20	4.85
Median	†	†	†	†	2.55	6.49
75th percentile	†	†	†	†	3.55	12.62
Maximum	†	†	†	†	5.03	25.27

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-29. Design effects, using the panel weight, for selected variables for first-time beginning students whose base-year institution was private for-profit less-than-2-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	24.40	4.24	1.70	2.49	6.20
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	66.58	5.01	1.87	2.68	7.20
No degree from any institution as of June 2017	PRAT6Y = 3, 4	33.42	5.01	1.87	2.68	7.20
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	51.50	6.18	1.98	3.12	9.73
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	#	#	#	†	†
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	#	#	#	†	†
Attended more than one institution in 2011–12	STUDMULT > 1	49.89	15.07	1.98	7.61	57.90
Ever transferred through June 2017	TFNUM6Y > 0	24.59	3.21	1.71	1.88	3.54
Ever stopped out anywhere through June 2017	STNUM6Y > 0	71.97	7.06	1.78	3.97	15.74
Health care major when last enrolled through June 2017	MAJ17 = 14	40.31	6.98	2.01	3.48	12.09
Used academic advising services in 2011–12	USEACAD = 1	27.78	3.53	1.77	1.99	3.96
Received any aid in 2011–12	TOTAID > 0	96.61	1.40	0.72	1.96	3.83
Received any loans in 2011–12	TOTLOAN2 > 0	84.09	5.06	1.45	3.49	12.17
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	85.00	3.83	1.41	2.70	7.31
Received any federal benefits in 2017	FEDBEN17 = 1	46.19	4.52	1.98	2.29	5.24
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	78.74	3.97	1.62	2.45	5.99
Currently employed in 2017	JOBST17 = 1	65.42	6.97	2.12	3.28	10.77
Eligible for employer health insurance in 2017	JBEN17B = 1	53.25	5.08	2.78	1.83	3.34
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	46.06	4.42	2.77	1.59	2.54
Single parent in 2011–12	SINGLPAR = 1	31.77	3.66	1.84	1.98	3.93
Had two or more risk factors during 2011–12	RISKIND2 > 1	62.52	3.83	1.92	2.00	3.98
Single, not married as of 2017	SMAR17 = 1	56.13	3.48	1.97	1.77	3.13
Has any dependent children as of 2017	DEPANY17 = 1	62.29	4.08	1.92	2.13	4.52
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.36	1.93	1.26	1.53	2.35
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	19.21	2.69	1.56	1.72	2.97
Has any credit cards in 2017	CRDNUM17 = 1, 2	56.12	3.28	1.97	1.67	2.78
Pay off credit card balance each month in 2017	CRDPAY17 = 1	56.55	5.27	2.63	2.01	4.03
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	2.57	8.10
Minimum	†	†	†	†	1.53	2.35
25th percentile	†	†	†	†	1.88	3.54
Median	†	†	†	†	2.13	4.52
75th percentile	†	†	†	†	2.70	7.31
Maximum	†	†	†	†	7.61	57.90

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-30. Design effects, using the panel weight, for selected variables for first-time beginning students whose base-year institution was private for-profit 2-year or 4-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	21.12	1.60	0.53	3.02	9.11
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	45.63	4.38	0.65	6.76	45.73
No degree from any institution as of June 2017	PRAT6Y = 3, 4	54.37	4.38	0.65	6.76	45.73
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	14.26	2.42	0.45	5.31	28.23
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	13.74	1.75	0.45	3.90	15.24
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	7.05	0.90	0.33	2.71	7.36
Attended more than one institution in 2011–12	STUDMULT > 1	33.34	3.42	0.61	5.59	31.20
Ever transferred through June 2017	TFNUM6Y > 0	29.97	2.33	0.60	3.91	15.27
Ever stopped out anywhere through June 2017	STNUM6Y > 0	60.40	2.60	0.64	4.09	16.76
Health care major when last enrolled through June 2017	MAJ17 = 14	27.04	2.31	0.65	3.54	12.56
Used academic advising services in 2011–12	USEACAD = 1	38.64	1.88	0.63	2.97	8.82
Received any aid in 2011–12	TOTAID > 0	95.22	1.22	0.28	4.40	19.35
Received any loans in 2011–12	TOTLOAN2 > 0	80.14	3.04	0.52	5.86	34.36
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	82.91	2.85	0.49	5.82	33.89
Received any federal benefits in 2017	FEDBEN17 = 1	38.02	3.00	0.63	4.75	22.59
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	68.72	1.72	0.60	2.86	8.16
Currently employed in 2017	JOBST17 = 1	67.39	2.16	0.70	3.08	9.50
Eligible for employer health insurance in 2017	JBEN17B = 1	67.06	3.63	0.85	4.28	18.28
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	53.72	4.43	0.90	4.92	24.20
Single parent in 2011–12	SINGLPAR = 1	25.90	1.67	0.57	2.93	8.58
Had two or more risk factors during 2011–12	RISKIND2 > 1	65.16	6.36	0.62	10.27	105.39
Single, not married as of 2017	SMAR17 = 1	53.63	3.41	0.65	5.26	27.71
Has any dependent children as of 2017	DEPANY17 = 1	55.41	4.57	0.65	7.08	50.12
Had a long-lasting disability or condition in 2014	DISABL14 = 1	17.42	2.86	0.49	5.79	33.55
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.90	1.83	0.55	3.31	10.94
Has any credit cards in 2017	CRDNUM17 = 1, 2	54.86	2.66	0.65	4.12	16.94
Pay off credit card balance each month in 2017	CRDPAY17 = 1	48.59	3.73	0.86	4.35	18.89
Summary statistics						
Mean	†	†	†	†	4.73	25.13
Minimum	†	†	†	†	2.71	7.36
25th percentile	†	†	†	†	3.31	10.94
Median	†	†	†	†	4.35	18.89
75th percentile	†	†	†	†	5.79	33.55
Maximum	†	†	†	†	10.27	105.39

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table J-31. Design effects, using the panel weight, for selected variables for first-time beginning students whose base-year institution was public less-than-2-year or private nonprofit less-than-4-year: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.10	4.59	2.28	2.02	4.07
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	65.42	7.41	2.81	2.64	6.95
No degree from any institution as of June 2017	PRAT6Y = 3, 4	34.58	7.41	2.81	2.64	6.95
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	40.53	6.34	2.90	2.18	4.77
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.24	10.15	1.94	5.24	27.42
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	#	#	#	†	†
Attended more than one institution in 2011–12	STUDMULT > 1	13.41	9.17	2.02	4.55	20.72
Ever transferred through June 2017	TFNUM6Y > 0	29.76	8.23	2.70	3.04	9.27
Ever stopped out anywhere through June 2017	STNUM6Y > 0	50.33	9.91	2.96	3.35	11.24
Health care major when last enrolled through June 2017	MAJ17 = 14	28.32	7.21	2.80	2.57	6.60
Used academic advising services in 2011–12	USEACAD = 1	26.45	3.89	2.61	1.49	2.22
Received any aid in 2011–12	TOTAID > 0	77.44	3.63	2.47	1.47	2.16
Received any loans in 2011–12	TOTLOAN2 > 0	41.70	4.53	2.92	1.55	2.42
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	49.76	4.88	2.96	1.65	2.72
Received any federal benefits in 2017	FEDBEN17 = 1	27.38	5.42	2.64	2.06	4.23
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	31.43	6.40	2.75	2.33	5.44
Currently employed in 2017	JOBST17 = 1	75.17	6.81	2.78	2.45	5.99
Eligible for employer health insurance in 2017	JBEN17B = 1	60.12	9.08	3.70	2.45	6.02
Consider current job related to intended future work in 2017	JOBRFLT17 = 1	67.31	9.44	3.55	2.66	7.09
Single parent in 2011–12	SINGLPAR = 1	14.69	3.40	2.09	1.62	2.64
Had two or more risk factors during 2011–12	RISKIND2 > 1	49.69	6.98	2.96	2.36	5.57
Single, not married as of 2017	SMAR17 = 1	60.36	5.12	2.89	1.77	3.13
Has any dependent children as of 2017	DEPANY17 = 1	34.96	5.34	2.82	1.90	3.59
Had a long-lasting disability or condition in 2014	DISABL14 = 1	7.97	2.95	1.60	1.84	3.38
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	15.51	2.56	2.14	1.20	1.43
Has any credit cards in 2017	CRDNUM17 = 1, 2	62.32	8.56	2.87	2.99	8.93
Pay off credit card balance each month in 2017	CRDPAY17 = 1	58.64	6.43	3.65	1.76	3.10
Summary statistics <sup>3</sup>						
Mean	†	†	†	†	2.38	6.46
Minimum	†	†	†	†	1.20	1.43
25th percentile	†	†	†	†	1.76	3.10
Median	†	†	†	†	2.18	4.77
75th percentile	†	†	†	†	2.26	5.10
Maximum	†	†	†	†	5.24	27.42

† Not applicable.

# Rounds to zero.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).<sup>3</sup> DEFT and DEFF values denoted as "Not applicable" were excluded from the calculations of the summary statistics.

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-32. Design effects, using the panel weight, for selected variables for first-time beginning male students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.55	0.98	0.43	2.28	5.22
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	53.48	1.78	0.55	3.23	10.44
No degree from any institution as of June 2017	PRAT6Y = 3, 4	46.52	1.78	0.55	3.23	10.44
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.62	0.46	0.23	1.96	3.86
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.90	1.24	0.36	3.46	11.99
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	26.83	2.09	0.49	4.26	18.17
Attended more than one institution in 2011–12	STUDMULT > 1	10.73	1.01	0.34	2.96	8.78
Ever transferred through June 2017	TFNUM6Y > 0	31.32	1.07	0.51	2.09	4.36
Ever stopped out anywhere through June 2017	STNUM6Y > 0	36.42	1.07	0.53	2.01	4.04
Health care major when last enrolled through June 2017	MAJ17 = 14	6.39	0.50	0.29	1.74	3.02
Used academic advising services in 2011–12	USEACAD = 1	60.13	1.04	0.54	1.92	3.67
Received any aid in 2011–12	TOTAID > 0	78.23	0.96	0.46	2.11	4.44
Received any loans in 2011–12	TOTLOAN2 > 0	41.56	1.52	0.54	2.79	7.79
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	50.78	1.57	0.55	2.84	8.05
Received any federal benefits in 2017	FEDBEN17 = 1	12.52	0.68	0.37	1.87	3.48
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	22.19	1.00	0.46	2.17	4.72
Currently employed in 2017	JOBST17 = 1	74.49	0.98	0.54	1.80	3.23
Eligible for employer health insurance in 2017	JBEN17B = 1	72.96	1.39	0.64	2.17	4.71
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	62.42	2.01	0.70	2.87	8.23
Single parent in 2011–12	SINGLPAR = 1	4.35	0.62	0.23	2.76	7.60
Had two or more risk factors during 2011–12	RISKIND2 > 1	27.87	1.60	0.50	3.24	10.49
Single, not married as of 2017	SMAR17 = 1	75.96	1.34	0.47	2.83	8.00
Has any dependent children as of 2017	DEPANY17 = 1	19.44	1.47	0.44	3.36	11.30
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.65	0.95	0.35	2.68	7.19
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	17.93	0.73	0.42	1.73	2.98
Has any credit cards in 2017	CRDNUM17 = 1, 2	68.84	1.13	0.51	2.21	4.88
Pay off credit card balance each month in 2017	CRDPAY17 = 1	63.50	1.17	0.65	1.81	3.28
Summary statistics						
Mean	†	†	†	†	2.53	6.83
Minimum	†	†	†	†	1.73	2.98
25th percentile	†	†	†	†	1.96	3.86
Median	†	†	†	†	2.28	5.22
75th percentile	†	†	†	†	2.96	8.78
Maximum	†	†	†	†	4.26	18.17

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-33. Design effects, using the panel weight, for selected variables for first-time beginning female students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	18.27	0.94	0.36	2.63	6.89
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	61.38	2.02	0.45	4.49	20.13
No degree from any institution as of June 2017	PRAT6Y = 3, 4	38.62	2.02	0.45	4.49	20.13
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	6.88	0.63	0.23	2.68	7.17
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.41	1.11	0.29	3.75	14.08
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	29.37	2.28	0.42	5.40	29.16
Attended more than one institution in 2011–12	STUDMULT > 1	14.65	1.12	0.33	3.41	11.62
Ever transferred through June 2017	TFNUM6Y > 0	35.77	1.06	0.44	2.40	5.74
Ever stopped out anywhere through June 2017	STNUM6Y > 0	39.28	1.22	0.45	2.71	7.32
Health care major when last enrolled through June 2017	MAJ17 = 14	24.83	1.03	0.43	2.42	5.84
Used academic advising services in 2011–12	USEACAD = 1	63.72	0.99	0.45	2.22	4.92
Received any aid in 2011–12	TOTAID > 0	83.24	0.73	0.35	2.12	4.48
Received any loans in 2011–12	TOTLOAN2 > 0	49.98	1.40	0.46	3.02	9.11
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	61.55	1.67	0.45	3.71	13.78
Received any federal benefits in 2017	FEDBEN17 = 1	24.80	1.15	0.40	2.88	8.30
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	26.83	1.14	0.41	2.78	7.71
Currently employed in 2017	JOBST17 = 1	74.01	1.22	0.46	2.62	6.89
Eligible for employer health insurance in 2017	JBEN17B = 1	66.10	1.44	0.59	2.44	5.98
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	61.98	1.41	0.60	2.34	5.49
Single parent in 2011–12	SINGLPAR = 1	11.16	0.60	0.29	2.06	4.25
Had two or more risk factors during 2011–12	RISKIND2 > 1	28.09	1.60	0.42	3.84	14.72
Single, not married as of 2017	SMAR17 = 1	70.34	1.35	0.42	3.18	10.12
Has any dependent children as of 2017	DEPANY17 = 1	30.93	1.43	0.43	3.34	11.14
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.97	1.47	0.30	4.90	24.00
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	24.04	0.94	0.40	2.38	5.68
Has any credit cards in 2017	CRDNUM17 = 1, 2	69.55	1.45	0.43	3.40	11.59
Pay off credit card balance each month in 2017	CRDPAY17 = 1	55.62	1.69	0.56	3.00	8.98
Summary statistics						
Mean	†	†	†	†	3.13	10.56
Minimum	†	†	†	†	2.06	4.25
25th percentile	†	†	†	†	2.42	5.84
Median	†	†	†	†	2.88	8.30
75th percentile	†	†	†	†	3.71	13.78
Maximum	†	†	†	†	5.40	29.16

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-34. Design effects, using the panel weight, for selected variables for first-time beginning White students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	15.45	0.79	0.35	2.25	5.06
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	62.83	1.76	0.47	3.76	14.12
No degree from any institution as of June 2017	PRAT6Y = 3, 4	37.17	1.76	0.47	3.76	14.12
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.05	0.53	0.21	2.51	6.30
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.20	1.40	0.32	4.42	19.56
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	33.72	2.70	0.46	5.90	34.78
Attended more than one institution in 2011–12	STUDMULT > 1	11.38	0.67	0.31	2.20	4.82
Ever transferred through June 2017	TFNUM6Y > 0	32.23	1.28	0.45	2.84	8.07
Ever stopped out anywhere through June 2017	STNUM6Y > 0	32.92	0.99	0.45	2.18	4.74
Health care major when last enrolled through June 2017	MAJ17 = 14	15.01	0.77	0.37	2.10	4.39
Used academic advising services in 2011–12	USEACAD = 1	66.14	1.01	0.46	2.22	4.91
Received any aid in 2011–12	TOTAID > 0	78.71	0.74	0.40	1.86	3.47
Received any loans in 2011–12	TOTLOAN2 > 0	46.68	1.42	0.48	2.95	8.70
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	55.61	1.61	0.48	3.34	11.19
Received any federal benefits in 2017	FEDBEN17 = 1	14.61	0.90	0.34	2.63	6.90
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	22.09	0.75	0.40	1.87	3.49
Currently employed in 2017	JOBST17 = 1	78.35	0.81	0.44	1.84	3.37
Eligible for employer health insurance in 2017	JBEN17B = 1	71.15	1.09	0.55	1.97	3.86
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	67.62	1.30	0.57	2.28	5.20
Single parent in 2011–12	SINGLPAR = 1	6.20	0.63	0.23	2.71	7.36
Had two or more risk factors during 2011–12	RISKIND2 > 1	26.30	1.45	0.43	3.42	11.67
Single, not married as of 2017	SMAR17 = 1	70.08	1.67	0.44	3.77	14.22
Has any dependent children as of 2017	DEPANY17 = 1	21.23	1.81	0.40	4.58	20.98
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.07	0.71	0.31	2.25	5.06
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	20.34	0.78	0.39	2.01	4.05
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.51	0.91	0.44	2.09	4.35
Pay off credit card balance each month in 2017	CRDPAY17 = 1	62.79	1.06	0.56	1.88	3.53
Summary statistics						
Mean	†	†	†	†	2.80	8.83
Minimum	†	†	†	†	1.84	3.37
25th percentile	†	†	†	†	2.09	4.35
Median	†	†	†	†	2.28	5.20
75th percentile	†	†	†	†	3.42	11.67
Maximum	†	†	†	†	5.90	34.78

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-35. Design effects, using the panel weight, for selected variables for first-time beginning Black or African American students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.77	1.98	0.73	2.71	7.34
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	44.63	3.45	0.90	3.86	14.88
No degree from any institution as of June 2017	PRAT6Y = 3, 4	55.37	3.45	0.90	3.86	14.88
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.25	0.74	0.40	1.85	3.43
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.37	1.02	0.50	2.04	4.14
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	17.45	2.01	0.68	2.94	8.67
Attended more than one institution in 2011–12	STUDMULT > 1	15.55	1.94	0.65	2.98	8.86
Ever transferred through June 2017	TFNUM6Y > 0	40.74	2.02	0.89	2.29	5.23
Ever stopped out anywhere through June 2017	STNUM6Y > 0	50.40	2.12	0.90	2.36	5.56
Health care major when last enrolled through June 2017	MAJ17 = 14	21.62	1.67	0.80	2.10	4.41
Used academic advising services in 2011–12	USEACAD = 1	55.60	1.95	0.90	2.18	4.77
Received any aid in 2011–12	TOTAID > 0	91.51	1.36	0.50	2.71	7.35
Received any loans in 2011–12	TOTLOAN2 > 0	60.85	1.99	0.88	2.26	5.11
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	74.74	1.77	0.78	2.26	5.13
Received any federal benefits in 2017	FEDBEN17 = 1	34.90	1.92	0.86	2.24	5.00
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	38.92	3.51	0.88	4.00	16.00
Currently employed in 2017	JOBST17 = 1	63.55	2.25	1.00	2.24	5.01
Eligible for employer health insurance in 2017	JBEN17B = 1	65.15	3.31	1.26	2.61	6.83
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	43.91	4.19	1.32	3.18	10.12
Single parent in 2011–12	SINGLPAR = 1	16.86	1.71	0.67	2.54	6.44
Had two or more risk factors during 2011–12	RISKIND2 > 1	36.64	2.72	0.87	3.14	9.84
Single, not married as of 2017	SMAR17 = 1	78.66	2.73	0.74	3.70	13.66
Has any dependent children as of 2017	DEPANY17 = 1	41.67	2.61	0.89	2.94	8.62
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.77	2.32	0.58	4.00	16.04
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	24.36	1.69	0.77	2.19	4.80
Has any credit cards in 2017	CRDNUM17 = 1, 2	56.96	2.67	0.89	2.99	8.95
Pay off credit card balance each month in 2017	CRDPAY17 = 1	47.67	3.50	1.25	2.81	7.88
Summary statistics						
Mean	†	†	†	†	2.78	8.11
Minimum	†	†	†	†	1.85	3.43
25th percentile	†	†	†	†	2.24	5.01
Median	†	†	†	†	2.71	7.34
75th percentile	†	†	†	†	3.14	9.84
Maximum	†	†	†	†	4.00	16.04

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-36. Design effects, using the panel weight, for selected variables for first-time beginning Hispanic or Latino students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	24.89	1.85	0.67	2.75	7.59
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	52.07	2.21	0.78	2.84	8.07
No degree from any institution as of June 2017	PRAT6Y = 3, 4	47.93	2.21	0.78	2.84	8.07
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	9.92	0.94	0.47	2.01	4.04
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	13.20	1.15	0.53	2.19	4.79
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	17.31	1.52	0.59	2.58	6.67
Attended more than one institution in 2011–12	STUDMULT > 1	15.80	2.49	0.57	4.38	19.20
Ever transferred through June 2017	TFNUM6Y > 0	34.11	1.69	0.74	2.29	5.25
Ever stopped out anywhere through June 2017	STNUM6Y > 0	47.00	2.23	0.78	2.87	8.25
Health care major when last enrolled through June 2017	MAJ17 = 14	19.96	1.65	0.68	2.43	5.91
Used academic advising services in 2011–12	USEACAD = 1	54.43	1.45	0.78	1.87	3.51
Received any aid in 2011–12	TOTAID > 0	81.69	1.41	0.60	2.35	5.51
Received any loans in 2011–12	TOTLOAN2 > 0	37.92	1.94	0.76	2.57	6.62
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	50.63	2.06	0.78	2.65	7.01
Received any federal benefits in 2017	FEDBEN17 = 1	23.45	2.32	0.66	3.52	12.38
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	25.62	1.53	0.68	2.25	5.07
Currently employed in 2017	JOBST17 = 1	72.74	2.31	0.82	2.83	7.99
Eligible for employer health insurance in 2017	JBEN17B = 1	64.65	2.41	1.04	2.31	5.35
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	56.30	2.25	1.08	2.08	4.32
Single parent in 2011–12	SINGLPAR = 1	8.66	0.98	0.44	2.25	5.05
Had two or more risk factors during 2011–12	RISKIND2 > 1	30.05	2.78	0.71	3.90	15.22
Single, not married as of 2017	SMAR17 = 1	71.94	2.91	0.70	4.16	17.34
Has any dependent children as of 2017	DEPANY17 = 1	31.43	1.67	0.72	2.31	5.34
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.83	3.12	0.50	6.21	38.62
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	21.41	1.75	0.64	2.74	7.51
Has any credit cards in 2017	CRDNUM17 = 1, 2	70.57	2.76	0.71	3.89	15.11
Pay off credit card balance each month in 2017	CRDPAY17 = 1	53.31	1.93	0.93	2.08	4.33
Summary statistics						
Mean	†	†	†	†	2.86	9.04
Minimum	†	†	†	†	1.87	3.51
25th percentile	†	†	†	†	2.25	5.07
Median	†	†	†	†	2.58	6.67
75th percentile	†	†	†	†	2.87	8.25
Maximum	†	†	†	†	6.21	38.62

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-37. Design effects, using the panel weight, for selected variables for first-time beginning Asian students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.24	2.49	1.36	1.83	3.35
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	67.68	4.35	1.58	2.75	7.55
No degree from any institution as of June 2017	PRAT6Y = 3, 4	32.32	4.35	1.58	2.75	7.55
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	2.05	0.61	0.48	1.26	1.60
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.36	2.21	0.94	2.36	5.56
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	42.90	3.68	1.68	2.20	4.83
Attended more than one institution in 2011–12	STUDMULT > 1	9.64	1.31	1.00	1.31	1.72
Ever transferred through June 2017	TFNUM6Y > 0	32.91	3.07	1.59	1.93	3.73
Ever stopped out anywhere through June 2017	STNUM6Y > 0	29.61	4.05	1.55	2.62	6.85
Health care major when last enrolled through June 2017	MAJ17 = 14	13.51	1.78	1.23	1.45	2.09
Used academic advising services in 2011–12	USEACAD = 1	68.10	2.41	1.58	1.53	2.33
Received any aid in 2011–12	TOTAID > 0	75.94	4.31	1.45	2.98	8.86
Received any loans in 2011–12	TOTLOAN2 > 0	34.39	3.63	1.61	2.25	5.08
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	45.44	4.34	1.69	2.57	6.63
Received any federal benefits in 2017	FEDBEN17 = 1	12.33	1.79	1.11	1.61	2.59
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	10.35	1.90	1.03	1.84	3.38
Currently employed in 2017	JOBST17 = 1	66.22	3.35	1.87	1.79	3.21
Eligible for employer health insurance in 2017	JBEN17B = 1	70.34	3.70	2.24	1.65	2.74
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	64.76	4.63	2.34	1.98	3.92
Single parent in 2011–12	SINGLPAR = 1	1.82	1.08	0.45	2.38	5.68
Had two or more risk factors during 2011–12	RISKIND2 > 1	16.29	2.69	1.25	2.15	4.64
Single, not married as of 2017	SMAR17 = 1	85.33	2.26	1.20	1.89	3.56
Has any dependent children as of 2017	DEPANY17 = 1	9.28	1.68	0.98	1.71	2.92
Had a long-lasting disability or condition in 2014	DISABL14 = 1	6.90	1.91	0.86	2.22	4.94
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	22.25	2.38	1.41	1.69	2.86
Has any credit cards in 2017	CRDNUM17 = 1, 2	79.04	2.30	1.38	1.67	2.78
Pay off credit card balance each month in 2017	CRDPAY17 = 1	67.56	2.87	1.81	1.59	2.53
Summary statistics						
Mean	†	†	†	†	2.00	4.20
Minimum	†	†	†	†	1.26	1.60
25th percentile	†	†	†	†	1.65	2.74
Median	†	†	†	†	1.89	3.56
75th percentile	†	†	†	†	2.36	5.56
Maximum	†	†	†	†	2.98	8.86

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-38. Design effects, using the panel weight, for selected variables for first-time beginning students of other race/ethnicities including two or more races: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	17.91	2.22	1.18	1.89	3.55
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	53.91	2.90	1.53	1.89	3.57
No degree from any institution as of June 2017	PRAT6Y = 3, 4	46.09	2.90	1.53	1.89	3.57
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	6.32	1.52	0.75	2.03	4.11
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	11.90	2.45	1.00	2.46	6.07
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	24.09	2.22	1.31	1.69	2.84
Attended more than one institution in 2011–12	STUDMULT > 1	16.15	2.92	1.13	2.58	6.65
Ever transferred through June 2017	TFNUM6Y > 0	32.79	2.58	1.44	1.79	3.21
Ever stopped out anywhere through June 2017	STNUM6Y > 0	35.72	2.77	1.47	1.88	3.54
Health care major when last enrolled through June 2017	MAJ17 = 14	17.68	2.96	1.27	2.33	5.42
Used academic advising services in 2011–12	USEACAD = 1	59.56	3.52	1.51	2.33	5.44
Received any aid in 2011–12	TOTAID > 0	81.39	2.25	1.20	1.88	3.54
Received any loans in 2011–12	TOTLOAN2 > 0	46.65	3.16	1.53	2.06	4.24
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	57.30	3.23	1.52	2.13	4.52
Received any federal benefits in 2017	FEDBEN17 = 1	23.78	2.86	1.31	2.18	4.76
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	28.09	2.56	1.38	1.85	3.42
Currently employed in 2017	JOBST17 = 1	69.49	3.00	1.60	1.88	3.52
Eligible for employer health insurance in 2017	JBEN17B = 1	67.15	3.75	1.93	1.95	3.79
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	57.18	3.82	2.03	1.88	3.55
Single parent in 2011–12	SINGLPAR = 1	11.74	2.18	0.99	2.21	4.88
Had two or more risk factors during 2011–12	RISKIND2 > 1	27.25	2.97	1.37	2.17	4.70
Single, not married as of 2017	SMAR17 = 1	75.41	2.10	1.32	1.58	2.51
Has any dependent children as of 2017	DEPANY17 = 1	32.18	2.68	1.44	1.86	3.47
Had a long-lasting disability or condition in 2014	DISABL14 = 1	14.61	2.71	1.09	2.49	6.22
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	24.30	2.64	1.32	2.00	4.00
Has any credit cards in 2017	CRDNUM17 = 1, 2	63.37	2.89	1.48	1.95	3.82
Pay off credit card balance each month in 2017	CRDPAY17 = 1	52.24	3.83	1.93	1.98	3.93
Summary statistics						
Mean	†	†	†	†	2.03	4.18
Minimum	†	†	†	†	1.58	2.51
25th percentile	†	†	†	†	1.88	3.54
Median	†	†	†	†	1.95	3.82
75th percentile	†	†	†	†	2.18	4.76
Maximum	†	†	†	†	2.58	6.65

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table J-39. Design effects, using the panel weight, for selected variables for first-time beginning male, White students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	15.31	1.17	0.54	2.19	4.80
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	58.53	1.98	0.73	2.71	7.34
No degree from any institution as of June 2017	PRAT6Y = 3, 4	41.47	1.98	0.73	2.71	7.34
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.24	0.52	0.30	1.73	2.98
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.02	1.53	0.48	3.17	10.03
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	32.32	2.61	0.70	3.75	14.05
Attended more than one institution in 2011–12	STUDMULT > 1	9.43	0.91	0.43	2.09	4.39
Ever transferred through June 2017	TFNUM6Y > 0	29.37	1.56	0.68	2.30	5.29
Ever stopped out anywhere through June 2017	STNUM6Y > 0	31.69	1.32	0.69	1.91	3.66
Health care major when last enrolled through June 2017	MAJ17 = 14	4.66	0.51	0.33	1.54	2.36
Used academic advising services in 2011–12	USEACAD = 1	63.63	1.45	0.71	2.02	4.10
Received any aid in 2011–12	TOTAID > 0	75.56	1.30	0.64	2.04	4.17
Received any loans in 2011–12	TOTLOAN2 > 0	42.61	2.02	0.73	2.75	7.56
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	49.68	1.91	0.74	2.58	6.63
Received any federal benefits in 2017	FEDBEN17 = 1	8.92	0.72	0.42	1.70	2.90
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	20.06	1.15	0.60	1.93	3.71
Currently employed in 2017	JOBST17 = 1	78.84	1.18	0.67	1.76	3.10
Eligible for employer health insurance in 2017	JBEN17B = 1	73.34	1.46	0.82	1.77	3.15
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	67.83	1.63	0.87	1.88	3.54
Single parent in 2011–12	SINGLPAR = 1	2.89	0.65	0.25	2.61	6.80
Had two or more risk factors during 2011–12	RISKIND2 > 1	26.93	1.92	0.66	2.91	8.47
Single, not married as of 2017	SMAR17 = 1	74.34	1.82	0.65	2.80	7.86
Has any dependent children as of 2017	DEPANY17 = 1	16.17	1.88	0.55	3.43	11.79
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.09	1.02	0.47	2.18	4.75
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	16.03	0.95	0.55	1.75	3.05
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.80	1.17	0.67	1.75	3.06
Pay off credit card balance each month in 2017	CRDPAY17 = 1	68.78	1.90	0.82	2.30	5.30
Summary statistics						
Mean	†	†	†	†	2.31	5.64
Minimum	†	†	†	†	1.54	2.36
25th percentile	†	†	†	†	1.77	3.15
Median	†	†	†	†	2.18	4.75
75th percentile	†	†	†	†	2.71	7.34
Maximum	†	†	†	†	3.75	14.05

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-40. Design effects, using the panel weight, for selected variables for first-time beginning male, Black or African American students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.74	2.92	1.16	2.52	6.33
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	39.41	4.07	1.40	2.91	8.45
No degree from any institution as of June 2017	PRAT6Y = 3, 4	60.59	4.07	1.40	2.91	8.45
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	4.19	1.04	0.57	1.81	3.28
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.94	1.59	0.82	1.95	3.78
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	15.96	2.36	1.05	2.24	5.03
Attended more than one institution in 2011–12	STUDMULT > 1	13.39	2.32	0.98	2.37	5.64
Ever transferred through June 2017	TFNUM6Y > 0	36.07	4.07	1.38	2.95	8.72
Ever stopped out anywhere through June 2017	STNUM6Y > 0	48.07	3.75	1.43	2.62	6.86
Health care major when last enrolled through June 2017	MAJ17 = 14	9.39	1.59	0.90	1.78	3.15
Used academic advising services in 2011–12	USEACAD = 1	53.48	3.77	1.43	2.63	6.93
Received any aid in 2011–12	TOTAID > 0	88.06	2.22	0.93	2.39	5.70
Received any loans in 2011–12	TOTLOAN2 > 0	53.07	3.40	1.43	2.37	5.63
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	68.00	3.15	1.34	2.35	5.53
Received any federal benefits in 2017	FEDBEN17 = 1	21.86	2.90	1.19	2.45	5.99
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	36.41	4.08	1.38	2.96	8.73
Currently employed in 2017	JOBST17 = 1	60.36	3.40	1.60	2.12	4.51
Eligible for employer health insurance in 2017	JBEN17B = 1	71.37	4.48	1.89	2.38	5.66
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	41.17	5.07	2.05	2.47	6.10
Single parent in 2011–12	SINGLPAR = 1	11.80	2.48	0.93	2.68	7.18
Had two or more risk factors during 2011–12	RISKIND2 > 1	39.41	3.59	1.40	2.56	6.57
Single, not married as of 2017	SMAR17 = 1	77.42	2.81	1.20	2.35	5.50
Has any dependent children as of 2017	DEPANY17 = 1	32.20	3.51	1.34	2.62	6.88
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.57	2.77	0.95	2.91	8.47
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.79	3.40	1.22	2.79	7.76
Has any credit cards in 2017	CRDNUM17 = 1, 2	55.03	3.96	1.43	2.78	7.71
Pay off credit card balance each month in 2017	CRDPAY17 = 1	51.47	3.72	1.94	1.92	3.68
Summary statistics						
Mean	†	†	†	†	2.47	6.23
Minimum	†	†	†	†	1.78	3.15
25th percentile	†	†	†	†	2.35	5.50
Median	†	†	†	†	2.47	6.10
75th percentile	†	†	†	†	2.78	7.71
Maximum	†	†	†	†	2.96	8.73

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-41. Design effects, using the panel weight, for selected variables for first-time beginning male, Hispanic or Latino students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	26.45	2.50	1.09	2.31	5.33
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	47.91	2.25	1.23	1.83	3.35
No degree from any institution as of June 2017	PRAT6Y = 3, 4	52.09	2.25	1.23	1.83	3.35
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	7.44	1.24	0.65	1.92	3.69
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	13.79	1.92	0.85	2.26	5.10
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	15.77	1.68	0.90	1.87	3.51
Attended more than one institution in 2011–12	STUDMULT > 1	13.88	2.20	0.85	2.58	6.66
Ever transferred through June 2017	TFNUM6Y > 0	33.98	2.37	1.17	2.03	4.13
Ever stopped out anywhere through June 2017	STNUM6Y > 0	44.11	2.47	1.22	2.02	4.10
Health care major when last enrolled through June 2017	MAJ17 = 14	8.61	1.29	0.76	1.70	2.90
Used academic advising services in 2011–12	USEACAD = 1	52.01	2.58	1.23	2.10	4.39
Received any aid in 2011–12	TOTAID > 0	81.13	2.40	0.96	2.49	6.20
Received any loans in 2011–12	TOTLOAN2 > 0	32.73	2.24	1.15	1.94	3.76
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	43.58	2.57	1.22	2.11	4.45
Received any federal benefits in 2017	FEDBEN17 = 1	16.83	1.70	0.92	1.85	3.42
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	21.13	3.12	1.00	3.11	9.65
Currently employed in 2017	JOBST17 = 1	75.10	2.33	1.25	1.86	3.47
Eligible for employer health insurance in 2017	JBEN17B = 1	71.10	3.09	1.53	2.02	4.07
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	57.41	3.43	1.67	2.06	4.23
Single parent in 2011–12	SINGLPAR = 1	4.44	1.09	0.51	2.15	4.62
Had two or more risk factors during 2011–12	RISKIND2 > 1	26.31	2.68	1.08	2.48	6.14
Single, not married as of 2017	SMAR17 = 1	74.96	2.73	1.07	2.57	6.58
Has any dependent children as of 2017	DEPANY17 = 1	23.64	2.09	1.05	2.00	4.00
Had a long-lasting disability or condition in 2014	DISABL14 = 1	13.40	1.78	0.84	2.13	4.53
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	19.25	2.16	0.97	2.23	4.95
Has any credit cards in 2017	CRDNUM17 = 1, 2	68.86	2.71	1.14	2.38	5.66
Pay off credit card balance each month in 2017	CRDPAY17 = 1	55.30	3.16	1.48	2.15	4.60
Summary statistics						
Mean	†	†	†	†	2.15	4.70
Minimum	†	†	†	†	1.70	2.90
25th percentile	†	†	†	†	1.92	3.69
Median	†	†	†	†	2.10	4.39
75th percentile	†	†	†	†	2.31	5.33
Maximum	†	†	†	†	3.11	9.65

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-42. Design effects, using the panel weight, for selected variables for first-time beginning male, Asian students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	24.32	3.30	2.21	1.49	2.23
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	59.61	6.02	2.53	2.38	5.68
No degree from any institution as of June 2017	PRAT6Y = 3, 4	40.39	6.02	2.53	2.38	5.68
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	1.65	0.81	0.66	1.23	1.51
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.57	2.71	1.44	1.88	3.53
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	36.69	4.79	2.48	1.93	3.72
Attended more than one institution in 2011–12	STUDMULT > 1	8.28	1.65	1.42	1.16	1.36
Ever transferred through June 2017	TFNUM6Y > 0	32.36	3.86	2.41	1.60	2.56
Ever stopped out anywhere through June 2017	STNUM6Y > 0	37.88	4.58	2.50	1.83	3.36
Health care major when last enrolled through June 2017	MAJ17 = 14	7.89	2.57	1.48	1.74	3.01
Used academic advising services in 2011–12	USEACAD = 1	66.93	3.31	2.42	1.37	1.87
Received any aid in 2011–12	TOTAID > 0	74.16	6.51	2.25	2.89	8.33
Received any loans in 2011–12	TOTLOAN2 > 0	30.57	5.00	2.37	2.11	4.45
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	42.46	5.81	2.55	2.28	5.21
Received any federal benefits in 2017	FEDBEN17 = 1	11.40	2.79	1.64	1.70	2.90
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	11.24	2.94	1.63	1.81	3.27
Currently employed in 2017	JOBST17 = 1	61.67	5.51	2.98	1.85	3.42
Eligible for employer health insurance in 2017	JBEN17B = 1	76.45	6.40	3.27	1.96	3.83
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	59.05	8.66	3.79	2.28	5.21
Single parent in 2011–12	SINGLPAR = 1	1.12	0.77	0.54	1.42	2.02
Had two or more risk factors during 2011–12	RISKIND2 > 1	17.83	4.16	1.97	2.11	4.46
Single, not married as of 2017	SMAR17 = 1	89.06	2.84	1.61	1.77	3.12
Has any dependent children as of 2017	DEPANY17 = 1	5.29	2.44	1.15	2.11	4.47
Had a long-lasting disability or condition in 2014	DISABL14 = 1	5.97	3.60	1.22	2.95	8.69
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	18.89	2.97	2.02	1.47	2.17
Has any credit cards in 2017	CRDNUM17 = 1, 2	77.48	3.78	2.15	1.76	3.09
Pay off credit card balance each month in 2017	CRDPAY17 = 1	67.83	4.60	2.79	1.65	2.72
Summary statistics						
Mean	†	†	†	†	1.89	3.77
Minimum	†	†	†	†	1.16	1.36
25th percentile	†	†	†	†	1.60	2.56
Median	†	†	†	†	1.83	3.36
75th percentile	†	†	†	†	2.11	4.47
Maximum	†	†	†	†	2.95	8.69

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-43. Design effects, using the panel weight, for selected variables for first-time beginning male students of other race/ethnicities including two or more races: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	14.10	3.05	1.68	1.81	3.29
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	46.54	4.07	2.41	1.69	2.85
No degree from any institution as of June 2017	PRAT6Y = 3, 4	53.46	4.07	2.41	1.69	2.85
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	3.67	0.98	0.91	1.08	1.17
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	16.12	3.73	1.78	2.10	4.40
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	21.07	3.17	1.97	1.61	2.58
Attended more than one institution in 2011–12	STUDMULT > 1	9.98	2.89	1.45	1.99	3.97
Ever transferred through June 2017	TFNUM6Y > 0	29.90	4.02	2.22	1.81	3.29
Ever stopped out anywhere through June 2017	STNUM6Y > 0	29.34	4.52	2.20	2.05	4.20
Health care major when last enrolled through June 2017	MAJ17 = 14	8.35	3.37	1.47	2.30	5.28
Used academic advising services in 2011–12	USEACAD = 1	58.86	4.86	2.38	2.04	4.17
Received any aid in 2011–12	TOTAID > 0	76.47	4.12	2.05	2.01	4.03
Received any loans in 2011–12	TOTLOAN2 > 0	43.38	4.66	2.40	1.94	3.77
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	52.33	5.51	2.42	2.28	5.19
Received any federal benefits in 2017	FEDBEN17 = 1	14.09	3.98	1.68	2.36	5.59
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	25.06	3.55	2.10	1.69	2.87
Currently employed in 2017	JOBST17 = 1	73.19	4.60	2.33	1.97	3.88
Eligible for employer health insurance in 2017	JBEN17B = 1	74.60	4.54	2.67	1.70	2.89
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	60.79	5.53	2.99	1.85	3.41
Single parent in 2011–12	SINGLPAR = 1	4.29	3.57	0.98	3.64	13.23
Had two or more risk factors during 2011–12	RISKIND2 > 1	25.08	4.72	2.10	2.25	5.06
Single, not married as of 2017	SMAR17 = 1	77.71	3.45	2.01	1.71	2.93
Has any dependent children as of 2017	DEPANY17 = 1	24.39	5.27	2.08	2.53	6.42
Had a long-lasting disability or condition in 2014	DISABL14 = 1	16.40	3.24	1.79	1.81	3.27
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	17.68	4.71	1.85	2.55	6.50
Has any credit cards in 2017	CRDNUM17 = 1, 2	61.93	4.48	2.35	1.91	3.63
Pay off credit card balance each month in 2017	CRDPAY17 = 1	48.65	5.32	3.04	1.75	3.07
Summary statistics						
Mean	†	†	†	†	2.00	4.21
Minimum	†	†	†	†	1.08	1.17
25th percentile	†	†	†	†	1.71	2.93
Median	†	†	†	†	1.94	3.77
75th percentile	†	†	†	†	2.25	5.06
Maximum	†	†	†	†	3.64	13.23

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-44. Design effects, using the panel weight, for selected variables for first-time beginning female, White students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	15.56	1.01	0.46	2.20	4.84
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	66.15	1.96	0.60	3.25	10.59
No degree from any institution as of June 2017	PRAT6Y = 3, 4	33.85	1.96	0.60	3.25	10.59
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.68	0.81	0.29	2.75	7.56
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.33	1.52	0.42	3.63	13.18
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	34.80	2.96	0.61	4.88	23.80
Attended more than one institution in 2011–12	STUDMULT > 1	12.89	0.90	0.43	2.10	4.42
Ever transferred through June 2017	TFNUM6Y > 0	34.45	1.59	0.60	2.63	6.93
Ever stopped out anywhere through June 2017	STNUM6Y > 0	33.88	1.63	0.60	2.70	7.31
Health care major when last enrolled through June 2017	MAJ17 = 14	22.96	1.20	0.56	2.12	4.50
Used academic advising services in 2011–12	USEACAD = 1	68.09	1.39	0.59	2.34	5.49
Received any aid in 2011–12	TOTAID > 0	81.16	1.03	0.50	2.06	4.24
Received any loans in 2011–12	TOTLOAN2 > 0	49.84	1.46	0.64	2.30	5.29
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	60.21	1.81	0.62	2.91	8.44
Received any federal benefits in 2017	FEDBEN17 = 1	19.02	1.47	0.50	2.95	8.70
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	23.66	1.29	0.54	2.38	5.64
Currently employed in 2017	JOBST17 = 1	77.96	1.21	0.59	2.06	4.24
Eligible for employer health insurance in 2017	JBEN17B = 1	69.40	1.33	0.74	1.79	3.20
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	67.46	1.62	0.76	2.13	4.56
Single parent in 2011–12	SINGLPAR = 1	8.76	0.91	0.36	2.54	6.44
Had two or more risk factors during 2011–12	RISKIND2 > 1	25.81	1.57	0.56	2.82	7.96
Single, not married as of 2017	SMAR17 = 1	66.78	1.87	0.60	3.12	9.72
Has any dependent children as of 2017	DEPANY17 = 1	25.14	2.06	0.55	3.72	13.87
Had a long-lasting disability or condition in 2014	DISABL14 = 1	12.82	0.88	0.43	2.07	4.29
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	23.67	1.19	0.54	2.19	4.81
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.28	1.22	0.58	2.11	4.45
Pay off credit card balance each month in 2017	CRDPAY17 = 1	58.12	1.82	0.76	2.41	5.80
Summary statistics						
Mean	†	†	†	†	2.65	7.44
Minimum	†	†	†	†	1.79	3.20
25th percentile	†	†	†	†	2.12	4.50
Median	†	†	†	†	2.41	5.80
75th percentile	†	†	†	†	2.95	8.70
Maximum	†	†	†	†	4.88	23.80

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-45. Design effects, using the panel weight, for selected variables for first-time beginning female, Black or African American students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.79	2.28	0.94	2.43	5.90
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	48.29	3.67	1.16	3.17	10.06
No degree from any institution as of June 2017	PRAT6Y = 3, 4	51.71	3.67	1.16	3.17	10.06
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	5.99	0.89	0.55	1.62	2.64
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	7.97	1.17	0.63	1.86	3.47
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	18.50	2.31	0.90	2.57	6.62
Attended more than one institution in 2011–12	STUDMULT > 1	17.07	3.19	0.87	3.66	13.38
Ever transferred through June 2017	TFNUM6Y > 0	44.02	2.82	1.15	2.46	6.03
Ever stopped out anywhere through June 2017	STNUM6Y > 0	52.04	3.10	1.16	2.68	7.19
Health care major when last enrolled through June 2017	MAJ17 = 14	30.40	2.58	1.14	2.26	5.09
Used academic advising services in 2011–12	USEACAD = 1	57.09	2.55	1.15	2.22	4.93
Received any aid in 2011–12	TOTAID > 0	93.93	1.41	0.55	2.55	6.51
Received any loans in 2011–12	TOTLOAN2 > 0	66.31	2.74	1.09	2.51	6.29
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	79.47	2.02	0.94	2.16	4.68
Received any federal benefits in 2017	FEDBEN17 = 1	44.06	2.63	1.15	2.29	5.24
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	40.69	4.31	1.14	3.79	14.37
Currently employed in 2017	JOBST17 = 1	65.84	3.00	1.29	2.34	5.46
Eligible for employer health insurance in 2017	JBEN17B = 1	61.05	3.96	1.68	2.36	5.58
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	45.72	4.78	1.71	2.79	7.79
Single parent in 2011–12	SINGLPAR = 1	20.42	2.11	0.93	2.26	5.13
Had two or more risk factors during 2011–12	RISKIND2 > 1	34.69	2.85	1.10	2.59	6.69
Single, not married as of 2017	SMAR17 = 1	79.54	4.14	0.93	4.43	19.66
Has any dependent children as of 2017	DEPANY17 = 1	48.31	3.33	1.16	2.87	8.26
Had a long-lasting disability or condition in 2014	DISABL14 = 1	11.20	2.89	0.73	3.96	15.68
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	24.75	1.93	1.00	1.93	3.72
Has any credit cards in 2017	CRDNUM17 = 1, 2	58.31	3.00	1.14	2.63	6.90
Pay off credit card balance each month in 2017	CRDPAY17 = 1	45.16	4.80	1.62	2.95	8.72
Summary statistics						
Mean	†	†	†	†	2.69	7.63
Minimum	†	†	†	†	1.62	2.64
25th percentile	†	†	†	†	2.26	5.13
Median	†	†	†	†	2.55	6.51
75th percentile	†	†	†	†	2.95	8.72
Maximum	†	†	†	†	4.43	19.66

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-46. Design effects, using the panel weight, for selected variables for first-time beginning female, Hispanic or Latino students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	23.84	2.27	0.86	2.65	7.01
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	54.90	3.32	1.00	3.32	11.03
No degree from any institution as of June 2017	PRAT6Y = 3, 4	45.10	3.32	1.00	3.32	11.03
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	11.60	1.15	0.64	1.79	3.20
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	12.80	1.34	0.67	1.99	3.97
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	18.35	2.00	0.78	2.57	6.61
Attended more than one institution in 2011–12	STUDMULT > 1	17.10	3.41	0.76	4.51	20.30
Ever transferred through June 2017	TFNUM6Y > 0	34.19	2.73	0.95	2.86	8.19
Ever stopped out anywhere through June 2017	STNUM6Y > 0	48.97	3.02	1.01	3.01	9.06
Health care major when last enrolled through June 2017	MAJ17 = 14	27.74	2.32	0.98	2.37	5.62
Used academic advising services in 2011–12	USEACAD = 1	56.07	2.40	1.00	2.40	5.77
Received any aid in 2011–12	TOTAID > 0	82.06	2.01	0.77	2.61	6.82
Received any loans in 2011–12	TOTLOAN2 > 0	41.44	2.92	0.99	2.95	8.67
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	55.41	3.38	1.00	3.38	11.44
Received any federal benefits in 2017	FEDBEN17 = 1	27.93	3.42	0.90	3.79	14.35
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	28.67	2.23	0.91	2.45	6.02
Currently employed in 2017	JOBST17 = 1	71.19	3.67	1.07	3.42	11.70
Eligible for employer health insurance in 2017	JBEN17B = 1	60.21	3.12	1.40	2.23	4.97
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	55.53	3.30	1.42	2.32	5.39
Single parent in 2011–12	SINGLPAR = 1	11.53	1.40	0.64	2.18	4.76
Had two or more risk factors during 2011–12	RISKIND2 > 1	32.58	3.62	0.94	3.84	14.73
Single, not married as of 2017	SMAR17 = 1	69.89	3.87	0.92	4.20	17.63
Has any dependent children as of 2017	DEPANY17 = 1	36.70	2.47	0.97	2.55	6.50
Had a long-lasting disability or condition in 2014	DISABL14 = 1	10.76	4.68	0.62	7.51	56.41
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	22.87	2.15	0.84	2.55	6.51
Has any credit cards in 2017	CRDNUM17 = 1, 2	71.73	3.85	0.91	4.25	18.07
Pay off credit card balance each month in 2017	CRDPAY17 = 1	52.01	2.40	1.19	2.02	4.06
Summary statistics						
Mean	†	†	†	†	3.08	10.73
Minimum	†	†	†	†	1.79	3.20
25th percentile	†	†	†	†	2.37	5.62
Median	†	†	†	†	2.65	7.01
75th percentile	†	†	†	†	3.42	11.70
Maximum	†	†	†	†	7.51	56.41

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table J-47. Design effects, using the panel weight, for selected variables for first-time beginning female, Asian students: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	16.21	4.17	1.66	2.52	6.33
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	75.67	4.25	1.93	2.20	4.86
No degree from any institution as of June 2017	PRAT6Y = 3, 4	24.33	4.25	1.93	2.20	4.86
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	2.45	0.97	0.69	1.39	1.93
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.15	2.97	1.23	2.42	5.84
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	49.03	4.31	2.25	1.92	3.68
Attended more than one institution in 2011–12	STUDMULT > 1	10.99	2.18	1.41	1.55	2.40
Ever transferred through June 2017	TFNUM6Y > 0	33.46	4.86	2.12	2.29	5.26
Ever stopped out anywhere through June 2017	STNUM6Y > 0	21.44	5.32	1.84	2.88	8.30
Health care major when last enrolled through June 2017	MAJ17 = 14	18.86	2.96	1.86	1.59	2.54
Used academic advising services in 2011–12	USEACAD = 1	69.27	3.19	2.07	1.54	2.37
Received any aid in 2011–12	TOTAID > 0	77.70	3.80	1.87	2.03	4.12
Received any loans in 2011–12	TOTLOAN2 > 0	38.17	3.76	2.18	1.72	2.97
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	48.39	4.31	2.25	1.92	3.68
Received any federal benefits in 2017	FEDBEN17 = 1	13.24	2.03	1.52	1.33	1.78
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	9.47	2.95	1.32	2.24	5.03
Currently employed in 2017	JOBST17 = 1	70.26	3.92	2.37	1.66	2.75
Eligible for employer health insurance in 2017	JBEN17B = 1	65.57	5.48	3.01	1.82	3.31
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	69.21	4.90	2.93	1.67	2.80
Single parent in 2011–12	SINGLPAR = 1	2.51	1.87	0.70	2.67	7.10
Had two or more risk factors during 2011–12	RISKIND2 > 1	14.77	3.22	1.59	2.02	4.09
Single, not married as of 2017	SMAR17 = 1	81.65	3.64	1.74	2.09	4.39
Has any dependent children as of 2017	DEPANY17 = 1	13.23	2.02	1.52	1.33	1.76
Had a long-lasting disability or condition in 2014	DISABL14 = 1	7.81	1.89	1.21	1.57	2.45
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	25.57	3.85	1.96	1.96	3.86
Has any credit cards in 2017	CRDNUM17 = 1, 2	80.59	2.94	1.78	1.65	2.74
Pay off credit card balance each month in 2017	CRDPAY17 = 1	67.30	4.00	2.37	1.69	2.85
Summary statistics						
Mean	†	†	†	†	1.92	3.85
Minimum	†	†	†	†	1.33	1.76
25th percentile	†	†	†	†	1.59	2.54
Median	†	†	†	†	1.92	3.68
75th percentile	†	†	†	†	2.20	4.86
Maximum	†	†	†	†	2.88	8.30

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table J-48. Design effects, using the panel weight, for selected variables for first-time beginning female students of other race/ethnicities including two or more races: 2017**

Variable description	Definition	Percent estimate	Design standard error	Simple random sample standard error	DEFT <sup>1</sup>	DEFF <sup>2</sup>
Still enrolled at any institution through June 2017	PRAT6Y = 1, 3	20.62	3.02	1.61	1.88	3.52
Attained degree at any institution through June 2017	PRAT6Y = 1, 2	59.15	3.66	1.96	1.87	3.50
No degree from any institution as of June 2017	PRAT6Y = 3, 4	40.85	3.66	1.96	1.87	3.50
Earned a certificate anywhere through June 2017	PROUTF6Y = 3	8.21	2.58	1.09	2.36	5.59
Earned an associate's degree anywhere through June 2017	PROUTF6Y = 2	8.89	2.82	1.13	2.49	6.18
Earned a bachelor's degree anywhere through June 2017	PROUTF6Y = 1	26.23	2.66	1.75	1.52	2.31
Attended more than one institution in 2011–12	STUDMULT > 1	20.53	4.49	1.61	2.79	7.78
Ever transferred through June 2017	TFNUM6Y > 0	34.85	3.33	1.90	1.76	3.09
Ever stopped out anywhere through June 2017	STNUM6Y > 0	40.27	4.11	1.95	2.10	4.43
Health care major when last enrolled through June 2017	MAJ17 = 14	24.07	4.22	1.84	2.30	5.29
Used academic advising services in 2011–12	USEACAD = 1	60.05	4.29	1.95	2.20	4.85
Received any aid in 2011–12	TOTAID > 0	84.90	2.52	1.43	1.77	3.13
Received any loans in 2011–12	TOTLOAN2 > 0	48.98	4.18	1.99	2.10	4.41
Received any loans (Stafford, Perkins, or PLUS) through June 2017	T4TCUM17 > 0	60.83	3.50	1.94	1.80	3.24
Received any federal benefits in 2017	FEDBEN17 = 1	30.67	3.99	1.84	2.17	4.73
Currently repaying education loans (for students with loans) in 2014	RPYSL14 = 1	30.26	3.84	1.83	2.10	4.42
Currently employed in 2017	JOBST17 = 1	66.62	4.22	2.17	1.94	3.76
Eligible for employer health insurance in 2017	JBEN17B = 1	60.83	5.78	2.69	2.15	4.61
Consider current job related to intended future work in 2017	JOBRLFT17 = 1	54.12	4.85	2.75	1.77	3.12
Single parent in 2011–12	SINGLPAR = 1	17.03	3.11	1.50	2.08	4.32
Had two or more risk factors during 2011–12	RISKIND2 > 1	28.80	3.41	1.80	1.89	3.57
Single, not married as of 2017	SMAR17 = 1	73.78	3.13	1.75	1.79	3.19
Has any dependent children as of 2017	DEPANY17 = 1	37.73	3.36	1.93	1.74	3.03
Had a long-lasting disability or condition in 2014	DISABL14 = 1	13.34	3.77	1.35	2.79	7.77
Missed school/work at least once in past 30 days 2017	MISSH17 = 2, 3, 4, 5	29.02	3.32	1.81	1.84	3.37
Has any credit cards in 2017	CRDNUM17 = 1, 2	64.39	3.60	1.91	1.89	3.57
Pay off credit card balance each month in 2017	CRDPAY17 = 1	54.70	5.07	2.49	2.04	4.14
Summary statistics						
Mean	†	†	†	†	2.04	4.24
Minimum	†	†	†	†	1.52	2.31
25th percentile	†	†	†	†	1.80	3.24
Median	†	†	†	†	1.94	3.76
75th percentile	†	†	†	†	2.17	4.73
Maximum	†	†	†	†	2.79	7.78

† Not applicable.

<sup>1</sup> DEFT is the square root of DEFF and can also be defined as the ratio of the design-based standard error over the standard error that would have been obtained from a simple random sample of the same size (if that were practical).<sup>2</sup> DEFF is the survey design effect for a statistic and is defined as the ratio of the design-based variance estimate over the variance estimate that would have been obtained from a simple random sample of the same size (if that were practical).

NOTE: PLUS = Parent Loan for Undergraduate Students. Responses that included logical skips, not applicable, missing, unknown, or multiple possible answers were excluded from analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

## Appendix K. Nonresponse Bias Analysis



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**Table K-1. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondent, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Control and level of institution						(Effect size = 0.11)				(Effect size = #)	
Public less-than-2-year	110	80	0.19	0.14	0.27	-0.04*	-22.30	0.19	0.19	#	#
Public 2-year	6,620	4,100	36.71	33.77	42.56	-2.94*	-8.01	36.71	36.71	#	#
Public 4-year, non-doctorate-granting	1,340	540	11.54	11.68	11.28	0.13	1.15	11.54	11.54	#	#
Public 4-year, doctorate-granting	2,770	830	23.63	26.12	18.68	2.49*	10.53	23.63	23.63	#	#
Private nonprofit less-than-4-year	230	180	0.36	0.30	0.50	-0.07*	-18.88	0.36	0.36	#	#
Private nonprofit 4-year, non-doctorate-granting	1,690	620	8.68	9.44	7.17	0.76*	8.77	8.68	8.68	#	#
Private nonprofit 4-year, doctorate-granting	2,220	580	9.27	10.64	6.55	1.37*	14.76	9.27	9.27	#	#
Private for-profit less-than-2-year	760	670	2.63	2.00	3.89	-0.63*	-24.02	2.63	2.63	#	#
Private for-profit 2-year	1,730	1,310	2.76	2.31	3.66	-0.45*	-16.33	2.76	2.76	#	#
Private for-profit 4-year	5,070	3,740	4.22	3.60	5.45	-0.62*	-14.64	4.22	4.22	#	#
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.02)				(Effect size = #)	
New England	1,150	500	5.90	6.16	5.39	0.26	4.41	5.90	5.90	#	#
Mideast	3,630	1,830	15.25	15.43	14.88	0.18	1.20	15.25	15.25	#	#
Great Lakes	3,450	1,960	15.12	15.30	14.75	0.18	1.20	15.12	15.12	#	#
Plains	1,620	810	7.48	7.66	7.11	0.18	2.45	7.48	7.48	#	#
Southeast	5,120	2,980	23.93	23.95	23.88	0.02	0.10	23.93	23.93	#	#
Southwest	2,860	1,780	12.62	11.93	14.00	-0.69*	-5.50	12.62	12.62	#	#
Rocky Mountains	1,000	580	3.95	3.94	3.97	-0.01	-0.26	3.95	3.95	#	#
Far West	3,710	2,200	15.76	15.63	16.01	-0.13	-0.80	15.76	15.76	#	#
Institution total enrollment						(Effect size = 0.02)				(Effect size = #)	
0–2,628	5,710	4,080	13.40	12.82	14.55	-0.58*	-4.32	13.40	13.40	#	#
2,629–10,233	6,760	3,480	24.36	24.96	23.17	0.60*	2.46	24.36	24.36	#	#
10,234–26,884	5,460	2,810	33.07	33.02	33.18	-0.05	-0.16	33.07	33.07	#	#
26,885 or more	4,600	2,260	29.17	29.20	29.10	0.03	0.11	29.17	29.17	#	#

See notes at end of table.

**Table K-1. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondent, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Age as of Dec 31, 2011						(Effect size = 0.08)				(Effect size = #)	
15–23	18,670	9,260	88.03	90.78	82.55	2.75*	3.13	88.03	88.03	#	#
24–29	1,760	1,530	5.29	4.05	7.75	-1.24*	-23.41	5.29	5.29	#	#
30 or more	2,100	1,850	6.69	5.17	9.70	-1.51*	-22.63	6.69	6.69	#	#
Pell Grant status						(Effect size = #)				(Effect size = 0.01)	
Received	9,370	4,980	52.14	52.32	51.76	0.19	0.36	52.14	52.54	0.41	0.78
Did not receive	13,160	7,650	47.86	47.68	48.24	-0.19	-0.39	47.86	47.46	-0.41	-0.85
Total Pell Grant amount received						(Effect size = 0.09)				(Effect size = #)	
\$0 or unknown	7,610	4,290	43.86	43.11	45.36	-0.75*	-1.71	43.86	43.86	#	#
\$1–\$3,500	3,040	2,730	13.12	11.36	16.64	-1.77*	-13.47	13.12	13.12	#	#
\$3,501–\$6,352	3,430	2,380	11.75	10.83	13.56	-0.91*	-7.76	11.75	11.75	#	#
\$6,353–\$13,088	3,930	1,910	13.92	14.23	13.30	0.31	2.23	13.92	13.92	#	#
\$13,089 or more	4,530	1,320	17.35	20.47	11.14	3.12*	17.98	17.35	17.35	#	#
Stafford Loan status						(Effect size = 0.04)				(Effect size = #)	
Received	9,030	5,560	52.04	49.95	56.20	-2.09*	-4.02	52.04	52.14	0.10	0.20
Did not receive	13,500	7,070	47.96	50.05	43.80	2.09*	4.36	47.96	47.86	-0.10	-0.21
Total Stafford amount received						(Effect size = 0.12)				(Effect size = #)	
\$0 or unknown	7,040	5,020	41.92	38.34	49.06	-3.59*	-8.55	41.92	41.92	#	#
\$1–\$6,365	3,190	2,550	12.75	11.18	15.87	-1.57*	-12.29	12.75	12.75	#	#
\$6,366–\$12,755	3,570	2,190	11.72	11.61	11.93	-0.10	-0.89	11.72	11.72	#	#
\$12,756–\$26,000	4,230	1,690	16.34	17.98	13.07	1.64*	10.07	16.34	16.34	#	#
\$26,001 or more	4,520	1,180	17.27	20.88	10.08	3.61*	20.92	17.27	17.27	#	#

See notes at end of table.

**Table K-1. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted		Respondents vs. full sample			Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondent, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.05)				(Effect size = #)	
\$0 or unknown	19,360	11,390	88.15	86.57	91.31	-1.58*	-1.80	88.15	88.15	#	#
\$1–\$6,900	730	380	2.44	2.61	2.09	0.18*	7.19	2.44	2.44	#	#
\$6,901–\$14,995	780	320	2.91	3.21	2.32	0.30*	10.25	2.91	2.91	#	#
\$14,996–\$34,345	810	300	3.04	3.49	2.14	0.45*	14.88	3.04	3.04	#	#
\$34,346 or more	860	250	3.45	4.11	2.14	0.66*	19.03	3.45	3.45	#	#
Federal aid status						(Effect size = 0.07)				(Effect size = #)	
Did not receive	7,020	5,020	41.83	38.20	49.04	-3.62*	-8.66	41.83	41.82	-0.01	-0.02
Received	15,510	7,610	58.17	61.80	50.96	3.62*	6.23	58.17	58.18	0.01	0.01
Institution aid status						(Effect size = 0.09)				(Effect size = #)	
Did not receive	14,890	8,990	63.90	60.47	70.73	-3.43*	-5.37	63.90	63.90	#	#
Received	5,250	1,630	29.36	33.34	21.44	3.98*	13.56	29.36	29.36	#	#
Unknown	2,400	2,010	6.74	6.19	7.83	-0.55*	-8.14	6.74	6.74	#	#
State aid status						(Effect size = 0.05)				(Effect size = #)	
Did not receive	15,900	9,080	70.89	69.32	74.01	-1.57*	-2.21	70.89	70.89	#	#
Received	4,230	1,540	22.37	24.48	18.16	2.12*	9.46	22.37	22.37	#	#
Unknown	2,400	2,010	6.74	6.19	7.83	-0.55*	-8.14	6.74	6.74	#	#
CPS record available						(Effect size = 0.08)				(Effect size = 0.04)	
Yes	19,730	10,370	79.96	83.14	73.64	3.18*	3.97	79.96	81.62	1.66*	2.07
No	2,810	2,270	20.04	16.86	26.36	-3.18*	-15.85	20.04	18.38	-1.66*	-8.28

See notes at end of table.

**Table K-1. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted		Respondents vs. full sample			Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondent, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Major						(Effect size = 0.08)				(Effect size = 0.04)	
Humanities	4,110	1,980	23.56	23.54	23.58	-0.01	-0.06	23.56	23.71	0.16	0.66
Social/behavioral sciences	740	260	4.60	5.04	3.74	0.43*	9.40	4.60	4.61	#	0.03
Life sciences	1,170	360	7.15	8.01	5.44	0.86*	11.98	7.15	7.41	0.26	3.65
Physical sciences/math	210	50	1.38	1.63	0.87	0.25*	18.47	1.38	1.50	0.12	8.60
Computer/information science	1,240	810	2.19	2.14	2.28	-0.05	-2.06	2.19	2.25	0.06	2.66
Engineering	1,120	830	4.65	4.80	4.36	0.15	3.18	4.65	4.66	0.01	0.21
Education	570	220	3.21	3.48	2.68	0.27*	8.28	3.21	3.32	0.11	3.40
Business/management	2,280	1,370	9.87	9.17	11.24	-0.69*	-7.02	9.87	9.31	-0.56*	-5.66
Health	3,860	2,320	9.87	9.66	10.30	-0.22	-2.18	9.87	10.20	0.33	3.36
Vocational/technical	1,000	1,040	3.40	2.48	5.24	-0.92*	-27.16	3.40	2.93	-0.48*	-14.04
Other technical/professional	2,840	1,850	10.26	9.57	11.63	-0.69*	-6.70	10.26	9.94	-0.32	-3.11
Unknown	3,410	1,560	19.86	20.48	18.63	0.62	3.12	19.86	20.17	0.31	1.56
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid						(Effect size = 0.03)				(Effect size = 0.02)	
64 percent or less	6,060	3,060	34.81	35.17	34.09	0.36	1.04	34.81	35.55	0.74*	2.11
65–80 percent	6,310	4,080	28.96	28.26	30.36	-0.70*	-2.42	28.96	29.04	0.07	0.25
81–92 percent	6,040	3,660	20.33	19.73	21.53	-0.60	-2.96	20.33	19.76	-0.57*	-2.82
93 percent or more	4,080	1,800	15.64	16.59	13.76	0.95*	6.05	15.64	15.38	-0.26	-1.65
Unknown	50	30	0.25	0.24	0.27	-0.01	-2.77	0.25	0.27	0.02	8.77
Graduation rate of full-time, first-time degree/ certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = 0.08)				(Effect size = 0.03)	
23.64 percent or less	6,790	4,440	31.16	28.73	35.98	-2.42*	-7.78	31.16	31.48	0.32	1.03
23.65–41.64 percent	5,320	3,210	21.60	21.00	22.79	-0.60	-2.77	21.60	21.03	-0.58	-2.66
41.65–60.34 percent	3,820	1,680	19.74	20.69	17.84	0.95*	4.81	19.74	19.04	-0.69*	-3.50
60.35 percent or more	5,080	2,100	23.67	26.47	18.11	2.79*	11.80	23.67	24.57	0.90*	3.80
Unknown	1,520	1,200	3.83	3.11	5.27	-0.72*	-18.86	3.83	3.88	0.05	1.19

See notes at end of table.

**Table K-1. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted		Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondent, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Six-year federal loan default status						(Effect size = 0.11)				(Effect size = #)	
No	19,560	9,110	88.85	92.43	81.73	3.58*	4.03	88.85	88.85	#	#
Yes	2,970	3,520	11.15	7.57	18.27	-3.58*	-32.13	11.15	11.15	#	#
Public institution tuition and fees as percentage of core revenues (GASB reporting)						(Effect size = 0.06)				(Effect size = 0.02)	
12.90 percent or less	2,740	1,670	21.64	19.80	25.26	-1.83*	-8.43	21.64	21.00	-0.65	-2.98
12.91–22.61 percent	2,800	1,500	25.69	24.74	27.56	-0.94*	-3.68	25.69	25.50	-0.19	-0.74
22.62–31.65 percent	2,890	1,410	26.54	27.24	25.19	0.69	2.58	26.54	26.90	0.35	1.32
31.66 percent or more	2,290	900	24.85	26.88	20.86	2.01*	8.10	24.85	25.35	0.50	2.02
Unknown	110	60	1.27	1.34	1.13	0.07	5.56	1.27	1.25	-0.02	-1.57
Private institution tuition and fees as percentage of core revenues (FASB reporting)						(Effect size = 0.11)				(Effect size = 0.03)	
62.66 percent or less	2,210	730	37.20	41.24	28.85	4.14*	11.14	37.20	38.43	1.22	3.28
62.67–79.32 percent	2,450	1,220	26.77	27.31	25.65	0.55	2.07	26.77	26.52	-0.25	-0.95
79.33–98.72 percent	2,660	1,590	19.83	18.38	22.82	-1.49*	-7.50	19.83	18.93	-0.89	-4.50
98.73 percent or more	3,910	3,280	13.90	11.01	19.89	-2.97*	-21.36	13.90	13.70	-0.20	-1.45
Unknown	460	280	2.30	2.06	2.78	-0.24	-10.48	2.30	2.42	0.13	5.50
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = 0.07)				(Effect size = 0.01)	
\$4,144.47 or less	3,380	2,150	25.55	23.57	29.44	-1.96*	-7.69	25.55	25.42	-0.13	-0.50
\$4,144.48–\$5,618.87	2,800	1,590	24.41	23.21	26.77	-1.19*	-4.88	24.41	24.49	0.08	0.34
\$5,618.88–\$7,662.30	2,320	940	23.49	24.63	21.25	1.13*	4.81	23.49	23.68	0.20	0.83
\$7,662.31 or more	2,220	800	25.28	27.25	21.41	1.96*	7.74	25.28	25.15	-0.13	-0.51
Unknown	110	60	1.27	1.34	1.13	0.07	5.56	1.27	1.25	-0.02	-1.57

See notes at end of table.

**Table K-1. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted		Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondent, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = 0.13)				(Effect size = 0.03)	
\$3,120.54 or less	3,110	2,510	17.88	14.32	25.26	-3.66*	-20.46	17.88	17.76	-0.12	-0.69
\$3,120.55–\$5,425.76	3,210	2,190	20.94	18.70	25.57	-2.30*	-10.97	20.94	20.31	-0.63	-2.99
\$5,425.77–\$8,864.46	2,500	1,300	22.06	23.42	19.25	1.39*	6.32	22.06	21.36	-0.70	-3.17
\$8,864.47 or more	2,410	820	36.82	41.51	27.14	4.80*	13.05	36.82	38.15	1.32*	3.59
Unknown	460	280	2.30	2.06	2.78	-0.24	-10.48	2.30	2.42	0.13	5.50

# Rounds to zero.

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-2. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Mideast	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Great Lakes	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southwest	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	110	80	99.68	99.38	100.00	-0.30	-0.30	99.68	98.87	-0.81	-0.81
2,629–10,233	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	70	50	63.15	65.48	60.64	2.34	3.70	63.15	61.30	-1.85	-2.93
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Pell Grant status						(Effect size = 0.18)				(Effect size = 0.19)	
Received	50	30	43.65	52.52	34.14	8.88*	20.34	43.65	52.86	9.21*	21.10
Did not receive	60	50	56.35	47.48	65.86	-8.88*	-15.75	56.35	47.14	-9.21*	-16.35
Total Pell Grant amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$1–\$3,500	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,501–\$6,352	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,353–\$13,088	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$13,089 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-2. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = ‡)				(Effect size = ‡)	
Received	60	50	57.81	60.64	54.78	2.83	4.89	57.81	62.16	4.34	7.51
Did not receive	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Total Stafford amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	50	50	52.72	49.46	56.21	-3.26	-6.18	52.72	53.51	0.79	1.51
\$1–\$6,365	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,366–\$12,755	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$12,756–\$26,000	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$26,001 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	100	80	98.57	97.24	100.00	-1.33	-1.35	98.57	96.76	-1.81	-1.84
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	50	50	52.72	49.46	56.21	-3.26	-6.18	52.72	53.51	0.79	1.51
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	100	80	95.82	94.55	97.18	-1.27	-1.33	95.82	95.21	-0.61	-0.64
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	100	70	91.16	91.30	91.01	0.14	0.15	91.16	90.62	-0.55	-0.60
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-2. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
CPS record available						(Effect size = ‡)				(Effect size = ‡)		
Yes	90	60	74.76	75.13	74.37	0.37	0.49	74.76	73.03	-1.73	-2.31	
No	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Major						(Effect size = ‡)				(Effect size = ‡)		
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Business/management	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Health	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Vocational/technical	30	30	28.74	24.86	32.90	-3.88	-13.50	28.74	26.55	-2.20	-7.64	
Other technical/professional	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)		
64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
65–80 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
81–92 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
93 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

See notes at end of table.

**Table K-2. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)		
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	110	80	100.00	100.00	100.00	#	#	100.00	100.00	#	#	
Six-year federal loan default status						(Effect size = ‡)				(Effect size = ‡)		
No	100	60	85.94	90.24	81.34	4.30*	5.00	85.94	85.17	-0.77	-0.90	
Yes	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)		
12.90 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
12.91–22.61 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
22.62–31.65 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
31.66 percent or more	40	30	45.45	46.40	44.43	0.95	2.10	45.45	46.09	0.65	1.42	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-2. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)		
\$4,144.47 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$5,618.88–\$7,662.30	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$7,662.31 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-3. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.03)				(Effect size = 0.03)	
New England	250	120	4.14	4.48	3.60	0.34*	8.28	4.14	4.33	0.19	4.69
Mideast	780	520	13.14	13.00	13.36	-0.14	-1.07	13.14	12.83	-0.30	-2.32
Great Lakes	1,220	820	14.87	15.16	14.41	0.29	1.96	14.87	15.34	0.47	3.17
Plains	430	210	7.96	8.25	7.49	0.29	3.68	7.96	8.01	0.06	0.72
Southeast	1,610	940	20.01	20.41	19.37	0.41	2.03	20.01	20.61	0.60	3.00
Southwest	820	540	16.08	15.32	17.27	-0.76	-4.70	16.08	15.84	-0.23	-1.46
Rocky Mountains	270	140	2.72	2.76	2.66	0.04	1.44	2.72	2.71	-0.01	-0.46
Far West	1,240	800	21.09	20.62	21.84	-0.48	-2.26	21.09	20.32	-0.77	-3.66
Institution total enrollment						(Effect size = 0.02)				(Effect size = 0.02)	
0–2,628	160	130	2.61	2.52	2.76	-0.09	-3.54	2.61	2.47	-0.15	-5.58
2,629–10,233	1,890	1,100	25.78	26.37	24.83	0.60	2.32	25.78	25.90	0.12	0.48
10,234–26,884	2,890	1,810	43.68	44.10	43.03	0.41	0.95	43.68	44.40	0.72	1.64
26,885 or more	1,670	1,060	27.93	27.01	29.38	-0.92	-3.29	27.93	27.23	-0.69	-2.48
Age as of Dec 31, 2011						(Effect size = 0.08)				(Effect size = 0.01)	
15–23	5,470	3,120	82.12	85.08	77.45	2.96*	3.60	82.12	81.96	-0.16	-0.19
24–29	510	400	8.22	6.78	10.50	-1.44*	-17.55	8.22	8.19	-0.03	-0.32
30 or more	640	580	9.66	8.14	12.05	-1.52*	-15.69	9.66	9.84	0.18	1.92
Pell Grant status						(Effect size = 0.03)				(Effect size = 0.01)	
Received	2,730	1,950	44.67	43.27	46.88	-1.40*	-3.13	44.67	45.11	0.44	0.98
Did not receive	3,890	2,150	55.33	56.73	53.12	1.40*	2.53	55.33	54.89	-0.44	-0.79
Total Pell Grant amount received						(Effect size = 0.14)				(Effect size = 0.02)	
\$0 or unknown	2,070	1,680	35.36	32.53	39.83	-2.83*	-8.00	35.36	35.19	-0.17	-0.49
\$1–\$3,500	1,110	910	18.02	15.73	21.63	-2.29*	-12.71	18.02	17.75	-0.27	-1.50
\$3,501–\$6,352	910	620	14.30	13.42	15.69	-0.88*	-6.15	14.30	13.85	-0.46	-3.21
\$6,353–\$13,088	1,230	540	16.46	18.41	13.37	1.96*	11.89	16.46	17.03	0.57	3.46
\$13,089 or more	1,290	360	15.87	19.91	9.48	4.04*	25.48	15.87	16.20	0.33	2.09

See notes at end of table.

**Table K-3. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.01)				(Effect size = #)	
Received	4,950	3,180	75.16	74.81	75.72	-0.35	-0.47	75.16	75.08	-0.08	-0.11
Did not receive	1,670	920	24.84	25.19	24.28	0.35	1.41	24.84	24.92	0.08	0.32
Total Stafford amount received						(Effect size = 0.11)				(Effect size = 0.01)	
\$0 or unknown	3,620	2,730	57.40	53.82	63.04	-3.58*	-6.23	57.40	57.25	-0.15	-0.26
\$1–\$6,365	930	610	14.27	13.24	15.88	-1.02*	-7.16	14.27	14.32	0.05	0.36
\$6,366–\$12,755	760	360	10.70	11.63	9.24	0.92*	8.64	10.70	10.76	0.06	0.56
\$12,756–\$26,000	850	280	11.53	13.63	8.21	2.10*	18.23	11.53	11.48	-0.05	-0.44
\$26,001 or more	450	120	6.10	7.67	3.62	1.57*	25.74	6.10	6.19	0.09	1.50
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	6,350	4,010	96.45	95.63	97.75	-0.82*	-0.85	96.45	96.34	-0.11	-0.11
\$1–\$6,900	80	40	1.01	1.23	0.67	0.22*	21.26	1.01	1.01	#	-0.30
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.07)				(Effect size = #)	
Did not receive	3,620	2,730	57.31	53.71	63.00	-3.60*	-6.28	57.31	57.16	-0.15	-0.27
Received	3,000	1,370	42.69	46.29	37.00	3.60*	8.43	42.69	42.84	0.15	0.36
Institution aid status						(Effect size = 0.03)				(Effect size = 0.02)	
Did not receive	5,080	3,160	78.09	77.33	79.29	-0.76	-0.98	78.09	78.39	0.30	0.39
Received	920	440	13.76	14.91	11.95	1.15*	8.32	13.76	13.20	-0.56	-4.08
Unknown	620	500	8.15	7.77	8.75	-0.38	-4.69	8.15	8.41	0.26	3.17
State aid status						(Effect size = 0.03)				(Effect size = 0.01)	
Did not receive	4,710	2,980	74.18	73.57	75.14	-0.61	-0.82	74.18	74.15	-0.03	-0.04
Received	1,290	620	17.67	18.66	16.11	0.99	5.60	17.67	17.44	-0.23	-1.28
Unknown	620	500	8.15	7.77	8.75	-0.38	-4.69	8.15	8.41	0.26	3.17

See notes at end of table.

**Table K-3. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.09)				(Effect size = 0.05)	
Yes	5,300	2,830	75.86	79.60	69.95	3.74*	4.93	75.86	78.00	2.14*	2.83
No	1,320	1,270	24.14	20.40	30.05	-3.74*	-15.49	24.14	22.00	-2.14*	-8.88
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	1,940	1,030	35.29	36.35	33.61	1.06	3.02	35.29	35.77	0.48	1.36
Social/behavioral sciences	90	50	1.56	1.78	1.21	0.22	14.06	1.56	1.71	0.15	9.82
Life sciences	190	80	2.80	2.82	2.77	0.02	0.70	2.80	2.76	-0.05	-1.68
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	180	120	2.10	2.27	1.85	0.16	7.75	2.10	2.33	0.23	10.92
Engineering	260	160	3.35	3.70	2.80	0.35	10.32	3.35	3.62	0.27	7.97
Education	150	90	2.11	2.36	1.72	0.25	11.79	2.11	2.32	0.21	9.87
Business/management	550	360	8.61	8.62	8.59	0.01	0.15	8.61	8.75	0.14	1.62
Health	790	410	9.10	9.26	8.86	0.16	1.71	9.10	9.44	0.33	3.65
Vocational/technical	470	520	5.13	4.01	6.91	-1.13*	-21.97	5.13	4.30	-0.83*	-16.22
Other technical/professional	710	490	10.07	9.22	11.40	-0.84*	-8.39	10.07	9.23	-0.84*	-8.33
Unknown	1,280	780	19.24	18.89	19.80	-0.35	-1.83	19.24	19.08	-0.17	-0.87
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	2,870	1,660	46.26	47.04	45.03	0.78	1.69	46.26	47.17	0.91	1.97
65–80 percent	2,330	1,540	33.98	33.80	34.26	-0.18	-0.52	33.98	33.96	-0.02	-0.06
81–92 percent	900	570	13.70	13.16	14.55	-0.54	-3.94	13.70	12.83	-0.87*	-6.36
93 percent or more	510	310	5.74	5.73	5.74	#	-0.07	5.74	5.80	0.06	1.08
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-3. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	4,760	2,960	71.54	72.48	70.04	0.95	1.32	71.54	72.88	1.35*	1.88
23.65–41.64 percent	1,590	940	24.54	23.91	25.54	-0.64	-2.59	24.54	23.45	-1.09	-4.43
41.65–60.34 percent	210	120	2.96	2.83	3.15	-0.12	-4.13	2.96	2.89	-0.06	-2.12
60.35 percent or more	50	70	0.64	0.51	0.85	-0.13	-20.50	0.64	0.52	-0.12	-18.46
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.11)				(Effect size = 0.01)	
No	6,170	3,530	90.21	93.60	84.87	3.38*	3.75	90.21	90.43	0.22	0.24
Yes	450	570	9.79	6.40	15.13	-3.38*	-34.57	9.79	9.57	-0.22	-2.21
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	2,520	1,570	37.61	36.50	39.35	-1.10	-2.94	37.61	36.38	-1.23	-3.26
12.91–22.61 percent	1,930	1,140	30.12	30.53	29.46	0.41	1.37	30.12	30.88	0.76	2.52
22.62–31.65 percent	1,580	1,000	22.21	22.60	21.60	0.39	1.74	22.21	22.61	0.40	1.82
31.66 percent or more	580	380	9.74	10.10	9.17	0.36	3.70	9.74	9.88	0.14	1.46
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-3. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
								Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>				
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$4,144.47 or less	3,070	1,990	43.52	43.29	43.89	-0.23	-0.53	43.52	43.48	-0.04	-0.10
\$4,144.48–\$5,618.87	2,370	1,400	37.44	37.53	37.31	0.09	0.23	37.44	37.28	-0.16	-0.43
\$5,618.88–\$7,662.30	920	510	14.96	15.30	14.42	0.34	2.26	14.96	15.28	0.32	2.16
\$7,662.31 or more	250	190	3.75	3.62	3.96	-0.14	-3.60	3.75	3.71	-0.04	-1.06
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table K-4. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
								Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>			Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Mideast	250	90	16.92	17.02	16.72	0.10	0.58	16.92	16.61	-0.32	-1.88
Great Lakes	170	70	15.07	14.46	16.34	-0.62	-4.09	15.07	14.28	-0.80	-5.29
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	500	210	34.56	34.65	34.36	0.10	0.28	34.56	34.84	0.28	0.82
Southwest	80	40	3.97	3.73	4.46	-0.24	-5.99	3.97	4.03	0.06	1.52
Rocky Mountains	80	40	6.85	6.34	7.89	-0.51	-7.41	6.85	6.31	-0.54	-7.93
Far West	160	60	15.20	16.06	13.41	0.87	5.70	15.20	16.66	1.46	9.63
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
2,629–10,233	560	210	38.66	39.52	36.88	0.86	2.23	38.66	38.26	-0.39	-1.02
10,234–26,884	450	200	36.85	36.15	38.31	-0.71	-1.92	36.85	36.58	-0.28	-0.75
26,885 or more	270	120	20.75	20.20	21.87	-0.55	-2.63	20.75	21.36	0.61	2.96
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	1,260	480	92.89	94.36	89.87	1.47	1.58	92.89	93.00	0.11	0.12
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	40	30	3.55	2.90	4.89	-0.65	-18.32	3.55	3.71	0.16	4.38
Pell Grant status						(Effect size = 0.04)				(Effect size = 0.01)	
Received	680	300	52.68	50.75	56.68	-1.94	-3.68	52.68	52.39	-0.29	-0.55
Did not receive	660	240	47.32	49.25	43.32	1.94	4.10	47.32	47.61	0.29	0.61
Total Pell Grant amount received						(Effect size = 0.10)				(Effect size = 0.04)	
\$0 or unknown	560	260	44.11	40.61	51.33	-3.50*	-7.94	44.11	42.41	-1.70	-3.86
\$1–\$3,500	140	70	11.73	10.77	13.69	-0.95	-8.13	11.73	11.97	0.25	2.10
\$3,501–\$6,352	130	60	9.41	9.56	9.10	0.15	1.60	9.41	10.10	0.69	7.34
\$6,353–\$13,088	210	70	14.18	14.82	12.85	0.64	4.55	14.18	14.64	0.46	3.24
\$13,089 or more	320	70	20.57	24.23	13.03	3.66*	17.80	20.57	20.88	0.31	1.49

See notes at end of table.

**Table K-4. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.07)				(Effect size = 0.03)	
Received	650	320	51.97	48.68	58.75	-3.29*	-6.33	51.97	50.38	-1.58	-3.05
Did not receive	700	220	48.03	51.32	41.25	3.29*	6.85	48.03	49.62	1.58	3.30
Total Stafford amount received						(Effect size = 0.11)				(Effect size = 0.04)	
\$0 or unknown	500	270	41.46	37.11	50.44	-4.36*	-10.51	41.46	39.89	-1.57	-3.79
\$1–\$6,365	170	80	13.19	12.37	14.88	-0.82	-6.22	13.19	13.71	0.52	3.96
\$6,366–\$12,755	150	60	11.46	12.06	10.23	0.60	5.20	11.46	11.86	0.40	3.48
\$12,756–\$26,000	240	70	17.03	18.78	13.44	1.75*	10.25	17.03	17.93	0.89	5.25
\$26,001 or more	270	60	16.85	19.69	11.01	2.84*	16.83	16.85	16.61	-0.24	-1.45
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,200	500	90.61	88.94	94.07	-1.68*	-1.85	90.61	89.84	-0.77	-0.85
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.09)				(Effect size = 0.03)	
Did not receive	500	270	41.46	37.11	50.44	-4.36*	-10.51	41.46	39.89	-1.57	-3.79
Received	840	270	58.54	62.89	49.56	4.36*	7.44	58.54	60.11	1.57	2.68
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	1,010	430	77.25	74.58	82.75	-2.67*	-3.45	77.25	76.99	-0.26	-0.33
Received	300	100	20.58	22.97	15.64	2.40*	11.64	20.58	20.57	#	-0.01
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	900	410	69.50	65.91	76.88	-3.58*	-5.15	69.50	68.18	-1.31	-1.89
Received	410	120	28.33	31.64	21.51	3.31*	11.68	28.33	29.38	1.05	3.72
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-4. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.09)				(Effect size = 0.05)	
Yes	1,140	400	79.10	82.59	71.90	3.49*	4.42	79.10	81.06	1.96	2.48
No	210	140	20.90	17.41	28.10	-3.49*	-16.71	20.90	18.94	-1.96	-9.38
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	390	170	32.06	30.58	35.09	-1.47	-4.59	32.06	30.74	-1.32	-4.12
Social/behavioral sciences	100	40	6.15	6.60	5.21	0.45	7.38	6.15	6.10	-0.04	-0.70
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	110	50	7.54	7.29	8.06	-0.25	-3.32	7.54	7.41	-0.14	-1.84
Health	120	40	7.72	8.39	6.35	0.67	8.64	7.72	8.15	0.43	5.58
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	110	40	8.21	8.45	7.71	0.24	2.93	8.21	8.60	0.39	4.74
Unknown	230	100	16.54	16.52	16.58	-0.02	-0.12	16.54	16.73	0.19	1.14
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	410	150	30.87	30.79	31.04	-0.08	-0.26	30.87	30.46	-0.42	-1.35
65–80 percent	520	220	39.02	38.55	40.00	-0.47	-1.21	39.02	39.77	0.75	1.92
81–92 percent	300	120	23.67	23.97	23.07	0.29	1.24	23.67	23.45	-0.22	-0.94
93 percent or more	100	50	6.12	6.23	5.90	0.11	1.77	6.12	5.78	-0.34	-5.59
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-4. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	150	80	17.54	16.15	20.40	-1.39	-7.92	17.54	17.42	-0.11	-0.64
23.65–41.64 percent	640	290	43.88	43.64	44.37	-0.24	-0.54	43.88	44.21	0.33	0.76
41.65–60.34 percent	360	140	28.59	28.73	28.31	0.14	0.48	28.59	26.98	-1.61	-5.62
60.35 percent or more	180	40	9.16	10.31	6.78	1.15*	12.61	9.16	10.16	1.01	10.98
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.07)				(Effect size = 0.04)	
No	1,230	460	89.50	91.72	84.92	2.22*	2.48	89.50	88.15	-1.35	-1.51
Yes	110	80	10.50	8.28	15.08	-2.22*	-21.17	10.50	11.85	1.35	12.83
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	110	60	8.27	8.08	8.66	-0.19	-2.30	8.27	8.19	-0.08	-0.99
12.91–22.61 percent	380	190	25.96	23.59	30.84	-2.37*	-9.12	25.96	24.09	-1.87*	-7.19
22.62–31.65 percent	380	140	28.92	28.96	28.82	0.04	0.16	28.92	29.27	0.36	1.23
31.66 percent or more	470	150	35.99	38.58	30.66	2.59*	7.18	35.99	37.65	1.66	4.60
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-4. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments								After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)		
\$4,144.47 or less	310	150	20.16	19.28	21.97	-0.88	-4.37	20.16	20.13	-0.03	-0.15	
\$4,144.48–\$5,618.87	290	140	24.74	24.66	24.90	-0.08	-0.32	24.74	25.75	1.02	4.12	
\$5,618.88–\$7,662.30	440	130	32.86	34.53	29.42	1.67	5.08	32.86	33.33	0.47	1.44	
\$7,662.31 or more	300	110	21.38	20.75	22.69	-0.64	-2.97	21.38	19.99	-1.40	-6.53	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-5. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017**

Selected variables	Sample counts		Before weight adjustments					After nonresponse weight adjustment				
			Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.03)				(Effect size = 0.04)		
New England	100	40	3.99	3.82	4.48	-0.17	-4.36	3.99	3.62	-0.38	-9.43	
Mideast	330	100	9.51	9.63	9.15	0.13	1.34	9.51	9.76	0.26	2.70	
Great Lakes	470	130	17.36	17.51	16.96	0.14	0.83	17.36	17.53	0.16	0.95	
Plains	200	80	7.98	7.32	9.82	-0.66	-8.29	7.98	7.30	-0.67	-8.44	
Southeast	810	240	29.74	29.13	31.42	-0.61	-2.04	29.74	29.42	-0.32	-1.09	
Southwest	420	130	13.71	14.15	12.50	0.44	3.18	13.71	14.24	0.53	3.86	
Rocky Mountains	120	40	4.09	4.30	3.51	0.21	5.12	4.09	4.35	0.26	6.42	
Far West	320	80	13.62	14.15	12.16	0.52	3.85	13.62	13.78	0.16	1.17	
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)		
0–2,628	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
2,629–10,233	200	50	6.54	6.79	5.84	0.25	3.83	6.54	6.70	0.16	2.51	
10,234–26,884	1,100	350	37.91	37.41	39.31	-0.50	-1.32	37.91	36.98	-0.93	-2.46	
26,885 or more	1,470	420	55.55	55.80	54.85	0.25	0.45	55.55	56.32	0.77	1.38	
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)		
15–23	2,750	810	98.85	99.42	97.27	0.57*	0.58	98.85	99.33	0.48	0.48	
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Pell Grant status						(Effect size = 0.03)				(Effect size = 0.01)		
Received	1,760	550	65.71	64.17	70.00	-1.54*	-2.34	65.71	66.28	0.57	0.87	
Did not receive	1,010	270	34.29	35.83	30.00	1.54*	4.49	34.29	33.72	-0.57	-1.67	
Total Pell Grant amount received						(Effect size = 0.06)				(Effect size = 0.02)		
\$0 or unknown	1,520	490	56.78	54.73	62.47	-2.04*	-3.60	56.78	57.33	0.55	0.96	
\$1–\$3,500	190	70	7.26	7.17	7.50	-0.09	-1.18	7.26	7.28	0.02	0.26	
\$3,501–\$6,352	180	60	6.36	6.49	5.97	0.14	2.19	6.36	6.50	0.15	2.33	
\$6,353–\$13,088	270	90	10.09	9.85	10.76	-0.24	-2.40	10.09	9.45	-0.64	-6.38	
\$13,089 or more	620	130	19.52	21.75	13.30	2.23*	11.44	19.52	19.45	-0.07	-0.36	

See notes at end of table.

**Table K-5. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.02)				(Effect size = 0.03)	
Received	1,140	360	42.88	41.83	45.81	-1.05	-2.45	42.88	44.54	1.66*	3.88
Did not receive	1,640	460	57.12	58.17	54.19	1.05	1.84	57.12	55.46	-1.66*	-2.91
Total Stafford amount received						(Effect size = 0.09)				(Effect size = 0.03)	
\$0 or unknown	890	330	35.61	32.83	43.36	-2.78*	-7.82	35.61	36.57	0.96	2.69
\$1–\$6,365	220	110	8.95	7.89	11.88	-1.05*	-11.78	8.95	8.42	-0.53	-5.88
\$6,366–\$12,755	260	90	9.26	8.91	10.24	-0.35	-3.79	9.26	8.92	-0.34	-3.69
\$12,756–\$26,000	580	140	19.99	21.39	16.10	1.40*	6.99	19.99	19.98	-0.01	-0.06
\$26,001 or more	820	160	26.19	28.98	18.41	2.79*	10.67	26.19	26.11	-0.08	-0.30
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.03)				(Effect size = 0.03)	
\$0 or unknown	2,250	690	82.46	82.00	83.72	-0.45	-0.55	82.46	83.09	0.64	0.77
\$1–\$6,900	80	30	3.18	2.95	3.85	-0.24	-7.46	3.18	2.74	-0.45	-14.02
\$6,901–\$14,995	140	40	4.58	4.66	4.37	0.08	1.69	4.58	4.46	-0.12	-2.63
\$14,996–\$34,345	140	40	4.78	4.90	4.46	0.12	2.41	4.78	4.61	-0.18	-3.67
\$34,346 or more	160	30	4.99	5.49	3.60	0.50*	9.99	4.99	5.10	0.11	2.14
Federal aid status						(Effect size = 0.06)				(Effect size = 0.02)	
Did not receive	890	330	35.54	32.74	43.36	-2.81*	-7.90	35.54	36.50	0.95	2.68
Received	1,880	500	64.46	67.26	56.64	2.81*	4.36	64.46	63.50	-0.95	-1.48
Institution aid status						(Effect size = 0.05)				(Effect size = 0.01)	
Did not receive	1,590	530	59.63	57.27	66.19	-2.36*	-3.95	59.63	59.45	-0.18	-0.30
Received	1,050	250	36.47	39.10	29.14	2.63*	7.22	36.47	36.87	0.41	1.12
Unknown	130	50	3.91	3.63	4.67	-0.27	-7.01	3.91	3.68	-0.23	-5.81
State aid status						(Effect size = 0.04)				(Effect size = 0.02)	
Did not receive	1,650	520	62.80	61.07	67.60	-1.73*	-2.75	62.80	62.48	-0.32	-0.50
Received	990	250	33.29	35.29	27.73	2.00*	6.01	33.29	33.84	0.54	1.63
Unknown	130	50	3.91	3.63	4.67	-0.27	-7.01	3.91	3.68	-0.23	-5.81

See notes at end of table.

**Table K-5. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.09)				(Effect size = 0.05)	
Yes	2,330	610	80.37	84.08	70.06	3.71*	4.61	80.37	82.35	1.97*	2.45
No	440	210	19.63	15.92	29.94	-3.71*	-18.88	19.63	17.65	-1.97*	-10.05
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	390	110	14.23	14.63	13.13	0.40	2.79	14.23	14.55	0.33	2.29
Social/behavioral sciences	230	70	7.99	7.89	8.27	-0.10	-1.27	7.99	7.87	-0.12	-1.45
Life sciences	410	100	14.41	15.34	11.82	0.93*	6.46	14.41	15.39	0.99*	6.84
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	230	70	8.36	8.29	8.55	-0.07	-0.81	8.36	8.32	-0.04	-0.44
Education	120	30	3.94	4.06	3.61	0.12	2.97	3.94	4.03	0.09	2.33
Business/management	260	110	11.16	9.78	15.00	-1.38*	-12.35	11.16	10.03	-1.13*	-10.08
Health	220	50	7.25	7.53	6.48	0.28	3.82	7.25	7.35	0.09	1.31
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	230	70	7.71	7.75	7.62	0.03	0.42	7.71	7.78	0.07	0.88
Unknown	560	170	20.23	20.12	20.56	-0.12	-0.57	20.23	20.06	-0.18	-0.87
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	1,110	320	42.97	43.15	42.46	0.18	0.42	42.97	43.58	0.61	1.43
65–80 percent	740	220	28.62	28.46	29.07	-0.16	-0.57	28.62	28.14	-0.48	-1.69
81–92 percent	750	230	21.53	21.79	20.78	0.27	1.24	21.53	21.78	0.25	1.15
93 percent or more	180	50	6.88	6.60	7.69	-0.29	-4.19	6.88	6.51	-0.38	-5.50
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-5. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	580	180	18.51	18.41	18.81	-0.11	-0.58	18.51	18.18	-0.33	-1.80
41.65–60.34 percent	960	280	35.99	35.69	36.82	-0.30	-0.83	35.99	35.27	-0.72	-2.01
60.35 percent or more	1,220	350	44.23	45.03	42.01	0.80	1.81	44.23	45.67	1.43*	3.24
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.09)				(Effect size = 0.04)	
No	2,650	730	93.84	96.02	87.77	2.18*	2.32	93.84	94.73	0.89*	0.95
Yes	120	100	6.16	3.98	12.23	-2.18*	-35.36	6.16	5.27	-0.89*	-14.50
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	90	30	3.47	3.49	3.42	0.02	0.48	3.47	3.43	-0.04	-1.25
12.91–22.61 percent	490	160	18.87	17.88	21.61	-0.99	-5.23	18.87	18.02	-0.85	-4.51
22.62–31.65 percent	920	270	32.19	32.51	31.28	0.33	1.01	32.19	32.46	0.28	0.86
31.66 percent or more	1,200	350	42.71	43.24	41.25	0.53	1.23	42.71	43.21	0.50	1.17
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-5. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$4,144.47 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	110	30	4.10	4.12	4.05	0.02	0.44	4.10	4.14	0.04	0.92
\$5,618.88–\$7,662.30	950	280	32.24	32.31	32.04	0.07	0.22	32.24	32.07	-0.17	-0.52
\$7,662.31 or more	1,640	490	60.50	60.64	60.09	0.15	0.24	60.50	60.85	0.35	0.58
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-6. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Mideast	50	40	21.10	23.82	17.91	2.72	12.90	21.10	21.63	0.53	2.53
Great Lakes	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	90	60	34.43	33.57	35.44	-0.86	-2.49	34.43	34.49	0.05	0.15
Southwest	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	40	50	18.55	14.09	23.78	-4.46§	-24.04	18.55	15.77	-2.77	-14.96
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	230	170	98.77	99.41	98.03	0.63	0.64	98.77	99.25	0.48	0.49
2,629–10,233	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	170	130	70.37	74.09	66.00	3.72	5.29	70.37	69.66	-0.71	-1.00
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Pell Grant status						(Effect size = 0.08)				(Effect size = 0.07)	
Received	70	50	29.90	33.49	25.69	3.59	12.00	29.90	32.95	3.06	10.22
Did not receive	160	130	70.10	66.51	74.31	-3.59	-5.12	70.10	67.05	-3.06	-4.36
Total Pell Grant amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	50	50	25.87	26.71	24.89	0.84	3.24	25.87	27.29	1.42	5.49
\$1–\$3,500	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,501–\$6,352	60	60	32.76	24.68	42.24	-8.08*	-24.68	32.76	26.21	-6.55	-20.00
\$6,353–\$13,088	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$13,089 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-6. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.02)				(Effect size = 0.04)	
Received	50	60	29.32	28.34	30.47	-0.98	-3.35	29.32	30.97	1.65	5.62
Did not receive	180	120	70.68	71.66	69.53	0.98	1.39	70.68	69.03	-1.65	-2.33
Total Stafford amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	50	50	26.54	24.16	29.32	-2.37	-8.94	26.54	27.81	1.28	4.82
\$1–\$6,365	40	40	21.82	19.84	24.14	-1.98	-9.07	21.82	20.96	-0.86	-3.96
\$6,366–\$12,755	60	60	29.45	23.46	36.48	-5.99	-20.34	29.45	23.39	-6.06	-20.57
\$12,756–\$26,000	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$26,001 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	180	160	82.59	76.23	90.04	-6.35	-7.69	82.59	79.75	-2.84	-3.44
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.05)				(Effect size = 0.03)	
Did not receive	50	50	26.54	24.16	29.32	-2.37	-8.94	26.54	27.81	1.28	4.82
Received	180	120	73.46	75.84	70.68	2.37	3.23	73.46	72.19	-1.28	-1.74
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	130	120	60.02	52.72	68.59	-7.30*	-12.16	60.02	58.04	-1.98	-3.29
Received	90	50	33.54	42.89	22.56	9.35*	27.89	33.54	36.66	3.12*	9.31
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	150	140	74.23	70.56	78.54	-3.67	-4.95	74.23	71.14	-3.09	-4.16
Received	70	30	19.33	25.05	12.61	5.72*	29.62	19.33	23.56	4.24	21.91
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-6. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
CPS record available						(Effect size = #)				(Effect size = #)		
Yes	210	150	85.40	85.22	85.60	-0.17	-0.20	85.40	85.28	-0.11	-0.13	
No	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Major						(Effect size = ‡)				(Effect size = ‡)		
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Business/management	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Health	50	40	25.73	22.28	29.78	-3.45	-13.41	25.73	24.19	-1.54	-5.99	
Vocational/technical	50	40	18.87	19.60	18.01	0.73	3.86	18.87	20.97	2.10	11.12	
Other technical/professional	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	90	60	38.10	42.41	33.05	4.31	11.30	38.10	39.73	1.63	4.27	
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)		
64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
65–80 percent	50	40	25.10	26.20	23.81	1.10	4.38	25.10	24.49	-0.61	-2.44	
81–92 percent	120	100	47.45	48.97	45.66	1.52	3.21	47.45	48.63	1.19	2.50	
93 percent or more	30	30	19.04	12.57	26.62	-6.47	-33.97	19.04	15.47	-3.56	-18.71	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

See notes at end of table.

**Table K-6. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	60	40	23.33	25.87	20.35	2.54	10.89	23.33	25.34	2.01	8.60
23.65–41.64 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
41.65–60.34 percent	60	50	30.12	24.93	36.21	-5.19	-17.23	30.12	27.02	-3.10	-10.29
60.35 percent or more	60	40	26.07	33.08	17.84	7.01	26.91	26.07	29.94	3.87	14.85
Unknown	40	50	18.13	13.78	23.23	-4.35§	-24.01	18.13	15.43	-2.69	-14.86
Six-year federal loan default status						(Effect size = 0.17)				(Effect size = 0.04)	
No	180	120	74.54	82.02	65.77	7.47	10.03	74.54	76.09	1.55	2.08
Yes	50	60	25.46	17.98	34.23	-7.47	-29.36	25.46	23.91	-1.55	-6.08
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	100	80	41.64	40.87	42.54	-0.77	-1.85	41.64	41.72	0.09	0.21
62.67–79.32 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
79.33–98.72 percent	80	50	27.76	31.55	23.31	3.79	13.66	27.76	28.34	0.58	2.09
98.73 percent or more	50	50	26.43	19.86	34.14	-6.57*	-24.87	26.43	23.08	-3.35	-12.69
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-6. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	130	80	54.73	53.89	55.72	-0.84	-1.54	54.73	54.63	-0.10	-0.18
\$3,120.55–\$5,425.76	50	40	21.92	22.64	21.08	0.72	3.27	21.92	21.43	-0.49	-2.24
\$5,425.77–\$8,864.46	50	40	18.31	15.35	21.77	-2.96	-16.15	18.31	16.59	-1.72	-9.39
\$8,864.47 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-7. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	180	70	13.57	12.55	16.24	-1.02	-7.52	13.57	12.67	-0.90	-6.60
Mideast	410	130	21.13	21.49	20.17	0.36	1.72	21.13	22.17	1.04	4.93
Great Lakes	390	220	20.12	18.89	23.34	-1.23	-6.10	20.12	18.42	-1.71*	-8.48
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	330	90	21.38	21.81	20.26	0.43	2.00	21.38	21.87	0.49	2.31
Southwest	50	30	4.24	3.07	7.30	-1.17	-27.56	4.24	3.15	-1.09	-25.66
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	150	40	6.38	7.18	4.27	0.80*	12.62	6.38	7.35	0.97*	15.18
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	870	260	60.27	61.67	56.58	1.41	2.33	60.27	61.58	1.31	2.18
2,629–10,233	780	340	36.75	35.67	39.56	-1.07	-2.92	36.75	35.68	-1.06	-2.89
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	1,620	550	97.59	98.66	94.79	1.07*	1.10	97.59	98.36	0.77	0.79
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	50	40	1.95	1.00	4.43	-0.95*	-48.64	1.95	1.16	-0.79	-40.54
Pell Grant status						(Effect size = 0.01)				(Effect size = 0.03)	
Received	970	310	60.94	61.67	59.02	0.73	1.20	60.94	62.53	1.60	2.62
Did not receive	720	310	39.06	38.33	40.98	-0.73	-1.87	39.06	37.47	-1.60	-4.09
Total Pell Grant amount received						(Effect size = 0.02)				(Effect size = 0.03)	
\$0 or unknown	840	280	53.52	53.37	53.89	-0.14	-0.27	53.52	54.63	1.12	2.09
\$1–\$3,500	150	90	7.53	7.14	8.57	-0.40	-5.27	7.53	7.52	-0.01	-0.10
\$3,501–\$6,352	160	70	8.68	8.61	8.88	-0.07	-0.84	8.68	8.56	-0.12	-1.40
\$6,353–\$13,088	190	90	10.23	10.04	10.73	-0.19	-1.86	10.23	10.18	-0.05	-0.49
\$13,089 or more	360	100	20.04	20.84	17.93	0.80	4.01	20.04	19.10	-0.94	-4.69

See notes at end of table.



**Table K-7. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.04)				(Effect size = 0.01)	
Received	480	220	30.19	28.35	35.00	-1.83	-6.08	30.19	30.64	0.45	1.50
Did not receive	1,220	400	69.81	71.65	65.00	1.83	2.63	69.81	69.36	-0.45	-0.65
Total Stafford amount received						(Effect size = 0.10)				(Effect size = 0.02)	
\$0 or unknown	400	190	27.13	24.93	32.92	-2.21*	-8.13	27.13	27.72	0.59	2.16
\$1–\$6,365	160	100	9.69	8.00	14.14	-1.70*	-17.49	9.69	9.18	-0.51	-5.28
\$6,366–\$12,755	180	90	9.93	9.69	10.58	-0.25	-2.48	9.93	9.82	-0.11	-1.10
\$12,756–\$26,000	340	120	18.43	18.19	19.07	-0.24	-1.31	18.43	18.11	-0.32	-1.76
\$26,001 or more	620	120	34.80	39.19	23.30	4.39*	12.61	34.80	35.16	0.36	1.03
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,260	500	75.18	73.89	78.58	-1.29*	-1.72	75.18	74.76	-0.42	-0.56
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	100	30	6.26	6.30	6.13	0.05	0.75	6.26	6.22	-0.04	-0.57
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	160	40	8.79	9.24	7.61	0.45	5.12	8.79	8.55	-0.25	-2.81
Federal aid status						(Effect size = 0.05)				(Effect size = 0.01)	
Did not receive	400	190	27.09	24.86	32.92	-2.22*	-8.21	27.09	27.67	0.58	2.15
Received	1,290	420	72.91	75.14	67.08	2.22*	3.05	72.91	72.33	-0.58	-0.80
Institution aid status						(Effect size = 0.07)				(Effect size = 0.02)	
Did not receive	250	110	17.91	15.54	24.12	-2.37*	-13.23	17.91	17.36	-0.55	-3.09
Received	1,170	330	76.63	79.59	68.86	2.96*	3.86	76.63	77.56	0.94	1.22
Unknown	280	180	5.47	4.87	7.02	-0.59	-10.83	5.47	5.08	-0.39	-7.05
State aid status						(Effect size = 0.03)				(Effect size = 0.05)	
Did not receive	1,010	310	66.80	68.04	63.55	1.24	1.85	66.80	69.01	2.21*	3.31
Received	410	130	27.73	27.09	29.43	-0.65	-2.33	27.73	25.91	-1.82*	-6.57
Unknown	280	180	5.47	4.87	7.02	-0.59	-10.83	5.47	5.08	-0.39	-7.05

See notes at end of table.

**Table K-7. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
CPS record available						(Effect size = 0.06)				(Effect size = 0.02)		
Yes	1,520	520	86.08	88.12	80.75	2.03*	2.36	86.08	86.72	0.63	0.74	
No	180	90	13.92	11.88	19.25	-2.03*	-14.62	13.92	13.28	-0.63	-4.55	
Major						(Effect size = ‡)				(Effect size = ‡)		
Humanities	360	130	17.56	17.20	18.48	-0.35	-2.00	17.56	17.14	-0.42	-2.38	
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Life sciences	140	40	9.57	9.54	9.63	-0.02	-0.24	9.57	9.30	-0.26	-2.74	
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Business/management	110	60	8.16	6.99	11.24	-1.17	-14.39	8.16	6.87	-1.29	-15.84	
Health	140	80	5.10	5.12	5.06	0.02	0.32	5.10	5.01	-0.09	-1.79	
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Other technical/professional	120	70	7.90	6.19	12.39	-1.71*	-21.64	7.90	6.35	-1.56*	-19.69	
Unknown	530	120	35.62	38.99	26.81	3.36*	9.44	35.62	39.65	4.02*	11.29	
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)		
64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
65–80 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
81–92 percent	400	220	18.51	16.21	24.54	-2.30*	-12.41	18.51	16.34	-2.18*	-11.75	
93 percent or more	1,060	340	64.66	65.83	61.58	1.17	1.81	64.66	64.80	0.15	0.23	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

See notes at end of table.

**Table K-7. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
								Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>					
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)		
23.64 percent or less	210	150	4.28	3.73	5.71	-0.55	-12.80	4.28	3.86	-0.41	-9.70	
23.65–41.64 percent	210	80	14.36	13.12	17.59	-1.23	-8.59	14.36	13.40	-0.96	-6.66	
41.65–60.34 percent	520	190	34.67	32.56	40.19	-2.11*	-6.08	34.67	32.33	-2.34*	-6.75	
60.35 percent or more	760	190	46.70	50.59	36.51	3.89*	8.32	46.70	50.41	3.71*	7.95	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Six-year federal loan default status						(Effect size = 0.08)				(Effect size = 0.01)		
No	1,540	490	89.88	92.35	83.42	2.47*	2.74	89.88	90.19	0.30	0.34	
Yes	150	130	10.12	7.65	16.58	-2.47*	-24.39	10.12	9.81	-0.30	-2.99	
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)		
62.66 percent or less	740	180	50.43	54.49	39.78	4.06*	8.05	50.43	53.99	3.56*	7.06	
62.67–79.32 percent	430	150	30.23	28.64	34.40	-1.59	-5.27	30.23	28.42	-1.81*	-5.99	
79.33–98.72 percent	400	190	17.28	15.23	22.67	-2.05*	-11.88	17.28	15.70	-1.59	-9.17	
98.73 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	110	90	1.88	1.49	2.92	-0.39	-20.97	1.88	1.71	-0.17	-8.95	

See notes at end of table.

**Table K-7. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	250	100	17.23	15.19	22.59	-2.04*	-11.86	17.23	15.26	-1.97*	-11.46
\$5,425.77–\$8,864.46	650	190	37.87	37.67	38.37	-0.19	-0.51	37.87	37.10	-0.76	-2.01
\$8,864.47 or more	680	220	41.98	45.05	33.91	3.07*	7.32	41.98	45.30	3.33*	7.92
Unknown	110	90	1.88	1.49	2.92	-0.39	-20.97	1.88	1.71	-0.17	-8.95

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles. CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-8. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	250	50	14.23	14.84	12.27	0.61	4.27	14.23	15.31	1.08	7.58
Mideast	800	240	32.96	31.49	37.72	-1.47	-4.47	32.96	32.05	-0.91	-2.76
Great Lakes	430	120	12.82	13.40	10.93	0.58	4.54	12.82	13.21	0.39	3.04
Plains	230	50	5.64	6.26	3.61	0.63*	11.10	5.64	5.94	0.30*	5.32
Southeast	250	60	17.10	16.39	19.39	-0.71	-4.14	17.10	16.00	-1.10	-6.42
Southwest	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	130	30	9.72	9.69	9.84	-0.04	-0.37	9.72	9.41	-0.31	-3.20
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
2,629–10,233	1,170	300	44.23	45.56	39.93	1.33	3.01	44.23	44.19	-0.04	-0.09
10,234–26,884	610	170	34.11	33.12	37.28	-0.98	-2.88	34.11	33.85	-0.25	-0.74
26,885 or more	340	90	15.30	14.65	17.39	-0.65	-4.23	15.30	15.60	0.30	1.99
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	2,160	530	98.37	98.75	97.15	0.38	0.38	98.37	98.74	0.38	0.38
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Pell Grant status						(Effect size = 0.05)				(Effect size = #)	
Received	1,530	410	71.21	69.05	78.18	-2.16*	-3.03	71.21	71.21	#	#
Did not receive	690	170	28.79	30.95	21.82	2.16*	7.49	28.79	28.79	#	#
Total Pell Grant amount received						(Effect size = 0.05)				(Effect size = 0.03)	
\$0 or unknown	1,340	370	63.76	62.29	68.52	-1.47	-2.31	63.76	64.82	1.06	1.66
\$1–\$3,500	160	50	6.86	6.45	8.18	-0.41	-5.98	6.86	6.32	-0.53	-7.79
\$3,501–\$6,352	120	40	5.26	5.28	5.21	0.02	0.33	5.26	5.15	-0.12	-2.20
\$6,353–\$13,088	200	40	7.34	7.81	5.81	0.47	6.45	7.34	7.45	0.11	1.46
\$13,089 or more	390	80	16.78	18.17	12.28	1.39*	8.28	16.78	16.26	-0.52	-3.08

See notes at end of table.

**Table K-8. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.07)				(Effect size = 0.01)	
Received	830	280	42.07	38.68	53.03	-3.39*	-8.06	42.07	42.49	0.43	1.02
Did not receive	1,390	300	57.93	61.32	46.97	3.39*	5.85	57.93	57.51	-0.43	-0.74
Total Stafford amount received						(Effect size = 0.09)				(Effect size = 0.02)	
\$0 or unknown	700	270	38.19	34.15	51.24	-4.03*	-10.56	38.19	38.55	0.37	0.96
\$1–\$6,365	130	50	5.82	5.71	6.16	-0.11	-1.82	5.82	6.03	0.22	3.71
\$6,366–\$12,755	160	50	7.00	7.07	6.80	0.06	0.91	7.00	6.77	-0.24	-3.40
\$12,756–\$26,000	470	90	18.92	20.11	15.06	1.19*	6.31	18.92	18.87	-0.05	-0.26
\$26,001 or more	750	130	30.07	32.95	20.74	2.88*	9.59	30.07	29.77	-0.30	-0.99
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,730	470	78.83	77.49	83.18	-1.34*	-1.71	78.83	79.13	0.29	0.37
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	220	60	10.14	10.72	8.23	0.59	5.82	10.14	9.91	-0.23	-2.22
Federal aid status						(Effect size = 0.09)				(Effect size = 0.01)	
Did not receive	700	270	37.69	33.51	51.24	-4.19*	-11.11	37.69	38.00	0.31	0.82
Received	1,520	310	62.31	66.49	48.76	4.19*	6.72	62.31	62.00	-0.31	-0.50
Institution aid status						(Effect size = 0.08)				(Effect size = 0.02)	
Did not receive	530	170	24.59	22.08	32.71	-2.51*	-10.21	24.59	24.44	-0.15	-0.62
Received	1,480	320	65.86	69.50	54.08	3.64*	5.53	65.86	66.50	0.64	0.98
Unknown	210	100	9.55	8.42	13.21	-1.13	-11.86	9.55	9.06	-0.49	-5.16
State aid status						(Effect size = 0.04)				(Effect size = 0.02)	
Did not receive	1,530	370	70.52	70.72	69.87	0.20	0.28	70.52	71.58	1.06	1.50
Received	480	110	19.93	20.86	16.91	0.93	4.68	19.93	19.36	-0.57	-2.84
Unknown	210	100	9.55	8.42	13.21	-1.13	-11.86	9.55	9.06	-0.49	-5.16

See notes at end of table.

**Table K-8. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.11)				(Effect size = 0.05)	
Yes	1,850	420	75.10	79.94	59.46	4.84*	6.44	75.10	77.15	2.05	2.72
No	370	160	24.90	20.06	40.54	-4.84*	-19.42	24.90	22.85	-2.05	-8.21
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	380	80	16.48	17.03	14.69	0.55	3.36	16.48	17.22	0.74	4.51
Social/behavioral sciences	190	50	9.30	9.43	8.88	0.13	1.41	9.30	9.20	-0.10	-1.08
Life sciences	220	50	10.65	10.55	11.00	-0.11	-1.01	10.65	10.31	-0.35	-3.24
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	120	40	6.10	5.42	8.27	-0.67	-11.04	6.10	5.52	-0.58	-9.44
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	240	110	11.75	9.79	18.06	-1.95*	-16.61	11.75	9.82	-1.92*	-16.37
Health	170	40	5.75	6.07	4.72	0.32	5.52	5.75	5.77	0.02	0.28
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	540	140	25.47	25.50	25.39	0.03	0.11	25.47	26.05	0.58	2.26
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	480	100	22.21	22.72	20.56	0.51	2.30	22.21	24.29	2.08*	9.36
65–80 percent	280	90	16.07	15.42	18.19	-0.65	-4.07	16.07	15.92	-0.15	-0.96
81–92 percent	420	140	15.77	15.67	16.11	-0.10	-0.66	15.77	15.36	-0.41	-2.61
93 percent or more	1,040	250	45.77	45.96	45.15	0.19	0.42	45.77	44.23	-1.54	-3.37
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-8. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	140	70	5.75	5.34	7.08	-0.41	-7.17	5.75	5.05	-0.70	-12.19
41.65–60.34 percent	570	140	26.73	26.53	27.36	-0.20	-0.73	26.73	25.87	-0.86	-3.21
60.35 percent or more	1,470	360	65.84	66.30	64.36	0.46	0.69	65.84	67.23	1.39	2.11
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.01)				(Effect size = 0.01)	
No	2,110	530	95.30	95.54	94.54	0.24	0.25	95.30	95.12	-0.18	-0.19
Yes	110	50	4.70	4.46	5.46	-0.24	-5.01	4.70	4.88	0.18	3.83
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	1,120	290	56.03	55.22	58.64	-0.81	-1.44	56.03	56.50	0.48	0.85
62.67–79.32 percent	640	150	27.53	28.76	23.55	1.23§	4.47	27.53	27.67	0.14	0.52
79.33–98.72 percent	410	90	16.29	15.93	17.44	-0.36	-2.19	16.29	15.71	-0.58	-3.54
98.73 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	60	50	0.15	0.09	0.36	-0.06	-42.28	0.15	0.11	-0.04	-27.87

See notes at end of table.



**Table K-8. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	250	50	8.06	8.55	6.50	0.48	5.99	8.06	8.52	0.46	5.71
\$5,425.77–\$8,864.46	560	140	23.21	23.15	23.40	-0.06	-0.26	23.21	21.83	-1.39	-5.97
\$8,864.47 or more	1,340	340	68.47	68.09	69.73	-0.39	-0.57	68.47	69.43	0.95	1.39
Unknown	60	50	0.15	0.09	0.36	-0.06	-42.28	0.15	0.11	-0.04	-27.87

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles. CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-9. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted		Respondents vs. full sample			Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.12)				(Effect size = 0.12)	
New England	40	50	7.99	7.66	8.33	-0.33	-4.12	7.99	7.79	-0.19	-2.44
Mideast	120	110	10.66	10.99	10.32	0.33	3.08	10.66	12.67	2.01	18.90
Great Lakes	140	110	7.30	7.66	6.94	0.36	4.90	7.30	8.14	0.83	11.42
Plains	70	40	6.77	8.91	4.58	2.14	31.62	6.77	8.09	1.32	19.51
Southeast	120	140	19.29	17.04	21.58	-2.24	-11.63	19.29	17.24	-2.04	-10.59
Southwest	150	130	27.40	27.78	27.00	0.39	1.41	27.40	27.77	0.38	1.37
Rocky Mountains	60	40	7.64	8.70	6.56	1.06	13.83	7.64	7.50	-0.14	-1.83
Far West	70	60	12.95	11.25	14.69	-1.70	-13.13	12.95	10.78	-2.17	-16.75
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	750	650	97.89	97.90	97.88	0.01	0.01	97.89	98.08	0.19	0.19
2,629–10,233	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = 0.07)				(Effect size = 0.03)	
15–23	530	420	66.21	68.54	63.84	2.32	3.51	66.21	66.53	0.31	0.47
24–29	120	110	14.38	14.62	14.14	0.24	1.65	14.38	14.94	0.56	3.92
30 or more	120	140	19.41	16.84	22.03	-2.56§	-13.20	19.41	18.53	-0.88	-4.52
Pell Grant status						(Effect size = 0.04)				(Effect size = 0.04)	
Received	110	100	14.70	16.04	13.32	1.35	9.18	14.70	16.11	1.41	9.60
Did not receive	660	570	85.30	83.96	86.68	-1.35	-1.58	85.30	83.89	-1.41	-1.65
Total Pell Grant amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	90	90	12.60	13.47	11.71	0.87	6.88	12.60	12.97	0.37	2.97
\$1–\$3,500	130	190	19.26	15.56	23.04	-3.70*	-19.19	19.26	18.80	-0.46	-2.39
\$3,501–\$6,352	340	260	38.50	41.28	35.66	2.78	7.22	38.50	43.21	4.71*	12.23
\$6,353–\$13,088	150	120	24.06	22.69	25.46	-1.37	-5.68	24.06	19.81	-4.25*	-17.65
\$13,089 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-9. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.13)				(Effect size = 0.13)	
Received	60	110	12.97	8.58	17.45	-4.38*	-33.82	12.97	8.72	-4.24*	-32.70
Did not receive	700	570	87.03	91.42	82.55	4.38*	5.04	87.03	91.28	4.24*	4.87
Total Stafford amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	80	130	14.12	9.63	18.70	-4.48*	-31.76	14.12	10.06	-4.06*	-28.74
\$1–\$6,365	190	180	27.89	27.53	28.27	-0.37	-1.32	27.89	29.15	1.25	4.49
\$6,366–\$12,755	360	270	40.76	45.58	35.84	4.81*	11.81	40.76	44.72	3.96	9.70
\$12,756–\$26,000	100	80	13.99	12.22	15.80	-1.77	-12.67	13.99	12.49	-1.50	-10.73
\$26,001 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	680	610	90.31	88.88	91.76	-1.42	-1.58	90.31	88.70	-1.61	-1.78
\$1–\$6,900	40	40	6.03	6.94	5.11	0.91	15.04	6.03	7.63	1.60	26.45
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.13)				(Effect size = 0.12)	
Did not receive	80	130	14.12	9.63	18.70	-4.48*	-31.76	14.12	10.06	-4.06*	-28.74
Received	680	540	85.88	90.37	81.30	4.48*	5.22	85.88	89.94	4.06*	4.72
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	700	610	76.36	75.24	77.51	-1.12	-1.47	76.36	75.62	-0.74	-0.97
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	60	40	20.88	21.98	19.75	1.11	5.29	20.88	21.99	1.11	5.33
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	680	620	76.84	74.68	79.05	-2.16*	-2.81	76.84	74.87	-1.97*	-2.57
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	60	40	20.88	21.98	19.75	1.11	5.29	20.88	21.99	1.11	5.33

See notes at end of table.

**Table K-9. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
CPS record available						(Effect size = #)				(Effect size = 0.03)		
Yes	730	630	94.85	94.80	94.91	-0.06	-0.06	94.85	94.19	-0.66	-0.70	
No	40	40	5.15	5.20	5.09	0.06	1.12	5.15	5.81	0.66	12.85	
Major						(Effect size = ‡)				(Effect size = ‡)		
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Business/management	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Health	450	370	45.78	47.20	44.33	1.42	3.10	45.78	48.24	2.46	5.37	
Vocational/technical	50	80	5.77	4.45	7.11	-1.31	-22.78	5.77	4.91	-0.85	-14.80	
Other technical/professional	210	170	40.59	42.39	38.75	1.80	4.44	40.59	40.95	0.36	0.88	
Unknown	40	30	5.78	4.35	7.25	-1.44	-24.87	5.78	4.23	-1.55	-26.81	
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)		
64 percent or less	70	60	5.34	5.80	4.87	0.46	8.57	5.34	5.76	0.42	7.90	
65–80 percent	330	290	50.96	53.49	48.37	2.53	4.97	50.96	54.00	3.04	5.96	
81–92 percent	330	290	36.41	32.96	39.93	-3.45	-9.47	36.41	32.23	-4.18	-11.48	
93 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

See notes at end of table.

**Table K-9. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	760	670	99.86	99.71	100.00	-0.14	-0.14	99.86	99.67	-0.18	-0.18
Six-year federal loan default status						(Effect size = 0.24)				(Effect size = 0.02)	
No	550	350	62.21	74.07	50.08	11.86*	19.06	62.21	61.44	-0.77	-1.24
Yes	220	320	37.79	25.93	49.92	-11.86*	-31.38	37.79	38.56	0.77	2.04
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
62.67–79.32 percent	140	80	30.15	34.41	25.81	4.25*	14.10	30.15	33.80	3.64*	12.08
79.33–98.72 percent	180	170	29.45	27.58	31.35	-1.86	-6.32	29.45	26.99	-2.45	-8.33
98.73 percent or more	360	350	22.53	19.95	25.17	-2.58	-11.47	22.53	21.63	-0.90	-3.99
Unknown	70	50	11.64	13.56	9.68	1.92	16.48	11.64	12.97	1.33	11.42

See notes at end of table.

**Table K-9. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	210	210	32.92	30.60	35.29	-2.32	-7.05	32.92	30.87	-2.05	-6.22
\$3,120.55–\$5,425.76	300	250	48.59	49.14	48.02	0.56	1.15	48.59	48.77	0.18	0.37
\$5,425.77–\$8,864.46	170	150	6.35	6.06	6.65	-0.29	-4.57	6.35	6.64	0.28	4.47
\$8,864.47 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	70	50	11.64	13.56	9.68	1.92	16.48	11.64	12.97	1.33	11.42

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles. CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-10. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	40	40	2.92	2.54	3.39	-0.38	-12.92	2.92	2.48	-0.43	-14.90
Mideast	320	240	20.85	22.65	18.58	1.80	8.65	20.85	22.59	1.74	8.33
Great Lakes	170	130	12.48	11.75	13.40	-0.73	-5.87	12.48	10.85	-1.63*	-13.03
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	200	210	19.46	16.64	23.01	-2.82*	-14.51	19.46	17.31	-2.15	-11.07
Southwest	250	200	13.40	13.02	13.87	-0.38	-2.84	13.40	13.47	0.07	0.54
Rocky Mountains	110	100	6.14	5.94	6.40	-0.20	-3.30	6.14	5.71	-0.43	-7.01
Far West	610	380	22.84	25.60	19.36	2.77*	12.11	22.84	25.57	2.73*	11.93
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	1,250	940	71.23	70.71	71.88	-0.52	-0.72	71.23	70.41	-0.82	-1.15
2,629–10,233	450	350	26.24	26.90	25.41	0.66	2.52	26.24	27.33	1.09	4.17
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = 0.01)				(Effect size = 0.07)	
15–23	1,270	910	70.01	69.63	70.49	-0.38	-0.54	70.01	66.96	-3.04	-4.35
24–29	210	190	13.36	13.26	13.49	-0.10	-0.76	13.36	14.79	1.43	10.68
30 or more	240	210	16.63	17.12	16.02	0.48	2.90	16.63	18.25	1.62	9.72
Pell Grant status						(Effect size = 0.02)				(Effect size = 0.02)	
Received	320	270	21.97	21.09	23.08	-0.88	-3.99	21.97	21.05	-0.92	-4.21
Did not receive	1,410	1,040	78.03	78.91	76.92	0.88	1.12	78.03	78.95	0.92	1.19
Total Pell Grant amount received						(Effect size = 0.10)				(Effect size = 0.05)	
\$0 or unknown	260	230	17.40	16.01	19.15	-1.39	-8.01	17.40	15.86	-1.54	-8.87
\$1–\$3,500	270	300	19.37	18.01	21.07	-1.36	-7.01	19.37	20.68	1.32	6.79
\$3,501–\$6,352	650	480	32.33	31.41	33.50	-0.93	-2.87	32.33	32.31	-0.02	-0.07
\$6,353–\$13,088	400	270	23.27	24.64	21.54	1.37	5.91	23.27	23.34	0.07	0.30
\$13,089 or more	150	40	7.63	9.94	4.73	2.30*	30.20	7.63	7.81	0.18	2.38

See notes at end of table.

**Table K-10. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Stafford Loan status						(Effect size = 0.08)				(Effect size = 0.05)	
Received	160	190	12.60	10.06	15.80	-2.55*	-20.20	12.60	10.93	-1.67	-13.25
Did not receive	1,560	1,120	87.40	89.94	84.20	2.55*	2.91	87.40	89.07	1.67	1.91
Total Stafford amount received						(Effect size = 0.14)				(Effect size = 0.08)	
\$0 or unknown	170	220	13.08	9.40	17.69	-3.67*	-28.08	13.08	10.75	-2.33*	-17.80
\$1–\$6,365	380	350	23.46	22.03	25.27	-1.43	-6.11	23.46	24.94	1.48	6.29
\$6,366–\$12,755	730	500	33.50	33.67	33.28	0.17	0.51	33.50	33.15	-0.34	-1.02
\$12,756–\$26,000	360	210	23.88	27.93	18.80	4.04*	16.93	23.88	25.54	1.66	6.95
\$26,001 or more	100	40	6.08	6.97	4.96	0.89	14.64	6.08	5.61	-0.47	-7.66
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,450	1,130	83.41	82.94	83.99	-0.46	-0.56	83.41	84.69	1.28	1.53
\$1–\$6,900	110	70	5.77	6.16	5.27	0.39	6.81	5.77	5.75	-0.01	-0.20
\$6,901–\$14,995	80	50	5.28	4.93	5.72	-0.35	-6.65	5.28	4.72	-0.56	-10.67
\$14,996–\$34,345	70	60	5.02	5.15	4.86	0.13	2.57	5.02	4.19	-0.83*	-16.44
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.11)				(Effect size = 0.07)	
Did not receive	170	220	13.08	9.40	17.69	-3.67*	-28.08	13.08	10.75	-2.33*	-17.80
Received	1,560	1,090	86.92	90.60	82.31	3.67*	4.22	86.92	89.25	2.33*	2.68
Institution aid status						(Effect size = 0.02)				(Effect size = 0.03)	
Did not receive	1,450	1,080	82.94	82.81	83.11	-0.13	-0.16	82.94	83.76	0.82	0.99
Received	70	50	7.17	7.52	6.72	0.36	4.97	7.17	6.48	-0.68	-9.55
Unknown	210	180	9.89	9.67	10.17	-0.22	-2.27	9.89	9.75	-0.14	-1.39
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	1,460	1,100	85.47	84.54	86.64	-0.93	-1.09	85.47	84.98	-0.49	-0.57
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	210	180	9.89	9.67	10.17	-0.22	-2.27	9.89	9.75	-0.14	-1.39

See notes at end of table.



**Table K-10. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
CPS record available						(Effect size = 0.04)				(Effect size = 0.03)		
Yes	1,680	1,240	96.49	97.20	95.59	0.71	0.74	96.49	97.01	0.52	0.54	
No	40	70	3.51	2.80	4.41	-0.71	-20.21	3.51	2.99	-0.52	-14.93	
Major						(Effect size = ‡)				(Effect size = ‡)		
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Engineering	30	30	1.98	2.13	1.80	0.15	7.38	1.98	2.14	0.16	7.94	
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Business/management	60	30	4.76	6.04	3.16	1.28	26.76	4.76	6.29	1.53	32.07	
Health	1,010	690	37.84	39.82	35.34	1.99	5.25	37.84	40.29	2.45	6.48	
Vocational/technical	340	300	29.75	27.84	32.15	-1.91	-6.42	29.75	27.16	-2.58	-8.69	
Other technical/professional	170	160	11.79	10.60	13.29	-1.19	-10.12	11.79	10.68	-1.11	-9.41	
Unknown	70	60	8.68	8.38	9.07	-0.31	-3.56	8.68	8.92	0.24	2.76	
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)		
64 percent or less	460	340	21.61	21.97	21.15	0.37	1.69	21.61	21.19	-0.41	-1.91	
65–80 percent	560	450	32.82	30.49	35.75	-2.33	-7.10	32.82	30.66	-2.16	-6.58	
81–92 percent	540	380	28.97	31.48	25.81	2.51*	8.67	28.97	31.69	2.72*	9.39	
93 percent or more	150	140	16.60	16.06	17.29	-0.55	-3.29	16.60	16.46	-0.15	-0.89	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

See notes at end of table.

**Table K-10. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	110	70	6.03	6.41	5.55	0.38	6.31	6.03	6.25	0.22	3.62
41.65–60.34 percent	540	400	34.82	34.68	34.99	-0.14	-0.39	34.82	33.96	-0.86	-2.47
60.35 percent or more	1,050	820	56.33	56.44	56.20	0.11	0.19	56.33	57.12	0.79	1.41
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.15)				(Effect size = 0.06)	
No	1,270	710	65.07	72.19	56.12	7.12*	10.94	65.07	62.00	-3.07*	-4.72
Yes	450	600	34.93	27.81	43.88	-7.12*	-20.38	34.93	38.00	3.07*	8.79
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = 0.06)				(Effect size = 0.07)	
62.66 percent or less	140	100	16.51	16.88	16.05	0.37	2.22	16.51	17.17	0.66	4.02
62.67–79.32 percent	320	250	23.82	21.73	26.45	-2.09	-8.78	23.82	21.02	-2.80*	-11.77
79.33–98.72 percent	330	260	13.11	12.68	13.65	-0.43	-3.27	13.11	12.87	-0.24	-1.85
98.73 percent or more	820	640	42.73	44.07	41.05	1.34	3.13	42.73	44.60	1.87	4.37
Unknown	120	60	3.82	4.64	2.80	0.81	21.32	3.82	4.34	0.51	13.44

See notes at end of table.

**Table K-10. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
								Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>				
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = 0.05)				(Effect size = 0.05)	
\$3,120.54 or less	800	630	45.88	45.33	46.57	-0.55	-1.20	45.88	46.64	0.76	1.65
\$3,120.55–\$5,425.76	500	370	36.17	36.76	35.43	0.59	1.62	36.17	35.97	-0.20	-0.56
\$5,425.77–\$8,864.46	240	200	7.49	7.44	7.55	-0.05	-0.62	7.49	7.35	-0.14	-1.90
\$8,864.47 or more	70	50	6.64	5.83	7.65	-0.81	-12.14	6.64	5.71	-0.92	-13.92
Unknown	120	60	3.82	4.64	2.80	0.81	21.32	3.82	4.34	0.51	13.44

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$

<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.

<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.

<sup>3</sup> Base weight, adjusted for nonresponse.

<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).

<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles. CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-11. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.08)				(Effect size = 0.06)	
New England	200	110	2.53	3.06	1.83	0.53	21.02	2.53	3.14	0.61	24.12
Mideast	560	370	8.60	8.64	8.55	0.04	0.43	8.60	8.00	-0.60	-7.01
Great Lakes	440	330	6.89	6.76	7.07	-0.13	-1.90	6.89	7.34	0.45	6.51
Plains	470	360	14.82	14.61	15.09	-0.21	-1.42	14.82	14.12	-0.70	-4.70
Southeast	1,190	1,000	21.85	20.89	23.11	-0.96	-4.37	21.85	21.80	-0.04	-0.20
Southwest	980	670	25.41	25.74	24.97	0.33	1.31	25.41	26.09	0.68	2.68
Rocky Mountains	240	200	7.20	5.86	8.96	-1.34	-18.60	7.20	6.60	-0.60	-8.29
Far West	990	710	12.70	14.44	10.42	1.73*	13.65	12.70	12.91	0.20	1.58
Institution total enrollment						(Effect size = 0.07)				(Effect size = 0.05)	
0–2,628	2,190	1,820	25.98	25.67	26.38	-0.31	-1.19	25.98	24.84	-1.14	-4.40
2,629–10,233	1,680	1,110	19.35	21.83	16.09	2.48*	12.80	19.35	20.15	0.80	4.12
10,234–26,884	350	250	8.12	8.82	7.19	0.70	8.68	8.12	9.08	0.97	11.91
26,885 or more	850	570	46.55	43.68	50.33	-2.87§	-6.17	46.55	45.93	-0.62	-1.34
Age as of Dec 31, 2011						(Effect size = 0.06)				(Effect size = 0.05)	
15–23	3,370	2,270	51.03	53.94	47.21	2.91*	5.69	51.03	48.96	-2.07	-4.06
24–29	790	700	19.56	18.82	20.55	-0.75	-3.82	19.56	21.05	1.48	7.57
30 or more	910	770	29.40	27.24	32.24	-2.16	-7.34	29.40	29.99	0.59	2.01
Pell Grant status						(Effect size = 0.02)				(Effect size = 0.02)	
Received	1,160	1,010	24.94	24.18	25.93	-0.75	-3.03	24.94	24.08	-0.86	-3.46
Did not receive	3,900	2,730	75.06	75.82	74.07	0.75	1.01	75.06	75.92	0.86	1.15
Total Pell Grant amount received						(Effect size = 0.15)				(Effect size = 0.05)	
\$0 or unknown	840	820	19.95	17.82	22.76	-2.13	-10.70	19.95	18.65	-1.30	-6.50
\$1–\$3,500	860	1,040	24.60	21.58	28.56	-3.01*	-12.26	24.60	26.79	2.19	8.92
\$3,501–\$6,352	860	720	13.96	12.62	15.73	-1.34	-9.62	13.96	13.50	-0.46	-3.29
\$6,353–\$13,088	1,200	650	21.63	22.58	20.39	0.95	4.38	21.63	21.33	-0.31	-1.42
\$13,089 or more	1,310	510	19.86	25.40	12.56	5.55*	27.93	19.86	19.72	-0.13	-0.66

See notes at end of table.

**Table K-11. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
						Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent						
Stafford Loan status						(Effect size = 0.03)				(Effect size = 0.01)	
Received	650	810	21.16	19.74	23.03	-1.42	-6.73	21.16	20.85	-0.31	-1.46
Did not receive	4,410	2,940	78.84	80.26	76.97	1.42	1.81	78.84	79.15	0.31	0.39
Total Stafford amount received						(Effect size = 0.17)				(Effect size = 0.06)	
\$0 or unknown	570	790	19.62	19.88	19.28	0.26	1.32	19.62	21.76	2.14	10.92
\$1–\$6,365	930	1,020	23.25	19.01	28.82	-4.23*	-18.21	23.25	23.24	-0.01	-0.04
\$6,366–\$12,755	890	710	15.24	14.16	16.65	-1.07	-7.04	15.24	14.58	-0.66	-4.32
\$12,756–\$26,000	1,220	670	22.99	21.82	24.53	-1.17	-5.08	22.99	21.40	-1.59	-6.92
\$26,001 or more	1,450	540	18.90	25.12	10.73	6.22*	32.88	18.90	19.02	0.12	0.61
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.06)				(Effect size = 0.01)	
\$0 or unknown	4,150	3,240	90.14	88.69	92.05	-1.45*	-1.61	90.14	90.32	0.18	0.21
\$1–\$6,900	220	150	3.03	3.35	2.61	0.32	10.55	3.03	3.02	#	-0.10
\$6,901–\$14,995	220	140	2.11	2.30	1.85	0.20	9.34	2.11	2.03	-0.07	-3.47
\$14,996–\$34,345	240	120	2.51	2.77	2.17	0.26	10.33	2.51	2.40	-0.11	-4.31
\$34,346 or more	240	100	2.22	2.90	1.33	0.68*	30.45	2.22	2.22	#	-0.04
Federal aid status						(Effect size = 0.01)				(Effect size = 0.05)	
Did not receive	570	790	19.60	19.88	19.24	0.28	1.42	19.60	21.76	2.16	11.03
Received	4,500	2,950	80.40	80.12	80.76	-0.28	-0.35	80.40	78.24	-2.16	-2.69
Institution aid status						(Effect size = 0.01)				(Effect size = 0.02)	
Did not receive	4,050	2,710	87.62	87.83	87.34	0.21	0.24	87.62	88.30	0.68	0.78
Received	170	90	3.85	3.99	3.67	0.14	3.63	3.85	3.50	-0.35	-9.08
Unknown	850	950	8.53	8.18	8.99	-0.35	-4.10	8.53	8.20	-0.33	-3.88
State aid status						(Effect size = 0.03)				(Effect size = 0.02)	
Did not receive	3,730	2,550	86.26	85.95	86.67	-0.31	-0.36	86.26	86.88	0.62	0.72
Received	490	240	5.21	5.87	4.34	0.66*	12.69	5.21	4.91	-0.29	-5.60
Unknown	850	950	8.53	8.18	8.99	-0.35	-4.10	8.53	8.20	-0.33	-3.88

See notes at end of table.

**Table K-11. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.05)				(Effect size = 0.06)	
Yes	4,890	3,510	93.44	92.32	94.91	-1.12	-1.20	93.44	92.04	-1.40	-1.50
No	180	230	6.56	7.68	5.09	1.12	17.02	6.56	7.96	1.40	21.30
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	610	440	10.21	10.86	9.36	0.65	6.32	10.21	10.91	0.70	6.81
Social/behavioral sciences	50	30	1.64	1.67	1.61	0.03	1.61	1.64	1.61	-0.03	-1.99
Life sciences	100	60	3.30	3.96	2.44	0.66*	19.85	3.30	4.09	0.79*	23.95
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	890	610	11.22	11.30	11.13	0.07	0.64	11.22	11.42	0.19	1.73
Engineering	390	480	3.48	3.16	3.91	-0.32	-9.24	3.48	3.10	-0.38	-10.94
Education	60	30	2.79	2.53	3.13	-0.26	-9.26	2.79	2.73	-0.07	-2.34
Business/management	920	630	29.08	27.14	31.64	-1.94	-6.67	29.08	27.15	-1.93	-6.65
Health	870	570	13.09	13.33	12.77	0.24	1.85	13.09	13.36	0.27	2.06
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	1,090	800	22.36	22.86	21.71	0.50	2.22	22.36	22.41	0.05	0.23
Unknown	70	80	2.63	3.00	2.14	0.37	14.20	2.63	3.04	0.41	15.70
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	460	360	10.02	9.61	10.55	-0.40	-4.02	10.02	9.09	-0.93	-9.25
65–80 percent	1,370	1,180	16.79	18.17	14.97	1.38	8.23	16.79	18.27	1.48	8.84
81–92 percent	2,260	1,600	58.17	56.75	60.04	-1.42	-2.44	58.17	57.44	-0.73	-1.25
93 percent or more	980	600	15.02	15.46	14.44	0.44	2.94	15.02	15.19	0.17	1.14
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-11. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = 0.07)				(Effect size = 0.04)	
23.64 percent or less	1,570	1,190	48.70	45.58	52.81	-3.12*	-6.41	48.70	47.34	-1.36	-2.80
23.65–41.64 percent	2,040	1,580	28.40	29.58	26.86	1.17	4.13	28.40	28.55	0.15	0.52
41.65–60.34 percent	610	370	6.81	7.77	5.54	0.96	14.14	6.81	6.95	0.14	1.99
60.35 percent or more	290	230	2.72	2.48	3.04	-0.24	-8.81	2.72	2.60	-0.13	-4.65
Unknown	560	380	13.36	14.59	11.75	1.23	9.19	13.36	14.57	1.21	9.02
Six-year federal loan default status						(Effect size = 0.18)				(Effect size = 0.02)	
No	3,760	2,130	64.62	73.06	53.51	8.44*	13.06	64.62	63.58	-1.04	-1.61
Yes	1,310	1,610	35.38	26.94	46.49	-8.44*	-23.85	35.38	36.42	1.04	2.94
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = 0.05)				(Effect size = 0.04)	
62.66 percent or less	90	60	1.11	1.27	0.89	0.16	14.78	1.11	1.39	0.28	25.39
62.67–79.32 percent	930	590	19.75	20.79	18.38	1.04	5.28	19.75	20.81	1.06	5.35
79.33–98.72 percent	1,280	830	30.53	31.30	29.52	0.77	2.51	30.53	30.79	0.26	0.84
98.73 percent or more	2,670	2,220	47.39	45.11	50.38	-2.28	-4.80	47.39	45.68	-1.71	-3.60
Unknown	100	40	1.23	1.53	0.83	0.30	24.78	1.23	1.34	0.11	9.15

See notes at end of table.

**Table K-11. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = 0.04)				(Effect size = 0.02)	
\$3,120.54 or less	1,960	1,580	60.76	60.06	61.68	-0.70	-1.16	60.76	61.56	0.80	1.31
\$3,120.55–\$5,425.76	1,870	1,380	29.55	29.09	30.16	-0.46	-1.57	29.55	28.52	-1.03	-3.47
\$5,425.77–\$8,864.46	840	560	6.66	7.37	5.73	0.71	10.59	6.66	6.71	0.05	0.76
\$8,864.47 or more	290	190	1.81	1.96	1.60	0.16	8.68	1.81	1.87	0.07	3.64
Unknown	100	40	1.23	1.53	0.83	0.30	24.78	1.23	1.34	0.11	9.15

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles. CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table K-12. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Control and level of institution						(Effect size = 0.13)				(Effect size = #)	
Public less-than-2-year	90	100	0.19	0.12	0.28	-0.07*	-36.73	0.19	0.19	#	#
Public 2-year	5,770	4,950	36.71	32.89	41.96	-3.82*	-10.41	36.71	36.71	#	#
Public 4-year, non-doctorate-granting	1,180	710	11.54	11.49	11.62	-0.06	-0.48	11.54	11.54	#	#
Public 4-year, doctorate-granting	2,520	1,070	23.63	26.80	19.27	3.17*	13.42	23.63	23.63	#	#
Private nonprofit less-than-4-year	200	210	0.36	0.28	0.48	-0.08*	-23.05	0.36	0.36	#	#
Private nonprofit 4-year, non-doctorate-granting	1,530	780	8.68	9.53	7.50	0.86*	9.85	8.68	8.68	#	#
Private nonprofit 4-year, doctorate-granting	2,050	740	9.27	11.27	6.52	2.00*	21.56	9.27	9.27	#	#
Private for-profit less-than-2-year	630	800	2.63	1.91	3.62	-0.72*	-27.34	2.63	2.63	#	#
Private for-profit 2-year	1,490	1,550	2.76	2.21	3.52	-0.55*	-20.04	2.76	2.76	#	#
Private for-profit 4-year	4,380	4,430	4.22	3.49	5.21	-0.72*	-17.17	4.22	4.22	#	#
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.04)				(Effect size = #)	
New England	1,030	620	5.90	6.13	5.60	0.22	3.80	5.90	5.90	#	#
Mideast	3,220	2,240	15.25	15.50	14.91	0.25	1.63	15.25	15.25	#	#
Great Lakes	3,010	2,400	15.12	15.27	14.90	0.15	1.02	15.12	15.12	#	#
Plains	1,440	980	7.48	7.76	7.09	0.28	3.76	7.48	7.48	#	#
Southeast	4,510	3,580	23.93	24.01	23.82	0.08	0.34	23.93	23.93	#	#
Southwest	2,460	2,170	12.62	11.52	14.14	-1.10*	-8.75	12.62	12.62	#	#
Rocky Mountains	870	720	3.95	3.86	4.06	-0.08	-2.09	3.95	3.95	#	#
Far West	3,300	2,620	15.76	15.96	15.48	0.20	1.26	15.76	15.76	#	#
Institution total enrollment						(Effect size = 0.02)				(Effect size = #)	
0–2,628	4,960	4,830	13.40	12.67	14.39	-0.72*	-5.40	13.40	13.40	#	#
2,629–10,233	5,940	4,300	24.36	24.56	24.09	0.20	0.82	24.36	24.36	#	#
10,234–26,884	4,830	3,450	33.07	32.84	33.39	-0.23	-0.69	33.07	33.07	#	#
26,885 or more	4,110	2,750	29.17	29.92	28.13	0.75	2.59	29.17	29.17	#	#

See notes at end of table.

**Table K-12. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Age as of Dec 31, 2011						(Effect size = 0.10)				(Effect size = #)		
15–23	16,490	11,430	88.03	91.15	83.73	3.12*	3.55	88.03	88.03	#	#	
24–29	1,490	1,800	5.29	3.74	7.41	-1.55*	-29.24	5.29	5.29	#	#	
30 or more	1,860	2,100	6.69	5.11	8.86	-1.58*	-23.61	6.69	6.69	#	#	
Pell Grant status						(Effect size = 0.02)				(Effect size = 0.01)		
Received	8,410	5,950	52.14	53.29	50.54	1.16*	2.22	52.14	52.58	0.44	0.85	
Did not receive	11,420	9,380	47.86	46.71	49.46	-1.16*	-2.42	47.86	47.42	-0.44	-0.92	
Total Pell Grant amount received						(Effect size = 0.13)				(Effect size = #)		
\$0 or unknown	6,840	5,060	43.86	44.24	43.34	0.38	0.87	43.86	43.86	#	#	
\$1–\$3,500	2,550	3,220	13.12	10.65	16.53	-2.48*	-18.86	13.12	13.12	#	#	
\$3,501–\$6,352	2,870	2,930	11.75	9.89	14.29	-1.85*	-15.77	11.75	11.75	#	#	
\$6,353–\$13,088	3,390	2,450	13.92	13.67	14.26	-0.25	-1.79	13.92	13.92	#	#	
\$13,089 or more	4,190	1,670	17.35	21.55	11.58	4.20*	24.19	17.35	17.35	#	#	
Stafford Loan status						(Effect size = 0.05)				(Effect size = #)		
Received	7,970	6,620	52.04	49.70	55.26	-2.34*	-4.50	52.04	52.12	0.08	0.15	
Did not receive	11,870	8,710	47.96	50.30	44.74	2.34*	4.88	47.96	47.88	-0.08	-0.16	
Total Stafford amount received						(Effect size = 0.15)				(Effect size = #)		
\$0 or unknown	6,200	5,860	41.92	38.17	47.08	-3.75*	-8.95	41.92	41.92	#	#	
\$1–\$6,365	2,640	3,110	12.75	10.44	15.93	-2.31*	-18.15	12.75	12.75	#	#	
\$6,366–\$12,755	3,020	2,730	11.72	11.08	12.60	-0.64*	-5.46	11.72	11.72	#	#	
\$12,756–\$26,000	3,760	2,150	16.34	18.21	13.77	1.87*	11.42	16.34	16.34	#	#	
\$26,001 or more	4,220	1,480	17.27	22.11	10.61	4.84*	28.02	17.27	17.27	#	#	

See notes at end of table.

**Table K-12. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.07)				(Effect size = #)	
\$0 or unknown	16,970	13,780	88.15	86.17	90.88	-1.98*	-2.25	88.15	88.15	#	#
\$1–\$6,900	640	470	2.44	2.60	2.22	0.16	6.54	2.44	2.44	#	#
\$6,901–\$14,995	690	410	2.91	3.28	2.41	0.36*	12.49	2.91	2.91	#	#
\$14,996–\$34,345	730	380	3.04	3.59	2.29	0.55*	17.96	3.04	3.04	#	#
\$34,346 or more	800	300	3.45	4.36	2.20	0.91*	26.43	3.45	3.45	#	#
Federal aid status						(Effect size = 0.08)				(Effect size = #)	
Did not receive	6,190	5,860	41.83	38.07	46.99	-3.75*	-8.97	41.83	41.82	-0.01	-0.02
Received	13,650	9,470	58.17	61.93	53.01	3.75*	6.45	58.17	58.18	0.01	0.01
Institution aid status						(Effect size = 0.10)				(Effect size = #)	
Did not receive	12,930	10,950	63.90	59.58	69.84	-4.32*	-6.76	63.90	63.90	#	#
Received	4,750	2,130	29.36	33.94	23.06	4.58*	15.61	29.36	29.36	#	#
Unknown	2,150	2,260	6.74	6.48	7.10	-0.26	-3.89	6.74	6.74	#	#
State aid status						(Effect size = 0.05)				(Effect size = #)	
Did not receive	13,910	11,080	70.89	68.93	73.59	-1.96*	-2.77	70.89	70.89	#	#
Received	3,780	1,990	22.37	24.59	19.31	2.23*	9.95	22.37	22.37	#	#
Unknown	2,150	2,260	6.74	6.48	7.10	-0.26	-3.89	6.74	6.74	#	#
CPS record available						(Effect size = 0.07)				(Effect size = 0.04)	
Yes	17,340	12,760	79.96	82.87	75.95	2.91*	3.64	79.96	81.64	1.68*	2.10
No	2,500	2,570	20.04	17.13	24.05	-2.91*	-14.53	20.04	18.36	-1.68*	-8.38

See notes at end of table.

**Table K-12. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Major						(Effect size = 0.09)				(Effect size = 0.05)	
Humanities	3,620	2,470	23.56	23.25	23.98	-0.31	-1.31	23.56	23.66	0.10	0.43
Social/behavioral sciences	670	330	4.60	5.04	4.00	0.44*	9.52	4.60	4.53	-0.08	-1.71
Life sciences	1,070	460	7.15	8.37	5.47	1.22*	17.05	7.15	7.61	0.46*	6.47
Physical sciences/math	190	70	1.38	1.61	1.06	0.23*	16.57	1.38	1.43	0.05	3.59
Computer/Information science	1,090	960	2.19	2.12	2.28	-0.07	-3.23	2.19	2.25	0.06	2.67
Engineering	990	950	4.65	4.92	4.28	0.27	5.79	4.65	4.72	0.07	1.56
Education	510	270	3.21	3.51	2.80	0.30*	9.38	3.21	3.34	0.13	4.10
Business/management	1,990	1,650	9.87	9.16	10.83	-0.70*	-7.13	9.87	9.26	-0.61*	-6.13
Health	3,360	2,820	9.87	9.55	10.31	-0.32	-3.21	9.87	10.37	0.50*	5.11
Vocational/technical	830	1,200	3.40	2.20	5.07	-1.21*	-35.50	3.40	2.69	-0.71*	-20.98
Other technical/professional	2,480	2,210	10.26	9.61	11.16	-0.65*	-6.36	10.26	10.13	-0.13	-1.27
Unknown	3,040	1,920	19.86	20.67	18.76	0.80*	4.04	19.86	20.01	0.15	0.74
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = 0.04)				(Effect size = 0.03)	
64 percent or less	5,430	3,700	34.81	35.65	33.66	0.84	2.41	34.81	35.76	0.95*	2.74
65–80 percent	5,500	4,890	28.96	27.76	30.62	-1.20*	-4.15	28.96	28.92	-0.05	-0.17
81–92 percent	5,250	4,450	20.33	19.52	21.45	-0.81*	-3.99	20.33	19.60	-0.74*	-3.62
93 percent or more	3,630	2,250	15.64	16.79	14.06	1.15*	7.35	15.64	15.41	-0.23	-1.46
Unknown	40	40	0.25	0.28	0.22	0.02	9.34	0.25	0.31	0.06	24.91
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = 0.11)				(Effect size = 0.04)	
23.64 percent or less	5,910	5,330	31.16	27.88	35.66	-3.27*	-10.50	31.16	31.46	0.31	0.98
23.65–41.64 percent	4,610	3,920	21.60	20.45	23.19	-1.15*	-5.34	21.60	20.61	-0.99*	-4.58
41.65–60.34 percent	3,430	2,080	19.74	21.01	17.98	1.28*	6.48	19.74	19.05	-0.69	-3.49
60.35 percent or more	4,600	2,580	23.67	27.61	18.26	3.94*	16.63	23.67	24.87	1.19*	5.04
Unknown	1,290	1,420	3.83	3.04	4.92	-0.79*	-20.62	3.83	4.01	0.18	4.66

See notes at end of table.

**Table K-12. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Six-year federal loan default status						(Effect size = 0.15)				(Effect size = #)		
No	17,500	11,170	88.85	93.44	82.55	4.58*	5.16	88.85	88.85	#	#	
Yes	2,330	4,160	11.15	6.56	17.45	-4.58*	-41.13	11.15	11.15	#	#	
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = 0.07)				(Effect size = 0.02)		
12.90 percent or less	2,400	2,010	21.64	19.62	24.35	-1.99*	-9.21	21.64	21.00	-0.65	-2.98	
12.91–22.61 percent	2,460	1,840	25.69	24.68	27.05	-1.00*	-3.89	25.69	25.68	-0.01	-0.03	
22.62–31.65 percent	2,570	1,730	26.54	27.44	25.34	0.89	3.34	26.54	27.05	0.51	1.92	
31.66 percent or more	2,030	1,170	24.85	26.81	22.22	1.93*	7.77	24.85	24.92	0.07	0.28	
Unknown	100	70	1.27	1.45	1.04	0.17	13.71	1.27	1.35	0.08	5.95	
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = 0.14)				(Effect size = 0.04)		
62.66 percent or less	2,030	900	37.20	42.46	29.49	5.46*	14.68	37.20	39.03	1.83*	4.91	
62.67–79.32 percent	2,180	1,490	26.77	27.22	26.10	0.47	1.76	26.77	26.27	-0.50	-1.87	
79.33–98.72 percent	2,330	1,930	19.83	18.06	22.42	-1.84*	-9.26	19.83	18.74	-1.08	-5.45	
98.73 percent or more	3,340	3,840	13.90	10.31	19.18	-3.73*	-26.84	13.90	13.57	-0.34	-2.41	
Unknown	400	340	2.30	1.95	2.81	-0.37*	-15.90	2.30	2.39	0.09	3.89	
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = 0.09)				(Effect size = 0.01)		
\$4,144.47 or less	2,950	2,580	25.55	23.01	28.95	-2.50*	-9.79	25.55	25.21	-0.34	-1.33	
\$4,144.48–\$5,618.87	2,430	1,960	24.41	22.87	26.48	-1.52*	-6.24	24.41	24.63	0.22	0.88	
\$5,618.88–\$7,662.30	2,060	1,200	23.49	24.62	21.96	1.12*	4.77	23.49	23.54	0.06	0.24	
\$7,662.31 or more	2,010	1,020	25.28	28.05	21.57	2.73*	10.79	25.28	25.27	-0.01	-0.04	
Unknown	100	70	1.27	1.45	1.04	0.17	13.71	1.27	1.35	0.08	5.95	

See notes at end of table.

**Table K-12. Student-level nonresponse bias analysis for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = 0.15)				(Effect size = 0.03)	
\$3,120.54 or less	2,680	2,940	17.88	13.81	23.87	-4.23*	-23.68	17.88	18.18	0.30	1.65
\$3,120.55–\$5,425.76	2,780	2,620	20.94	18.12	25.08	-2.93*	-14.00	20.94	20.06	-0.87	-4.16
\$5,425.77–\$8,864.46	2,220	1,580	22.06	23.86	19.41	1.88*	8.50	22.06	21.57	-0.49	-2.23
\$8,864.47 or more	2,200	1,030	36.82	42.26	28.83	5.65*	15.36	36.82	37.80	0.98	2.65
Unknown	400	340	2.30	1.95	2.81	-0.37*	-15.90	2.30	2.39	0.09	3.89

# Rounds to zero.

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-13. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Mideast	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Great Lakes	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southwest	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	90	100	99.68	99.12	100.00	-0.56	-0.56	99.68	98.86	-0.82	-0.82
2,629–10,233	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	60	60	63.15	60.73	64.54	-2.42	-3.83	63.15	58.14	-5.00	-7.92
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Pell Grant status						(Effect size = 0.02)				(Effect size = 0.02)	
Received	40	40	43.65	44.52	43.14	0.88	2.01	43.65	42.44	-1.21	-2.77
Did not receive	50	60	56.35	55.48	56.86	-0.88	-1.56	56.35	57.56	1.21	2.15
Total Pell Grant amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	30	40	36.91	32.69	39.35	-4.22	-11.44	36.91	34.05	-2.86	-7.75
\$1–\$3,500	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,501–\$6,352	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,353–\$13,088	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$13,089 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-13. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.13)				(Effect size = 0.14)	
Received	50	60	57.81	51.50	61.46	-6.31	-10.92	57.81	51.01	-6.80	-11.76
Did not receive	40	30	42.19	48.50	38.54	6.31	14.96	42.19	48.99	6.80	16.12
Total Stafford amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	50	60	52.72	43.47	58.07	-9.25	-17.55	52.72	45.08	-7.64	-14.49
\$1–\$6,365	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,366–\$12,755	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$12,756–\$26,000	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$26,001 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	90	100	98.57	96.10	100.00	-2.47	-2.51	98.57	94.94	-3.63	-3.69
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.19)				(Effect size = 0.15)	
Did not receive	50	60	52.72	43.47	58.07	-9.25	-17.55	52.72	45.08	-7.64	-14.49
Received	40	40	47.28	56.53	41.93	9.25	19.57	47.28	54.92	7.64	16.16
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	80	90	95.82	92.30	97.85	-3.52	-3.67	95.82	94.32	-1.50	-1.56
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	80	90	91.16	88.76	92.55	-2.40	-2.64	91.16	89.88	-1.29	-1.41
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-13. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = ‡)				(Effect size = ‡)	
Yes	70	70	74.76	82.79	70.12	8.03	10.73	74.76	83.30	8.53	11.41
No	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Health	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
65–80 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
81–92 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
93 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-13. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	90	100	100.00	100.00	100.00	#	#	100.00	100.00	#	#
Six-year federal loan default status						(Effect size = ‡)				(Effect size = ‡)	
No	80	80	85.94	90.27	83.44	4.32	5.03	85.94	80.36	-5.58	-6.49
Yes	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
12.91–22.61 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
22.62–31.65 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
31.66 percent or more	30	40	45.45	41.19	47.91	-4.26	-9.37	45.45	41.79	-3.66	-8.05
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-13. Student-level nonresponse bias analysis for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)		
\$4,144.47 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$5,618.88–\$7,662.30	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$7,662.31 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-14. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
						Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent							
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.03)				(Effect size = 0.03)	
New England	220	150	4.14	4.23	4.04	0.09	2.17	4.14	4.26	0.12	2.93
Mideast	670	620	13.14	12.60	13.72	-0.54	-4.10	13.14	12.49	-0.65	-4.93
Great Lakes	1,070	970	14.87	15.47	14.23	0.60	4.02	14.87	15.62	0.74	5.00
Plains	370	270	7.96	8.19	7.71	0.23	2.88	7.96	7.96	0.01	0.11
Southeast	1,390	1,160	20.01	19.75	20.28	-0.26	-1.28	20.01	20.07	0.06	0.31
Southwest	710	660	16.08	15.31	16.91	-0.77	-4.78	16.08	16.22	0.14	0.88
Rocky Mountains	240	180	2.72	2.79	2.64	0.07	2.59	2.72	2.86	0.14	5.06
Far West	1,110	930	21.09	21.67	20.47	0.58	2.73	21.09	20.52	-0.57	-2.69
Institution total enrollment						(Effect size = 0.03)				(Effect size = 0.02)	
0–2,628	150	140	2.61	2.64	2.59	0.02	0.92	2.61	2.66	0.04	1.58
2,629–10,233	1,610	1,390	25.78	24.64	27.00	-1.14	-4.41	25.78	24.94	-0.84	-3.24
10,234–26,884	2,520	2,180	43.68	44.34	42.97	0.66	1.51	43.68	44.73	1.04	2.39
26,885 or more	1,500	1,230	27.93	28.38	27.44	0.45	1.62	27.93	27.68	-0.25	-0.89
Age as of Dec 31, 2011						(Effect size = 0.09)				(Effect size = 0.02)	
15–23	4,770	3,820	82.12	85.39	78.60	3.27*	3.98	82.12	82.54	0.42	0.51
24–29	430	480	8.22	6.34	10.25	-1.88*	-22.86	8.22	7.80	-0.42	-5.10
30 or more	580	640	9.66	8.27	11.16	-1.39*	-14.38	9.66	9.66	#	-0.02
Pell Grant status						(Effect size = 0.02)				(Effect size = #)	
Received	2,400	2,280	44.67	43.84	45.57	-0.83	-1.87	44.67	44.51	-0.16	-0.35
Did not receive	3,370	2,660	55.33	56.16	54.43	0.83	1.51	55.33	55.49	0.16	0.28
Total Pell Grant amount received						(Effect size = 0.18)				(Effect size = 0.03)	
\$0 or unknown	1,810	1,940	35.36	33.15	37.74	-2.21*	-6.26	35.36	34.37	-0.99	-2.80
\$1–\$3,500	930	1,080	18.02	14.63	21.66	-3.38*	-18.77	18.02	17.77	-0.25	-1.36
\$3,501–\$6,352	760	780	14.30	12.30	16.46	-2.00*	-14.01	14.30	13.96	-0.34	-2.40
\$6,353–\$13,088	1,070	710	16.46	18.23	14.55	1.77*	10.76	16.46	17.29	0.83	5.07
\$13,089 or more	1,200	450	15.87	21.69	9.58	5.83*	36.73	15.87	16.61	0.74	4.69

See notes at end of table.

**Table K-14. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = #)				(Effect size = #)	
Received	4,350	3,780	75.16	75.29	75.02	0.13	0.17	75.16	75.06	-0.11	-0.14
Did not receive	1,420	1,170	24.84	24.71	24.98	-0.13	-0.52	24.84	24.94	0.11	0.43
Total Stafford amount received						(Effect size = 0.13)				(Effect size = 0.02)	
\$0 or unknown	3,180	3,170	57.40	54.16	60.88	-3.24*	-5.64	57.40	57.32	-0.08	-0.13
\$1–\$6,365	760	780	14.27	12.18	16.52	-2.09*	-14.64	14.27	13.78	-0.48	-3.37
\$6,366–\$12,755	660	450	10.70	11.59	9.75	0.88	8.26	10.70	10.94	0.24	2.25
\$12,756–\$26,000	760	380	11.53	13.99	8.89	2.45*	21.28	11.53	11.89	0.35	3.07
\$26,001 or more	410	160	6.10	8.09	3.96	1.99*	32.56	6.10	6.06	-0.04	-0.63
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	5,540	4,830	96.45	95.45	97.52	-1.00*	-1.03	96.45	96.23	-0.22	-0.23
\$1–\$6,900	70	50	1.01	1.19	0.83	0.17	17.12	1.01	0.97	-0.04	-4.20
\$6,901–\$14,995	70	30	1.14	1.41	0.85	0.27*	23.96	1.14	1.20	0.06	5.22
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.07)				(Effect size = #)	
Did not receive	3,170	3,170	57.31	54.03	60.85	-3.28*	-5.72	57.31	57.19	-0.13	-0.22
Received	2,600	1,770	42.69	45.97	39.15	3.28*	7.68	42.69	42.81	0.13	0.30
Institution aid status						(Effect size = 0.04)				(Effect size = 0.03)	
Did not receive	4,400	3,840	78.09	76.53	79.77	-1.56	-2.00	78.09	78.22	0.13	0.17
Received	800	550	13.76	14.93	12.50	1.17	8.48	13.76	13.11	-0.65	-4.70
Unknown	570	550	8.15	8.54	7.73	0.39	4.83	8.15	8.67	0.52	6.34
State aid status						(Effect size = 0.02)				(Effect size = 0.02)	
Did not receive	4,070	3,620	74.18	73.43	74.99	-0.75	-1.01	74.18	74.19	0.01	0.01
Received	1,130	780	17.67	18.03	17.28	0.36	2.02	17.67	17.15	-0.52	-2.95
Unknown	570	550	8.15	8.54	7.73	0.39	4.83	8.15	8.67	0.52	6.34

See notes at end of table.

**Table K-14. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.08)				(Effect size = 0.06)	
Yes	4,610	3,520	75.86	79.13	72.34	3.27*	4.31	75.86	78.37	2.51*	3.31
No	1,160	1,430	24.14	20.87	27.66	-3.27*	-13.53	24.14	21.63	-2.51*	-10.40
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	1,690	1,280	35.29	36.21	34.29	0.92	2.62	35.29	35.84	0.55	1.57
Social/behavioral sciences	70	60	1.56	1.71	1.40	0.15	9.61	1.56	1.68	0.12	7.39
Life sciences	160	110	2.80	2.88	2.72	0.08	2.83	2.80	2.83	0.03	1.10
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	150	140	2.10	2.04	2.17	-0.07	-3.15	2.10	2.12	0.01	0.56
Engineering	210	200	3.35	3.56	3.12	0.21	6.27	3.35	3.47	0.12	3.65
Education	130	110	2.11	2.16	2.05	0.05	2.43	2.11	2.19	0.08	3.81
Business/management	490	430	8.61	8.87	8.32	0.26	3.05	8.61	8.79	0.18	2.12
Health	690	510	9.10	9.17	9.03	0.07	0.76	9.10	9.61	0.51	5.58
Vocational/technical	400	600	5.13	3.76	6.61	-1.37*	-26.74	5.13	4.17	-0.97*	-18.82
Other technical/professional	630	570	10.07	9.54	10.63	-0.52	-5.19	10.07	9.67	-0.40	-3.98
Unknown	1,140	920	19.24	19.38	19.10	0.14	0.71	19.24	18.97	-0.27	-1.43
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	2,530	2,010	46.26	47.73	44.68	1.47	3.17	46.26	47.48	1.23	2.65
65–80 percent	2,020	1,850	33.98	33.94	34.02	-0.04	-0.11	33.98	34.47	0.49	1.45
81–92 percent	760	710	13.70	12.21	15.31	-1.49*	-10.89	13.70	11.70	-2.00*	-14.59
93 percent or more	460	370	5.74	5.81	5.66	0.07	1.26	5.74	6.04	0.31	5.36
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-14. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	4,170	3,560	71.54	72.59	70.40	1.05	1.47	71.54	73.21	1.67*	2.34
23.65–41.64 percent	1,370	1,160	24.54	23.89	25.24	-0.65	-2.64	24.54	23.15	-1.39	-5.66
41.65–60.34 percent	180	150	2.96	2.63	3.31	-0.33	-11.16	2.96	2.72	-0.23	-7.87
60.35 percent or more	50	70	0.64	0.57	0.71	-0.07	-10.53	0.64	0.61	-0.02	-3.88
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.15)				(Effect size = 0.02)	
No	5,440	4,260	90.21	94.79	85.28	4.58*	5.07	90.21	90.89	0.68	0.75
Yes	330	680	9.79	5.21	14.72	-4.58*	-46.75	9.79	9.11	-0.68	-6.94
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	2,210	1,890	37.61	36.78	38.50	-0.83	-2.21	37.61	36.28	-1.33	-3.53
12.91–22.61 percent	1,680	1,390	30.12	30.45	29.75	0.34	1.12	30.12	31.01	0.89	2.97
22.62–31.65 percent	1,370	1,200	22.21	22.42	21.99	0.21	0.93	22.21	22.72	0.51	2.29
31.66 percent or more	500	460	9.74	10.03	9.42	0.30	3.04	9.74	9.69	-0.05	-0.48
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-14. Student-level nonresponse bias analysis for selected variables for students in public 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments								After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)		
\$4,144.47 or less	2,680	2,380	43.52	43.06	44.01	-0.46	-1.05	43.52	43.04	-0.48	-1.10	
\$4,144.48–\$5,618.87	2,070	1,710	37.44	37.90	36.95	0.46	1.22	37.44	37.79	0.35	0.92	
\$5,618.88–\$7,662.30	790	640	14.96	14.93	14.99	-0.03	-0.18	14.96	14.83	-0.13	-0.87	
\$7,662.31 or more	230	210	3.75	3.79	3.71	0.03	0.92	3.75	4.04	0.29*	7.71	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table K-15. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>		
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)		
New England	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Mideast	230	110	16.92	18.07	15.37	1.15	6.77	16.92	17.47	0.55	3.22	
Great Lakes	150	90	15.07	14.05	16.47	-1.03	-6.81	15.07	13.94	-1.14	-7.55	
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Southeast	440	270	34.56	34.93	34.06	0.37	1.07	34.56	35.18	0.62	1.79	
Southwest	60	60	3.97	3.28	4.92	-0.70	-17.54	3.97	3.86	-0.11	-2.80	
Rocky Mountains	60	50	6.85	6.07	7.91	-0.78	-11.38	6.85	6.10	-0.75	-10.95	
Far West	140	80	15.20	15.65	14.57	0.46	3.01	15.20	16.17	0.98	6.43	
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)		
0–2,628	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
2,629–10,233	500	270	38.66	40.12	36.66	1.47	3.79	38.66	39.31	0.65	1.68	
10,234–26,884	390	250	36.85	35.31	38.95	-1.54	-4.18	36.85	35.43	-1.42	-3.85	
26,885 or more	240	160	20.75	20.47	21.12	-0.27	-1.32	20.75	21.49	0.74	3.59	
Age as of Dec 31, 2011						(Effect size = 0.08)				(Effect size = 0.02)		
15–23	1,110	630	92.89	94.82	90.28	1.92*	2.07	92.89	93.23	0.34	0.36	
24–29	30	40	3.55	2.39	5.13	-1.16*	-32.71	3.55	3.17	-0.39	-10.92	
30 or more	30	40	3.55	2.79	4.59	-0.76	-21.45	3.55	3.60	0.05	1.44	
Pell Grant status						(Effect size = #)				(Effect size = 0.02)		
Received	610	370	52.68	52.89	52.41	0.20	0.39	52.68	53.92	1.24	2.35	
Did not receive	570	340	47.32	47.11	47.59	-0.20	-0.43	47.32	46.08	-1.24	-2.62	
Total Pell Grant amount received						(Effect size = 0.11)				(Effect size = 0.03)		
\$0 or unknown	500	320	44.11	42.59	46.18	-1.52	-3.44	44.11	43.71	-0.40	-0.91	
\$1–\$3,500	110	90	11.73	10.60	13.25	-1.12	-9.58	11.73	12.71	0.98	8.37	
\$3,501–\$6,352	100	90	9.41	8.35	10.86	-1.06	-11.28	9.41	9.45	0.04	0.38	
\$6,353–\$13,088	180	100	14.18	13.43	15.19	-0.75	-5.27	14.18	13.80	-0.37	-2.64	
\$13,089 or more	280	100	20.57	25.02	14.52	4.45*	21.64	20.57	20.33	-0.24	-1.17	

See notes at end of table.

**Table K-15. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.08)				(Effect size = 0.03)	
Received	560	410	51.97	47.95	57.42	-4.01*	-7.72	51.97	50.33	-1.64	-3.16
Did not receive	610	300	48.03	52.05	42.58	4.01*	8.36	48.03	49.67	1.64	3.41
Total Stafford amount received						(Effect size = 0.15)				(Effect size = 0.04)	
\$0 or unknown	440	330	41.46	36.19	48.63	-5.27*	-12.72	41.46	39.67	-1.79	-4.33
\$1–\$6,365	140	110	13.19	11.77	15.12	-1.42	-10.77	13.19	14.15	0.96	7.29
\$6,366–\$12,755	130	80	11.46	11.49	11.42	0.03	0.29	11.46	11.96	0.50	4.33
\$12,756–\$26,000	220	100	17.03	19.56	13.60	2.53*	14.83	17.03	17.46	0.42	2.49
\$26,001 or more	240	80	16.85	20.99	11.23	4.13*	24.53	16.85	16.77	-0.09	-0.52
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,050	650	90.61	88.37	93.67	-2.25*	-2.48	90.61	89.64	-0.97	-1.08
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.11)				(Effect size = 0.04)	
Did not receive	440	330	41.46	36.19	48.63	-5.27*	-12.72	41.46	39.67	-1.79	-4.33
Received	740	370	58.54	63.81	51.37	5.27*	9.01	58.54	60.33	1.79	3.06
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	880	560	77.25	73.82	81.92	-3.43*	-4.44	77.25	76.51	-0.74	-0.95
Received	270	130	20.58	23.71	16.31	3.14*	15.25	20.58	21.08	0.50	2.45
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	780	530	69.50	64.82	75.85	-4.67*	-6.72	69.50	67.45	-2.04*	-2.94
Received	370	160	28.33	32.71	22.38	4.38*	15.45	28.33	30.14	1.81*	6.39
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-15. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.07)				(Effect size = 0.02)	
Yes	1,000	540	79.10	81.88	75.31	2.79*	3.52	79.10	80.07	0.98	1.24
No	180	170	20.90	18.12	24.69	-2.79*	-13.33	20.90	19.93	-0.98	-4.67
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	340	220	32.06	30.52	34.14	-1.53	-4.78	32.06	30.51	-1.55	-4.83
Social/behavioral sciences	90	50	6.15	6.58	5.55	0.44	7.08	6.15	6.09	-0.06	-0.94
Life sciences	100	40	6.56	7.61	5.15	1.04*	15.86	6.56	7.20	0.63	9.63
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	90	60	7.54	7.25	7.95	-0.30	-3.95	7.54	7.35	-0.19	-2.52
Health	110	50	7.72	8.58	6.56	0.86	11.10	7.72	8.49	0.77	9.99
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	90	60	8.21	8.46	7.86	0.26	3.12	8.21	9.14	0.93	11.36
Unknown	200	140	16.54	16.07	17.17	-0.47	-2.82	16.54	16.32	-0.22	-1.33
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	370	190	30.87	31.66	29.81	0.78	2.54	30.87	30.69	-0.18	-0.60
65–80 percent	450	290	39.02	37.38	41.26	-1.65	-4.22	39.02	38.77	-0.26	-0.66
81–92 percent	260	160	23.67	24.23	22.91	0.56	2.36	23.67	24.14	0.47	2.00
93 percent or more	90	70	6.12	6.20	6.02	0.08	1.23	6.12	5.76	-0.36	-5.87
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-15. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted		Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	130	90	17.54	15.67	20.08	-1.87	-10.66	17.54	17.19	-0.35	-1.99
23.65–41.64 percent	540	390	43.88	42.07	46.34	-1.81	-4.12	43.88	42.93	-0.95	-2.16
41.65–60.34 percent	330	170	28.59	29.70	27.08	1.11	3.88	28.59	27.54	-1.05	-3.67
60.35 percent or more	170	60	9.16	11.27	6.28	2.12*	23.13	9.16	10.97	1.82*	19.85
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.12)				(Effect size = 0.02)	
No	1,100	600	89.50	93.24	84.42	3.74*	4.18	89.50	88.82	-0.68	-0.76
Yes	80	110	10.50	6.76	15.58	-3.74*	-35.60	10.50	11.18	0.68	6.45
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	90	70	8.27	8.39	8.10	0.12	1.51	8.27	8.65	0.38	4.63
12.91–22.61 percent	330	250	25.96	23.34	29.52	-2.62*	-10.08	25.96	24.07	-1.89	-7.27
22.62–31.65 percent	350	180	28.92	29.43	28.22	0.51	1.76	28.92	29.49	0.57	1.97
31.66 percent or more	410	210	35.99	37.91	33.38	1.92	5.34	35.99	36.81	0.82	2.29
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-15. Student-level nonresponse bias analysis for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$4,144.47 or less	270	190	20.16	19.38	21.22	-0.78	-3.86	20.16	20.32	0.16	0.81
\$4,144.48–\$5,618.87	250	180	24.74	24.24	25.41	-0.50	-2.01	24.74	25.42	0.68	2.75
\$5,618.88–\$7,662.30	380	180	32.86	34.64	30.44	1.78	5.41	32.86	33.67	0.81	2.47
\$7,662.31 or more	270	140	21.38	20.82	22.15	-0.56	-2.63	21.38	19.62	-1.77	-8.26
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-16. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017**

Selected variables	Sample counts		Before weight adjustments					After nonresponse weight adjustment			
			Means, base weighted		Respondents vs. full sample			Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.04)				(Effect size = 0.03)	
New England	90	50	3.99	3.84	4.28	-0.15	-3.74	3.99	3.76	-0.23	-5.77
Mideast	310	130	9.51	9.71	9.11	0.21	2.19	9.51	10.03	0.52	5.51
Great Lakes	430	170	17.36	17.62	16.88	0.26	1.47	17.36	17.70	0.34	1.93
Plains	190	90	7.98	7.58	8.74	-0.40	-5.00	7.98	7.54	-0.44	-5.51
Southeast	750	310	29.74	29.72	29.78	-0.02	-0.07	29.74	29.76	0.02	0.06
Southwest	360	180	13.71	12.89	15.28	-0.82	-5.97	13.71	13.25	-0.46	-3.34
Rocky Mountains	100	50	4.09	4.11	4.04	0.02	0.59	4.09	4.16	0.07	1.75
Far West	300	100	13.62	14.52	11.90	0.90	6.60	13.62	13.80	0.18	1.32
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
2,629–10,233	180	70	6.54	6.75	6.14	0.21	3.17	6.54	6.87	0.33	5.06
10,234–26,884	990	470	37.91	36.89	39.87	-1.03	-2.71	37.91	37.07	-0.84	-2.21
26,885 or more	1,350	540	55.55	56.37	53.98	0.82	1.47	55.55	56.06	0.51	0.91
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	2,510	1,060	98.85	99.48	97.65	0.63*	0.63	98.85	99.43	0.58*	0.59
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Pell Grant status						(Effect size = 0.04)				(Effect size = 0.01)	
Received	1,600	710	65.71	64.02	68.94	-1.69*	-2.57	65.71	66.03	0.32	0.49
Did not receive	920	360	34.29	35.98	31.06	1.69*	4.93	34.29	33.97	-0.32	-0.94
Total Pell Grant amount received						(Effect size = 0.08)				(Effect size = 0.03)	
\$0 or unknown	1,390	610	56.78	55.24	59.71	-1.53	-2.70	56.78	57.56	0.78	1.38
\$1–\$3,500	160	90	7.26	6.84	8.07	-0.42	-5.85	7.26	7.04	-0.22	-3.05
\$3,501–\$6,352	160	80	6.36	6.11	6.83	-0.25	-3.93	6.36	6.62	0.27	4.20
\$6,353–\$13,088	240	130	10.09	9.28	11.64	-0.81	-8.01	10.09	9.20	-0.89	-8.83
\$13,089 or more	580	170	19.52	22.53	13.75	3.02*	15.46	19.52	19.58	0.06	0.33

See notes at end of table.

**Table K-16. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.02)				(Effect size = 0.04)	
Received	1,050	450	42.88	42.11	44.35	-0.77	-1.79	42.88	44.83	1.95*	4.54
Did not receive	1,480	620	57.12	57.89	55.65	0.77	1.34	57.12	55.17	-1.95*	-3.41
Total Stafford amount received						(Effect size = 0.10)				(Effect size = 0.03)	
\$0 or unknown	820	400	35.61	32.96	40.68	-2.65*	-7.45	35.61	36.63	1.02	2.86
\$1–\$6,365	200	130	8.95	7.77	11.19	-1.17*	-13.11	8.95	8.83	-0.11	-1.28
\$6,366–\$12,755	220	140	9.26	8.23	11.25	-1.04*	-11.22	9.26	8.50	-0.76	-8.25
\$12,756–\$26,000	530	190	19.99	21.15	17.77	1.16§	5.81	19.99	19.95	-0.04	-0.19
\$26,001 or more	760	220	26.19	29.89	19.10	3.70*	14.14	26.19	26.09	-0.10	-0.39
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.03)				(Effect size = 0.03)	
\$0 or unknown	2,050	890	82.46	81.86	83.60	-0.60	-0.73	82.46	83.06	0.60	0.73
\$1–\$6,900	80	40	3.18	2.92	3.68	-0.26	-8.19	3.18	2.72	-0.47	-14.62
\$6,901–\$14,995	130	50	4.58	4.81	4.14	0.23	5.04	4.58	4.67	0.08	1.83
\$14,996–\$34,345	130	50	4.78	4.91	4.55	0.12	2.57	4.78	4.61	-0.17	-3.56
\$34,346 or more	150	50	4.99	5.50	4.02	0.50	10.12	4.99	4.94	-0.05	-0.97
Federal aid status						(Effect size = 0.06)				(Effect size = 0.02)	
Did not receive	820	400	35.54	32.86	40.68	-2.69*	-7.56	35.54	36.53	0.98	2.77
Received	1,700	670	64.46	67.14	59.32	2.69*	4.17	64.46	63.47	-0.98	-1.53
Institution aid status						(Effect size = 0.05)				(Effect size = 0.02)	
Did not receive	1,440	680	59.63	57.44	63.81	-2.19*	-3.67	59.63	59.69	0.06	0.10
Received	960	330	36.47	39.00	31.62	2.54*	6.95	36.47	36.82	0.36	0.98
Unknown	120	70	3.91	3.56	4.58	-0.35	-8.94	3.91	3.49	-0.42	-10.76
State aid status						(Effect size = 0.05)				(Effect size = 0.03)	
Did not receive	1,490	680	62.80	60.90	66.42	-1.90*	-3.02	62.80	62.42	-0.38	-0.60
Received	910	330	33.29	35.54	29.00	2.25*	6.75	33.29	34.09	0.80	2.40
Unknown	120	70	3.91	3.56	4.58	-0.35	-8.94	3.91	3.49	-0.42	-10.76

See notes at end of table.

**Table K-16. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted		Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.09)				(Effect size = 0.05)	
Yes	2,120	820	80.37	84.10	73.25	3.72*	4.63	80.37	82.39	2.02*	2.51
No	400	260	19.63	15.90	26.75	-3.72*	-18.97	19.63	17.61	-2.02*	-10.30
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	350	150	14.23	14.46	13.79	0.23	1.62	14.23	14.45	0.22	1.58
Social/behavioral sciences	210	90	7.99	7.83	8.30	-0.16	-2.01	7.99	7.82	-0.17	-2.13
Life sciences	380	130	14.41	15.71	11.91	1.31*	9.06	14.41	15.76	1.35*	9.40
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	210	90	8.36	8.35	8.38	-0.01	-0.13	8.36	8.33	-0.03	-0.39
Education	110	40	3.94	4.17	3.49	0.23	5.95	3.94	4.17	0.23	5.90
Business/management	240	140	11.16	9.57	14.21	-1.59*	-14.27	11.16	10.00	-1.16	-10.37
Health	200	70	7.25	7.54	6.69	0.29	4.03	7.25	7.33	0.08	1.11
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	210	90	7.71	7.61	7.92	-0.11	-1.39	7.71	7.62	-0.09	-1.22
Unknown	510	220	20.23	20.09	20.50	-0.14	-0.70	20.23	19.85	-0.39	-1.91
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	1,020	410	42.97	43.93	41.14	0.96	2.23	42.97	43.98	1.01	2.35
65–80 percent	660	300	28.62	27.42	30.90	-1.19	-4.17	28.62	27.42	-1.20	-4.19
81–92 percent	680	290	21.53	22.08	20.47	0.55	2.56	21.53	22.21	0.68	3.18
93 percent or more	160	70	6.88	6.57	7.49	-0.32	-4.59	6.88	6.39	-0.50	-7.20
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-16. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	510	250	18.51	17.60	20.25	-0.91	-4.91	18.51	17.73	-0.78	-4.22
41.65–60.34 percent	870	370	35.99	35.72	36.51	-0.27	-0.75	35.99	35.50	-0.49	-1.36
60.35 percent or more	1,130	440	44.23	45.94	40.97	1.71*	3.86	44.23	46.04	1.81*	4.08
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.10)				(Effect size = 0.02)	
No	2,420	950	93.84	96.23	89.26	2.39*	2.55	93.84	94.33	0.49	0.53
Yes	100	120	6.16	3.77	10.74	-2.39*	-38.79	6.16	5.67	-0.49	-8.01
Public institution tuition and fees as percent of core revenues (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
12.90 percent or less	80	40	3.47	3.42	3.56	-0.05	-1.43	3.47	3.36	-0.11	-3.06
12.91–22.61 percent	450	210	18.87	18.25	20.05	-0.62	-3.27	18.87	18.36	-0.51	-2.69
22.62–31.65 percent	840	340	32.19	32.79	31.03	0.60	1.88	32.19	32.65	0.46	1.43
31.66 percent or more	1,090	460	42.71	42.56	43.00	-0.15	-0.35	42.71	42.62	-0.09	-0.21
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-16. Student-level nonresponse bias analysis for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Public institution instructional expenses per FTE enrollment (GASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$4,144.47 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	100	50	4.10	3.87	4.53	-0.22	-5.45	4.10	3.91	-0.19	-4.65
\$5,618.88–\$7,662.30	860	370	32.24	32.24	32.24	#	#	32.24	32.14	-0.10	-0.31
\$7,662.31 or more	1,490	630	60.50	60.85	59.82	0.36	0.59	60.50	60.88	0.38	0.62
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility.

Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-17. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Mideast	40	50	21.10	20.46	21.62	-0.65	-3.06	21.10	18.17	-2.93	-13.90
Great Lakes	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	80	70	34.43	36.46	32.81	2.03	5.88	34.43	39.52	5.08	14.77
Southwest	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	40	60	18.55	13.49	22.61	-5.06	-27.29	18.55	14.99	-3.56	-19.19
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	200	200	98.77	99.28	98.36	0.51	0.51	98.77	99.17	0.40	0.40
2,629–10,233	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	150	150	70.37	76.37	65.55	6.00	8.52	70.37	71.26	0.89	1.26
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Pell Grant status						(Effect size = 0.11)				(Effect size = 0.08)	
Received	60	60	29.90	34.83	25.94	4.93	16.49	29.90	33.50	3.60	12.03
Did not receive	140	150	70.10	65.17	74.06	-4.93	-7.04	70.10	66.50	-3.60	-5.13
Total Pell Grant amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	50	60	25.87	29.35	23.08	3.48	13.44	25.87	28.77	2.89	11.19
\$1–\$3,500	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,501–\$6,352	50	70	32.76	26.01	38.18	-6.75*	-20.59	32.76	28.68	-4.08	-12.46
\$6,353–\$13,088	40	40	18.13	16.97	19.05	-1.15	-6.35	18.13	16.99	-1.14	-6.28
\$13,089 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-17. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respond-ent	Non-respond-ent	Esti-mated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respond-ents, non-response adjusted <sup>3</sup>	Esti-mated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.05)				(Effect size = 0.01)	
Received	50	60	29.32	27.12	31.09	-2.21	-7.52	29.32	28.76	-0.56	-1.91
Did not receive	160	150	70.68	72.88	68.91	2.21	3.12	70.68	71.24	0.56	0.79
Total Stafford amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	40	60	26.54	24.78	27.94	-1.75	-6.60	26.54	27.08	0.54	2.05
\$1–\$6,365	30	50	21.82	17.65	25.17	-4.17	-19.10	21.82	20.79	-1.03	-4.72
\$6,366–\$12,755	50	60	29.45	23.29	34.41	-6.16*	-20.93	29.45	24.12	-5.33	-18.10
\$12,756–\$26,000	40	30	13.78	17.39	10.88	3.61*	26.17	13.78	16.88	3.10	22.48
\$26,001 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	150	190	82.59	73.13	90.18	-9.45*	-11.45	82.59	77.02	-5.57	-6.74
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.04)				(Effect size = 0.01)	
Did not receive	40	60	26.54	24.78	27.94	-1.75	-6.60	26.54	27.08	0.54	2.05
Received	160	150	73.46	75.22	72.06	1.75	2.38	73.46	72.92	-0.54	-0.74
Institution aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	120	140	60.02	52.63	65.96	-7.40*	-12.32	60.02	58.25	-1.78	-2.96
Received	80	60	33.54	43.30	25.68	9.77*	29.13	33.54	37.46	3.93	11.71
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
State aid status						(Effect size = ‡)				(Effect size = ‡)	
Did not receive	130	160	74.23	68.48	78.85	-5.75	-7.74	74.23	68.86	-5.38	-7.24
Received	60	40	19.33	27.45	12.80	8.12	42.02	19.33	26.85	7.53	38.95
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-17. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
CPS record available						(Effect size = 0.03)				(Effect size = 0.03)		
Yes	180	170	85.40	86.30	84.67	0.90	1.06	85.40	86.59	1.19	1.39	
No	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Major						(Effect size = ‡)				(Effect size = ‡)		
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Business/management	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Health	40	50	25.73	19.38	30.83	-6.35	-24.67	25.73	21.29	-4.44	-17.25	
Vocational/technical	40	50	18.87	21.43	16.81	2.56	13.59	18.87	22.14	3.27	17.33	
Other technical/professional	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	80	70	38.10	41.47	35.39	3.37	8.85	38.10	38.88	0.78	2.04	
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)		
64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
65–80 percent	40	50	25.10	21.92	27.66	-3.18	-12.68	25.10	20.92	-4.18	-16.64	
81–92 percent	110	110	47.45	51.33	44.32	3.88	8.19	47.45	49.75	2.30	4.85	
93 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	

See notes at end of table.

**Table K-17. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	60	40	23.33	29.16	18.66	5.82	24.95	23.33	28.37	5.04	21.60
23.65–41.64 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
41.65–60.34 percent	50	60	30.12	23.23	35.66	-6.89	-22.87	30.12	25.79	-4.33	-14.39
60.35 percent or more	50	50	26.07	31.68	21.56	5.61	21.50	26.07	28.39	2.32	8.91
Unknown	40	50	18.13	13.11	22.16	-5.02	-27.69	18.13	14.59	-3.53	-19.49
Six-year federal loan default status						(Effect size = 0.15)				(Effect size = 0.07)	
No	160	140	74.54	80.92	69.42	6.38	8.55	74.54	71.63	-2.91	-3.91
Yes	40	70	25.46	19.08	30.58	-6.38	-25.05	25.46	28.37	2.91	11.44
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	90	90	41.64	43.74	39.95	2.10	5.04	41.64	44.14	2.50	6.01
62.67–79.32 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
79.33–98.72 percent	70	60	27.76	29.44	26.41	1.68	6.05	27.76	26.04	-1.72	-6.21
98.73 percent or more	40	60	26.43	17.46	33.64	-8.97*	-33.93	26.43	21.32	-5.11	-19.35
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-17. Student-level nonresponse bias analysis for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	110	100	54.73	55.27	54.30	0.54	0.98	54.73	57.18	2.45	4.48
\$3,120.55–\$5,425.76	40	60	21.92	19.08	24.20	-2.83	-12.93	21.92	17.74	-4.18	-19.06
\$5,425.77–\$8,864.46	40	50	18.31	15.80	20.32	-2.50	-13.67	18.31	16.02	-2.28	-12.48
\$8,864.47 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-18. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	160	80	13.57	12.46	15.50	-1.10	-8.14	13.57	12.74	-0.83	-6.12
Mideast	370	170	21.13	21.81	19.94	0.68	3.21	21.13	22.64	1.51	7.17
Great Lakes	340	270	20.12	18.30	23.31	-1.82	-9.05	20.12	17.72	-2.40*	-11.93
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	300	130	21.38	21.73	20.77	0.35	1.64	21.38	21.65	0.27	1.25
Southwest	50	40	4.24	3.02	6.36	-1.21	-28.65	4.24	3.26	-0.98	-23.11
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	140	50	6.38	7.24	4.87	0.86	13.55	6.38	7.29	0.91*	14.26
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	790	350	60.27	60.94	59.09	0.67	1.11	60.27	60.78	0.51	0.84
2,629–10,233	700	420	36.75	36.23	37.65	-0.52	-1.41	36.75	36.35	-0.40	-1.08
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = 0.07)				(Effect size = 0.06)	
15–23	1,460	710	97.59	98.62	95.79	1.03*	1.06	97.59	98.21	0.62	0.63
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	40	50	1.95	1.03	3.56	-0.92*	-47.35	1.95	1.17	-0.78	-39.99
Pell Grant status						(Effect size = 0.02)				(Effect size = 0.04)	
Received	880	400	60.94	61.90	59.26	0.96	1.58	60.94	63.12	2.18*	3.57
Did not receive	640	380	39.06	38.10	40.74	-0.96	-2.46	39.06	36.88	-2.18*	-5.58
Total Pell Grant amount received						(Effect size = 0.06)				(Effect size = 0.06)	
\$0 or unknown	760	360	53.52	53.51	53.52	#	#	53.52	54.98	1.47	2.74
\$1–\$3,500	130	100	7.53	7.38	7.80	-0.15	-2.03	7.53	8.15	0.62	8.20
\$3,501–\$6,352	130	90	8.68	7.39	10.94	-1.29§	-14.85	8.68	7.62	-1.06	-12.21
\$6,353–\$13,088	170	110	10.23	9.96	10.69	-0.26	-2.59	10.23	10.59	0.36	3.50
\$13,089 or more	330	120	20.04	21.75	17.05	1.71	8.53	20.04	18.66	-1.38	-6.89

See notes at end of table.



**Table K-18. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means			Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Stafford Loan status						(Effect size = 0.07)				(Effect size = 0.01)		
Received	420	280	30.19	26.94	35.87	-3.25*	-10.77	30.19	29.83	-0.36	-1.18	
Did not receive	1,110	510	69.81	73.06	64.13	3.25*	4.65	69.81	70.17	0.36	0.51	
Total Stafford amount received						(Effect size = 0.14)				(Effect size = 0.01)		
\$0 or unknown	350	240	27.13	23.61	33.29	-3.52*	-12.97	27.13	27.11	-0.02	-0.09	
\$1–\$6,365	140	120	9.69	7.61	13.34	-2.09*	-21.53	9.69	9.37	-0.32	-3.30	
\$6,366–\$12,755	140	120	9.93	9.21	11.20	-0.73	-7.32	9.93	9.97	0.03	0.32	
\$12,756–\$26,000	310	140	18.43	18.86	17.69	0.43	2.32	18.43	18.33	-0.10	-0.55	
\$26,001 or more	580	160	34.80	40.71	24.48	5.91*	16.97	34.80	35.22	0.41	1.19	
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.05)				(Effect size = 0.04)		
\$0 or unknown	1,130	630	75.18	73.57	78.01	-1.62	-2.15	75.18	74.98	-0.20	-0.27	
\$1–\$6,900	60	30	3.71	3.53	4.01	-0.17	-4.66	3.71	3.85	0.15	3.95	
\$6,901–\$14,995	90	40	6.26	6.34	6.12	0.08	1.28	6.26	6.03	-0.23	-3.68	
\$14,996–\$34,345	100	40	6.06	7.09	4.27	1.02*	16.91	6.06	6.80	0.74	12.21	
\$34,346 or more	140	50	8.79	9.48	7.60	0.68	7.79	8.79	8.34	-0.45	-5.14	
Federal aid status						(Effect size = 0.08)				(Effect size = #)		
Did not receive	350	240	27.09	23.54	33.29	-3.55*	-13.09	27.09	27.03	-0.06	-0.23	
Received	1,180	540	72.91	76.46	66.71	3.55*	4.86	72.91	72.97	0.06	0.09	
Institution aid status						(Effect size = 0.09)				(Effect size = 0.04)		
Did not receive	220	140	17.91	14.83	23.29	-3.08*	-17.20	17.91	16.61	-1.30	-7.23	
Received	1,060	440	76.63	80.30	70.20	3.68*	4.80	76.63	78.47	1.85	2.41	
Unknown	250	210	5.47	4.87	6.51	-0.60	-10.91	5.47	4.91	-0.55	-10.08	
State aid status						(Effect size = 0.03)				(Effect size = 0.04)		
Did not receive	910	410	66.80	67.38	65.78	0.58	0.87	66.80	68.58	1.78*	2.66	
Received	370	170	27.73	27.75	27.71	0.01	0.05	27.73	26.51	-1.23	-4.43	
Unknown	250	210	5.47	4.87	6.51	-0.60	-10.91	5.47	4.91	-0.55	-10.08	

See notes at end of table.

**Table K-18. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.08)				(Effect size = 0.03)	
Yes	1,370	670	86.08	88.77	81.39	2.68*	3.12	86.08	87.14	1.06	1.23
No	150	120	13.92	11.23	18.61	-2.68*	-19.28	13.92	12.86	-1.06	-7.59
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	330	160	17.56	17.16	18.25	-0.40	-2.27	17.56	17.16	-0.39	-2.23
Social/behavioral sciences	80	30	5.77	5.96	5.46	0.18	3.16	5.77	5.70	-0.07	-1.22
Life sciences	140	50	9.57	10.26	8.35	0.69	7.25	9.57	10.11	0.55	5.73
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Education	80	30	5.54	5.65	5.33	0.12	2.14	5.54	5.55	0.02	0.31
Business/management	100	70	8.16	6.88	10.40	-1.28	-15.69	8.16	6.65	-1.51*	-18.50
Health	120	110	5.10	5.04	5.21	-0.06	-1.23	5.10	4.85	-0.25	-4.97
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	110	80	7.90	6.13	11.00	-1.77*	-22.40	7.90	6.27	-1.63*	-20.64
Unknown	470	180	35.62	38.19	31.14	2.57*	7.20	35.62	39.02	3.40*	9.54
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	130	40	9.09	9.96	7.57	0.87	9.60	9.09	10.80	1.71*	18.79
65–80 percent	100	30	7.74	8.14	7.04	0.40	5.16	7.74	8.43	0.68	8.84
81–92 percent	360	270	18.51	16.68	21.72	-1.84	-9.92	18.51	16.86	-1.65	-8.92
93 percent or more	950	450	64.66	65.22	63.67	0.56	0.87	64.66	63.91	-0.74	-1.15
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-18. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	180	190	4.28	3.27	6.03	-1.00*	-23.43	4.28	3.51	-0.77	-17.99
23.65–41.64 percent	180	110	14.36	12.93	16.85	-1.43	-9.95	14.36	13.19	-1.16	-8.09
41.65–60.34 percent	470	240	34.67	32.28	38.83	-2.38	-6.88	34.67	32.04	-2.62*	-7.56
60.35 percent or more	700	250	46.70	51.51	38.29	4.81*	10.31	46.70	51.25	4.55*	9.75
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.10)				(Effect size = #)	
No	1,410	620	89.88	92.76	84.86	2.87*	3.20	89.88	89.83	-0.05	-0.06
Yes	120	160	10.12	7.24	15.14	-2.87*	-28.39	10.12	10.17	0.05	0.52
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	680	230	50.43	55.32	41.87	4.90*	9.71	50.43	55.04	4.61*	9.14
62.67–79.32 percent	380	190	30.23	27.93	34.24	-2.29	-7.59	30.23	27.49	-2.74*	-9.05
79.33–98.72 percent	350	240	17.28	15.15	21.01	-2.13*	-12.34	17.28	15.67	-1.62	-9.34
98.73 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	100	110	1.88	1.42	2.69	-0.46	-24.39	1.88	1.60	-0.29	-15.22

See notes at end of table.

**Table K-18. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	220	130	17.23	14.73	21.60	-2.50§	-14.53	17.23	14.92	-2.31	-13.42
\$5,425.77–\$8,864.46	590	250	37.87	38.43	36.88	0.57	1.50	37.87	37.96	0.10	0.25
\$8,864.47 or more	620	280	41.98	44.86	36.93	2.89*	6.88	41.98	45.00	3.02*	7.20
Unknown	100	110	1.88	1.42	2.69	-0.46	-24.39	1.88	1.60	-0.29	-15.22

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-19. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
								Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>				
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	220	80	14.23	14.56	13.45	0.33	2.31	14.23	15.21	0.97	6.85
Mideast	740	290	32.96	31.42	36.62	-1.54	-4.68	32.96	31.75	-1.21	-3.66
Great Lakes	380	170	12.82	12.97	12.44	0.16	1.23	12.82	13.04	0.22	1.73
Plains	210	60	5.64	6.37	3.89	0.73*	13.02	5.64	5.99	0.35	6.27
Southeast	240	70	17.10	16.68	18.10	-0.42	-2.47	17.10	16.17	-0.93	-5.42
Southwest	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Far West	120	40	9.72	9.77	9.61	0.05	0.49	9.72	9.40	-0.32	-3.30
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
2,629–10,233	1,090	390	44.23	46.02	39.99	1.79	4.04	44.23	45.11	0.88	1.98
10,234–26,884	570	210	34.11	32.85	37.10	-1.26	-3.69	34.11	33.58	-0.52	-1.53
26,885 or more	310	120	15.30	14.19	17.93	-1.11	-7.23	15.30	14.68	-0.61	-4.01
Age as of Dec 31, 2011						(Effect size = ‡)				(Effect size = ‡)	
15–23	2,000	700	98.37	98.64	97.72	0.27	0.28	98.37	98.66	0.29	0.30
24–29	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
30 or more	40	30	1.28	1.19	1.51	-0.09	-7.39	1.28	1.15	-0.13	-10.22
Pell Grant status						(Effect size = 0.03)				(Effect size = 0.03)	
Received	1,430	510	71.21	69.93	74.24	-1.27	-1.79	71.21	72.37	1.16	1.63
Did not receive	630	230	28.79	30.07	25.76	1.27	4.43	28.79	27.63	-1.16	-4.03
Total Pell Grant amount received						(Effect size = 0.05)				(Effect size = 0.05)	
\$0 or unknown	1,260	460	63.76	63.10	65.33	-0.66	-1.03	63.76	65.70	1.94*	3.04
\$1–\$3,500	140	70	6.86	5.99	8.92	-0.87	-12.68	6.86	5.93	-0.93	-13.54
\$3,501–\$6,352	110	50	5.26	5.21	5.40	-0.06	-1.07	5.26	5.47	0.21	3.97
\$6,353–\$13,088	180	60	7.34	7.67	6.56	0.33	4.46	7.34	7.31	-0.03	-0.42
\$13,089 or more	360	110	16.78	18.04	13.79	1.26	7.49	16.78	15.59	-1.19	-7.08

See notes at end of table.

**Table K-19. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.08)				(Effect size = #)	
Received	760	350	42.07	38.19	51.28	-3.88*	-9.22	42.07	42.24	0.17	0.40
Did not receive	1,290	390	57.93	61.81	48.72	3.88*	6.69	57.93	57.76	-0.17	-0.29
Total Stafford amount received						(Effect size = 0.10)				(Effect size = 0.02)	
\$0 or unknown	650	320	38.19	34.23	47.60	-3.96*	-10.37	38.19	38.82	0.63	1.65
\$1–\$6,365	120	60	5.82	5.41	6.78	-0.40	-6.94	5.82	6.00	0.19	3.23
\$6,366–\$12,755	140	70	7.00	6.59	7.99	-0.42	-5.93	7.00	6.49	-0.51	-7.35
\$12,756–\$26,000	430	130	18.92	19.65	17.19	0.73	3.86	18.92	18.62	-0.30	-1.60
\$26,001 or more	720	160	30.07	34.12	20.45	4.05*	13.47	30.07	30.07	#	#
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,590	610	78.83	77.22	82.66	-1.61*	-2.04	78.83	79.09	0.25	0.32
\$1–\$6,900	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$14,996–\$34,345	120	30	5.36	5.53	4.96	0.17	3.12	5.36	4.97	-0.39	-7.21
\$34,346 or more	210	60	10.14	11.23	7.53	1.10*	10.82	10.14	10.12	-0.01	-0.14
Federal aid status						(Effect size = 0.08)				(Effect size = 0.02)	
Did not receive	640	320	37.69	34.02	46.42	-3.67*	-9.73	37.69	38.58	0.88	2.34
Received	1,410	430	62.31	65.98	53.58	3.67*	5.89	62.31	61.42	-0.88	-1.42
Institution aid status						(Effect size = 0.06)				(Effect size = 0.03)	
Did not receive	490	200	24.59	23.03	28.31	-1.56	-6.36	24.59	25.55	0.96	3.90
Received	1,370	430	65.86	68.53	59.52	2.67*	4.05	65.86	65.73	-0.13	-0.20
Unknown	190	110	9.55	8.44	12.18	-1.11	-11.57	9.55	8.72	-0.83	-8.67
State aid status						(Effect size = 0.04)				(Effect size = 0.05)	
Did not receive	1,420	480	70.52	71.37	68.50	0.85	1.21	70.52	72.57	2.05	2.90
Received	440	150	19.93	20.18	19.32	0.26	1.28	19.93	18.71	-1.22	-6.11
Unknown	190	110	9.55	8.44	12.18	-1.11	-11.57	9.55	8.72	-0.83	-8.67

See notes at end of table.

**Table K-19. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.10)				(Effect size = 0.03)	
Yes	1,710	560	75.10	79.44	64.79	4.34*	5.78	75.10	76.54	1.44	1.91
No	340	180	24.90	20.56	35.21	-4.34*	-17.43	24.90	23.46	-1.44	-5.77
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	340	120	16.48	16.59	16.20	0.12	0.71	16.48	16.66	0.18	1.12
Social/behavioral sciences	180	60	9.30	8.90	10.25	-0.40	-4.31	9.30	8.65	-0.65	-7.03
Life sciences	210	60	10.65	10.90	10.07	0.24	2.29	10.65	10.53	-0.12	-1.15
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	120	40	6.10	5.72	6.99	-0.38	-6.19	6.10	5.78	-0.32	-5.18
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	220	120	11.75	10.04	15.81	-1.71*	-14.56	11.75	10.08	-1.67*	-14.19
Health	170	50	5.75	5.82	5.59	0.07	1.17	5.75	5.53	-0.22	-3.83
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	150	40	7.52	8.59	4.98	1.07*	14.21	7.52	8.56	1.04	13.82
Unknown	500	190	25.47	25.77	24.78	0.29	1.15	25.47	26.52	1.04	4.09
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	450	130	22.21	22.91	20.54	0.70	3.16	22.21	24.51	2.30*	10.37
65–80 percent	260	100	16.07	16.01	16.21	-0.06	-0.36	16.07	16.41	0.34	2.09
81–92 percent	390	170	15.77	15.24	17.03	-0.53	-3.36	15.77	14.94	-0.83	-5.27
93 percent or more	950	340	45.77	45.58	46.22	-0.19	-0.41	45.77	43.91	-1.86	-4.06
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-19. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted		Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	130	80	5.75	5.61	6.07	-0.14	-2.37	5.75	5.37	-0.38	-6.63
41.65–60.34 percent	520	200	26.73	26.40	27.50	-0.33	-1.22	26.73	25.69	-1.03	-3.86
60.35 percent or more	1,370	460	65.84	66.42	64.45	0.58	0.89	65.84	67.38	1.55	2.35
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.04)				(Effect size = 0.01)	
No	1,960	680	95.30	96.14	93.30	0.84*	0.88	95.30	95.58	0.28	0.29
Yes	90	60	4.70	3.86	6.70	-0.84*	-17.89	4.70	4.42	-0.28	-5.92
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	1,040	370	56.03	55.49	57.30	-0.54	-0.96	56.03	56.63	0.61	1.08
62.67–79.32 percent	590	200	27.53	28.60	25.00	1.07	3.87	27.53	27.60	0.07	0.26
79.33–98.72 percent	370	130	16.29	15.82	17.40	-0.47	-2.87	16.29	15.65	-0.64	-3.92
98.73 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	50	50	0.15	0.09	0.30	-0.06	-41.44	0.15	0.12	-0.04	-25.11

See notes at end of table.



**Table K-19. Student-level nonresponse bias analysis for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	230	70	8.06	8.76	6.40	0.70	8.70	8.06	8.82	0.76	9.41
\$5,425.77–\$8,864.46	520	180	23.21	23.42	22.72	0.21	0.89	23.21	22.15	-1.07	-4.59
\$8,864.47 or more	1,250	440	68.47	67.59	70.58	-0.89	-1.29	68.47	68.79	0.31	0.46
Unknown	50	50	0.15	0.09	0.30	-0.06	-41.44	0.15	0.12	-0.04	-25.11

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-20. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.13)				(Effect size = 0.14)	
New England	40	60	7.99	6.26	9.25	-1.73	-21.67	7.99	6.48	-1.51	-18.94
Mideast	100	120	10.66	10.96	10.44	0.30	2.84	10.66	13.42	2.76	25.91
Great Lakes	110	140	7.30	7.44	7.21	0.14	1.85	7.30	8.23	0.92	12.66
Plains	50	60	6.77	8.21	5.73	1.44	21.21	6.77	6.72	-0.05	-0.78
Southeast	100	160	19.29	16.57	21.26	-2.72	-14.09	19.29	16.74	-2.55	-13.22
Southwest	130	150	27.40	29.87	25.60	2.48	9.04	27.40	28.96	1.56	5.71
Rocky Mountains	50	50	7.64	9.22	6.50	1.57	20.58	7.64	8.26	0.61	7.99
Far West	50	70	12.95	11.47	14.02	-1.47	-11.38	12.95	11.20	-1.74	-13.47
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	630	780	97.89	98.15	97.70	0.26	0.27	97.89	97.98	0.09	0.09
2,629–10,233	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = 0.09)				(Effect size = 0.10)	
15–23	440	510	66.21	68.40	64.63	2.18	3.29	66.21	63.64	-2.57	-3.88
24–29	100	130	14.38	15.62	13.48	1.24	8.64	14.38	17.97	3.59*	24.95
30 or more	100	160	19.41	15.98	21.89	-3.42*	-17.64	19.41	18.39	-1.02	-5.25
Pell Grant status						(Effect size = 0.07)				(Effect size = 0.03)	
Received	90	120	14.70	17.30	12.81	2.60	17.70	14.70	15.70	1.00	6.81
Did not receive	550	690	85.30	82.70	87.19	-2.60	-3.05	85.30	84.30	-1.00	-1.17
Total Pell Grant amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	80	100	12.60	14.79	11.01	2.19	17.35	12.60	12.91	0.31	2.45
\$1–\$3,500	100	210	19.26	14.80	22.49	-4.46*	-23.15	19.26	17.74	-1.52	-7.87
\$3,501–\$6,352	280	320	38.50	40.18	37.29	1.67	4.34	38.50	43.76	5.25*	13.64
\$6,353–\$13,088	130	150	24.06	22.44	25.23	-1.61	-6.70	24.06	20.45	-3.61	-14.99
\$13,089 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-20. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment					
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Stafford Loan status						(Effect size = 0.12)				(Effect size = 0.12)		
Received	50	120	12.97	9.06	15.80	-3.90\$	-30.09	12.97	8.96	-4.00*	-30.87	
Did not receive	590	680	87.03	90.94	84.20	3.90\$	4.48	87.03	91.04	4.00*	4.60	
Total Stafford amount received						(Effect size = ‡)				(Effect size = ‡)		
\$0 or unknown	70	150	14.12	10.20	16.96	-3.92*	-27.74	14.12	10.47	-3.64*	-25.81	
\$1–\$6,365	160	210	27.89	27.28	28.34	-0.61	-2.18	27.89	29.70	1.81	6.49	
\$6,366–\$12,755	300	330	40.76	44.66	37.94	3.89	9.55	40.76	45.39	4.63*	11.35	
\$12,756–\$26,000	80	100	13.99	12.25	15.25	-1.74	-12.43	13.99	10.86	-3.13	-22.37	
\$26,001 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)		
\$0 or unknown	560	720	90.31	89.18	91.12	-1.13	-1.25	90.31	89.37	-0.94	-1.04	
\$1–\$6,900	40	40	6.03	7.04	5.30	1.01	16.68	6.03	7.63	1.59*	26.36	
\$6,901–\$14,995	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
\$14,996–\$34,345	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Federal aid status						(Effect size = 0.11)				(Effect size = 0.10)		
Did not receive	70	150	14.12	10.20	16.96	-3.92*	-27.74	14.12	10.47	-3.64*	-25.81	
Received	570	650	85.88	89.80	83.04	3.92*	4.56	85.88	89.53	3.64*	4.24	
Institution aid status						(Effect size = ‡)				(Effect size = ‡)		
Did not receive	570	740	76.36	72.45	79.21	-3.91	-5.12	76.36	74.51	-1.85	-2.43	
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	50	40	20.88	24.89	17.96	4.02	19.23	20.88	23.33	2.45	11.74	
State aid status						(Effect size = ‡)				(Effect size = ‡)		
Did not receive	560	740	76.84	72.48	80.01	-4.36*	-5.68	76.84	74.47	-2.37	-3.09	
Received	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	
Unknown	50	40	20.88	24.89	17.96	4.02	19.23	20.88	23.33	2.45	11.74	

See notes at end of table.

**Table K-20. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.02)				(Effect size = 0.03)	
Yes	600	760	94.85	94.46	95.14	-0.40	-0.42	94.85	94.27	-0.58	-0.62
No	30	40	5.15	5.54	4.86	0.40	7.76	5.15	5.73	0.58	11.35
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Health	380	450	45.78	48.35	43.91	2.57	5.61	45.78	49.33	3.55	7.75
Vocational/technical	30	90	5.77	2.95	7.81	-2.81	-48.81	5.77	2.91	-2.85	-49.47
Other technical/professional	180	210	40.59	42.95	38.88	2.36	5.82	40.59	42.11	1.51	3.73
Unknown	30	40	5.78	4.09	7.01	-1.69	-29.27	5.78	3.72	-2.07	-35.74
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	60	70	5.34	5.53	5.20	0.19	3.61	5.34	5.83	0.49	9.23
65–80 percent	270	350	50.96	52.05	50.17	1.09	2.14	50.96	50.91	-0.05	-0.10
81–92 percent	270	350	36.41	33.62	38.43	-2.79	-7.66	36.41	34.14	-2.27	-6.23
93 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-20. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	630	800	99.86	99.85	99.86	#	#	99.86	99.90	0.05	0.05
Six-year federal loan default status						(Effect size = 0.25)				(Effect size = 0.07)	
No	460	440	62.21	74.56	53.25	12.34*	19.84	62.21	58.63	-3.58	-5.76
Yes	180	360	37.79	25.44	46.75	-12.34*	-32.67	37.79	41.37	3.58	9.48
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
62.66 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
62.67–79.32 percent	120	100	30.15	36.51	25.54	6.36*	21.09	30.15	34.13	3.97*	13.17
79.33–98.72 percent	150	190	29.45	26.55	31.55	-2.90	-9.84	29.45	26.32	-3.12	-10.60
98.73 percent or more	290	430	22.53	17.82	25.95	-4.71*	-20.91	22.53	20.34	-2.19	-9.73
Unknown	60	60	11.64	14.07	9.88	2.43	20.88	11.64	13.88	2.23	19.17

See notes at end of table.

**Table K-20. Student-level nonresponse bias analysis for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = ‡)				(Effect size = ‡)	
\$3,120.54 or less	170	250	32.92	28.17	36.37	-4.75	-14.43	32.92	28.77	-4.15	-12.61
\$3,120.55–\$5,425.76	260	280	48.59	52.40	45.82	3.81	7.84	48.59	50.85	2.26	4.65
\$5,425.77–\$8,864.46	130	190	6.35	4.91	7.40	-1.44	-22.70	6.35	5.99	-0.36	-5.73
\$8,864.47 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Unknown	60	60	11.64	14.07	9.88	2.43	20.88	11.64	13.88	2.23	19.17

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ §  $p < 0.05$  for difference between weighted respondent mean and weighted nonrespondent mean but not for estimated bias.<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-21. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
								Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>				
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = ‡)				(Effect size = ‡)	
New England	40	50	2.92	2.52	3.26	-0.40	-13.68	2.92	2.45	-0.47	-16.01
Mideast	270	290	20.85	21.88	19.96	1.03	4.94	20.85	21.66	0.81	3.89
Great Lakes	140	170	12.48	10.85	13.88	-1.63	-13.04	12.48	10.10	-2.38*	-19.07
Plains	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Southeast	180	230	19.46	18.35	20.43	-1.12	-5.74	19.46	18.79	-0.68	-3.47
Southwest	230	220	13.40	13.16	13.60	-0.24	-1.79	13.40	14.18	0.78	5.86
Rocky Mountains	90	110	6.14	5.78	6.45	-0.36	-5.88	6.14	5.08	-1.06*	-17.21
Far West	530	460	22.84	25.36	20.66	2.52*	11.05	22.84	25.24	2.40	10.53
Institution total enrollment						(Effect size = ‡)				(Effect size = ‡)	
0–2,628	1,070	1,110	71.23	70.16	72.15	-1.07	-1.50	71.23	69.02	-2.21	-3.10
2,629–10,233	390	410	26.24	27.88	24.82	1.64	6.26	26.24	29.31	3.07	11.71
10,234–26,884	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Age as of Dec 31, 2011						(Effect size = 0.03)				(Effect size = 0.14)	
15–23	1,100	1,080	70.01	68.87	70.99	-1.14	-1.63	70.01	64.07	-5.94*	-8.48
24–29	180	220	13.36	14.14	12.69	0.78	5.80	13.36	17.42	4.06*	30.37
30 or more	210	250	16.63	17.00	16.32	0.37	2.21	16.63	18.51	1.88	11.29
Pell Grant status						(Effect size = 0.01)				(Effect size = 0.03)	
Received	280	310	21.97	21.73	22.18	-0.24	-1.10	21.97	20.58	-1.39	-6.31
Did not receive	1,210	1,240	78.03	78.27	77.82	0.24	0.31	78.03	79.42	1.39	1.78
Total Pell Grant amount received						(Effect size = 0.11)				(Effect size = 0.08)	
\$0 or unknown	230	260	17.40	16.35	18.31	-1.05	-6.05	17.40	15.72	-1.68	-9.68
\$1–\$3,500	230	330	19.37	18.43	20.17	-0.93	-4.81	19.37	21.57	2.20	11.39
\$3,501–\$6,352	550	580	32.33	29.99	34.36	-2.35	-7.26	32.33	31.60	-0.74	-2.28
\$6,353–\$13,088	350	320	23.27	25.30	21.51	2.03	8.75	23.27	24.36	1.09	4.70
\$13,089 or more	130	60	7.63	9.93	5.65	2.30*	30.10	7.63	6.75	-0.88	-11.48

See notes at ten of table.

**Table K-21. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.06)				(Effect size = 0.04)	
Received	140	210	12.60	10.71	14.23	-1.89	-15.00	12.60	11.38	-1.22	-9.69
Did not receive	1,340	1,340	87.40	89.29	85.77	1.89	2.16	87.40	88.62	1.22	1.40
Total Stafford amount received						(Effect size = 0.15)				(Effect size = 0.11)	
\$0 or unknown	140	240	13.08	9.49	16.17	-3.59*	-27.45	13.08	10.53	-2.54*	-19.45
\$1–\$6,365	330	400	23.46	22.65	24.17	-0.82	-3.49	23.46	27.32	3.86	16.45
\$6,366–\$12,755	610	620	33.50	32.40	34.44	-1.10	-3.28	33.50	32.40	-1.10	-3.27
\$12,756–\$26,000	320	250	23.88	27.62	20.66	3.74*	15.66	23.88	24.26	0.38	1.58
\$26,001 or more	90	40	6.08	7.84	4.56	1.76*	29.03	6.08	5.48	-0.60	-9.85
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = ‡)				(Effect size = ‡)	
\$0 or unknown	1,250	1,330	83.41	84.17	82.75	0.76	0.91	83.41	86.28	2.87*	3.44
\$1–\$6,900	100	90	5.77	5.85	5.69	0.09	1.52	5.77	5.23	-0.53	-9.26
\$6,901–\$14,995	70	60	5.28	4.49	5.96	-0.79	-14.99	5.28	4.17	-1.11	-21.05
\$14,996–\$34,345	60	60	5.02	4.78	5.22	-0.23	-4.65	5.02	3.79	-1.23*	-24.46
\$34,346 or more	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Federal aid status						(Effect size = 0.11)				(Effect size = 0.08)	
Did not receive	140	240	13.08	9.49	16.17	-3.59*	-27.45	13.08	10.53	-2.54*	-19.45
Received	1,350	1,310	86.92	90.51	83.83	3.59*	4.13	86.92	89.47	2.54*	2.93
Institution aid status						(Effect size = 0.01)				(Effect size = 0.07)	
Did not receive	1,240	1,290	82.94	82.97	82.92	0.02	0.03	82.94	85.20	2.26	2.73
Received	60	60	7.17	6.99	7.33	-0.18	-2.55	7.17	5.59	-1.58	-22.00
Unknown	190	200	9.89	10.05	9.75	0.16	1.60	9.89	9.21	-0.68	-6.91
State aid status						(Effect size = 0.06)				(Effect size = 0.03)	
Did not receive	1,250	1,310	85.47	84.12	86.63	-1.35	-1.58	85.47	85.81	0.34	0.39
Received	50	40	4.64	5.83	3.61	1.19	25.71	4.64	4.99	0.35	7.45
Unknown	190	200	9.89	10.05	9.75	0.16	1.60	9.89	9.21	-0.68	-6.91

See notes at ten of table.



**Table K-21. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.04)				(Effect size = 0.03)	
Yes	1,450	1,480	96.49	97.20	95.87	0.71	0.74	96.49	97.03	0.54	0.56
No	40	70	3.51	2.80	4.13	-0.71	-20.27	3.51	2.97	-0.54	-15.45
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Business/management	50	40	4.76	4.83	4.71	0.06	1.27	4.76	4.93	0.17	3.57
Health	880	820	37.84	41.23	34.91	3.39*	8.97	37.84	42.17	4.33*	11.45
Vocational/technical	290	350	29.75	26.22	32.79	-3.53*	-11.87	29.75	26.10	-3.65	-12.26
Other technical/professional	150	190	11.79	11.09	12.40	-0.71	-5.99	11.79	11.29	-0.50	-4.27
Unknown	60	70	8.68	9.08	8.34	0.40	4.59	8.68	9.22	0.53	6.12
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	410	390	21.61	21.81	21.43	0.21	0.96	21.61	20.47	-1.13	-5.25
65–80 percent	480	530	32.82	29.73	35.48	-3.09	-9.41	32.82	30.59	-2.23	-6.81
81–92 percent	470	460	28.97	33.08	25.42	4.11*	14.19	28.97	32.57	3.60*	12.42
93 percent or more	130	170	16.60	15.38	17.66	-1.23	-7.39	16.60	16.38	-0.23	-1.38
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at ten of table.

**Table K-21. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = ‡)				(Effect size = ‡)	
23.64 percent or less	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
23.65–41.64 percent	90	90	6.03	6.45	5.67	0.42	6.98	6.03	5.87	-0.16	-2.69
41.65–60.34 percent	470	460	34.82	34.93	34.72	0.11	0.32	34.82	33.89	-0.93	-2.67
60.35 percent or more	900	970	56.33	56.08	56.55	-0.25	-0.45	56.33	57.30	0.97	1.71
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Six-year federal loan default status						(Effect size = 0.20)				(Effect size = 0.09)	
No	1,130	860	65.07	74.50	56.94	9.43*	14.49	65.07	60.78	-4.29	-6.59
Yes	360	690	34.93	25.50	43.06	-9.43*	-27.00	34.93	39.22	4.29	12.28
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = 0.06)				(Effect size = 0.08)	
62.66 percent or less	120	120	16.51	17.74	15.45	1.23	7.43	16.51	18.43	1.92	11.60
62.67–79.32 percent	280	290	23.82	22.06	25.34	-1.76	-7.40	23.82	21.21	-2.61	-10.96
79.33–98.72 percent	290	300	13.11	12.10	13.98	-1.01	-7.70	13.11	12.53	-0.58	-4.46
98.73 percent or more	700	760	42.73	44.18	41.49	1.45	3.39	42.73	44.55	1.81	4.25
Unknown	100	80	3.82	3.92	3.74	0.10	2.56	3.82	3.29	-0.54*	-14.00

See notes at ten of table.

**Table K-21. Student-level nonresponse bias analysis for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = 0.06)				(Effect size = 0.11)	
\$3,120.54 or less	700	730	45.88	48.32	43.78	2.44	5.32	45.88	50.78	4.90*	10.68
\$3,120.55–\$5,425.76	430	450	36.17	35.03	37.16	-1.14	-3.16	36.17	33.73	-2.44	-6.74
\$5,425.77–\$8,864.46	210	230	7.49	7.18	7.76	-0.31	-4.17	7.49	7.00	-0.49	-6.51
\$8,864.47 or more	60	60	6.64	5.56	7.57	-1.08	-16.30	6.64	5.20	-1.44	-21.72
Unknown	100	80	3.82	3.92	3.74	0.10	2.56	3.82	3.29	-0.54*	-14.00

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$

<sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.

<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.

<sup>3</sup> Base weight, adjusted for nonresponse.

<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).

<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-22. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017**

Selected variables	Before weight adjustments							After nonresponse weight adjustment			
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>5</sup>						(Effect size = 0.10)				(Effect size = 0.09)	
New England	190	120	2.53	3.48	1.65	0.95	37.61	2.53	3.54	1.01	40.05
Mideast	470	450	8.60	7.85	9.30	-0.76	-8.81	8.60	7.20	-1.41	-16.37
Great Lakes	370	400	6.89	6.25	7.49	-0.64	-9.33	6.89	6.87	-0.03	-0.37
Plains	420	410	14.82	14.49	15.12	-0.33	-2.22	14.82	13.31	-1.50	-10.15
Southeast	1,020	1,170	21.85	21.18	22.47	-0.67	-3.06	21.85	22.63	0.78	3.59
Southwest	830	820	25.41	25.53	25.30	0.12	0.47	25.41	26.70	1.29	5.08
Rocky Mountains	210	230	7.20	6.32	8.01	-0.88	-12.22	7.20	7.22	0.02	0.28
Far West	870	820	12.70	14.91	10.67	2.21*	17.38	12.70	12.53	-0.17	-1.34
Institution total enrollment						(Effect size = 0.07)				(Effect size = 0.06)	
0–2,628	1,910	2,100	25.98	26.36	25.62	0.38	1.48	25.98	25.33	-0.65	-2.50
2,629–10,233	1,450	1,340	19.35	21.34	17.52	1.99	10.27	19.35	19.96	0.60	3.13
10,234–26,884	300	290	8.12	9.00	7.31	0.88	10.84	8.12	9.55	1.43	17.66
26,885 or more	720	710	46.55	43.30	49.55	-3.25	-6.99	46.55	45.16	-1.39	-2.98
Age as of Dec 31, 2011						(Effect size = 0.05)				(Effect size = 0.08)	
15–23	2,910	2,730	51.03	53.60	48.67	2.57	5.03	51.03	46.92	-4.11*	-8.06
24–29	670	820	19.56	17.94	21.06	-1.63	-8.32	19.56	21.47	1.91	9.75
30 or more	810	880	29.40	28.46	30.27	-0.94	-3.19	29.40	31.61	2.20	7.50
Pell Grant status						(Effect size = 0.02)				(Effect size = 0.01)	
Received	1,020	1,150	24.94	25.65	24.29	0.71	2.84	24.94	24.56	-0.38	-1.53
Did not receive	3,360	3,280	75.06	74.35	75.71	-0.71	-0.94	75.06	75.44	0.38	0.51
Total Pell Grant amount received						(Effect size = 0.21)				(Effect size = 0.03)	
\$0 or unknown	740	920	19.95	18.95	20.87	-1.00	-5.02	19.95	18.80	-1.16	-5.79
\$1–\$3,500	700	1,200	24.60	19.21	29.56	-5.39*	-21.90	24.60	25.45	0.85	3.47
\$3,501–\$6,352	710	870	13.96	12.20	15.59	-1.76	-12.62	13.96	14.52	0.56	3.99
\$6,353–\$13,088	1,030	820	21.63	22.05	21.26	0.41	1.90	21.63	21.39	-0.24	-1.13
\$13,089 or more	1,210	610	19.86	27.60	12.72	7.74*	38.98	19.86	19.84	-0.01	-0.06

See notes at end of table.

**Table K-22. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Stafford Loan status						(Effect size = 0.01)				(Effect size = 0.01)	
Received	550	910	21.16	20.66	21.62	-0.50	-2.37	21.16	21.49	0.33	1.56
Did not receive	3,830	3,520	78.84	79.34	78.38	0.50	0.64	78.84	78.51	-0.33	-0.42
Total Stafford amount received						(Effect size = 0.26)				(Effect size = 0.08)	
\$0 or unknown	470	890	19.62	20.99	18.36	1.37	6.99	19.62	22.37	2.74	13.99
\$1–\$6,365	740	1,220	23.25	15.98	29.94	-7.26*	-31.25	23.25	21.99	-1.25	-5.39
\$6,366–\$12,755	750	850	15.24	13.41	16.92	-1.83*	-12.00	15.24	15.24	#	0.01
\$12,756–\$26,000	1,070	830	22.99	22.07	23.84	-0.92	-4.01	22.99	21.30	-1.69	-7.35
\$26,001 or more	1,350	640	18.90	27.55	10.94	8.64*	45.72	18.90	19.10	0.20	1.04
Total Parent Loan for Undergraduate Students (PLUS) amount received						(Effect size = 0.07)				(Effect size = 0.02)	
\$0 or unknown	3,560	3,830	90.14	88.33	91.81	-1.81*	-2.01	90.14	90.59	0.45	0.50
\$1–\$6,900	190	180	3.03	3.31	2.77	0.28	9.36	3.03	2.86	-0.17	-5.52
\$6,901–\$14,995	190	160	2.11	2.22	2.00	0.11	5.32	2.11	1.89	-0.22	-10.30
\$14,996–\$34,345	220	140	2.51	3.02	2.04	0.51	20.37	2.51	2.50	-0.01	-0.45
\$34,346 or more	220	110	2.22	3.13	1.38	0.91*	40.88	2.22	2.17	-0.05	-2.42
Federal aid status						(Effect size = 0.04)				(Effect size = 0.07)	
Did not receive	470	890	19.60	20.99	18.32	1.39	7.10	19.60	22.37	2.76	14.10
Received	3,910	3,540	80.40	79.01	81.68	-1.39	-1.73	80.40	77.63	-2.76	-3.44
Institution aid status						(Effect size = 0.01)				(Effect size = 0.03)	
Did not receive	3,480	3,280	87.62	87.36	87.85	-0.25	-0.29	87.62	88.62	1.00	1.14
Received	150	110	3.85	4.13	3.59	0.28	7.36	3.85	3.60	-0.25	-6.38
Unknown	750	1,050	8.53	8.50	8.56	-0.03	-0.35	8.53	7.78	-0.76	-8.86
State aid status						(Effect size = 0.02)				(Effect size = 0.04)	
Did not receive	3,210	3,070	86.26	85.82	86.67	-0.44	-0.51	86.26	87.56	1.30	1.50
Received	420	310	5.21	5.68	4.77	0.47	9.09	5.21	4.67	-0.54	-10.37
Unknown	750	1,050	8.53	8.50	8.56	-0.03	-0.35	8.53	7.78	-0.76	-8.86

See notes at end of table.

**Table K-22. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
CPS record available						(Effect size = 0.08)				(Effect size = 0.07)	
Yes	4,220	4,180	93.44	91.34	95.37	-2.09*	-2.24	93.44	91.61	-1.83	-1.96
No	160	250	6.56	8.66	4.63	2.09*	31.92	6.56	8.39	1.83	27.88
Major						(Effect size = ‡)				(Effect size = ‡)	
Humanities	540	510	10.21	11.49	9.03	1.28	12.53	10.21	11.47	1.26	12.31
Social/behavioral sciences	50	40	1.64	1.52	1.76	-0.12	-7.52	1.64	1.47	-0.17	-10.39
Life sciences	80	80	3.30	3.66	2.97	0.35	10.72	3.30	3.83	0.53	16.06
Physical sciences/math	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Computer/Information science	780	730	11.22	11.52	10.95	0.30	2.67	11.22	11.97	0.75	6.65
Engineering	340	530	3.48	3.37	3.59	-0.11	-3.30	3.48	3.05	-0.43	-12.28
Education	50	40	2.79	2.71	2.87	-0.09	-3.06	2.79	3.00	0.21	7.40
Business/management	790	770	29.08	26.33	31.63	-2.76	-9.48	29.08	26.63	-2.45	-8.44
Health	750	690	13.09	13.16	13.02	0.07	0.54	13.09	13.89	0.80	6.08
Vocational/technical	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other technical/professional	940	950	22.36	23.03	21.75	0.67	2.99	22.36	21.73	-0.63	-2.83
Unknown	60	100	2.63	3.05	2.24	0.42	15.91	2.63	2.82	0.19	7.40
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid						(Effect size = ‡)				(Effect size = ‡)	
64 percent or less	410	410	10.02	9.91	10.11	-0.10	-1.03	10.02	8.51	-1.50	-15.00
65–80 percent	1,190	1,360	16.79	18.68	15.05	1.89	11.24	16.79	18.40	1.61	9.59
81–92 percent	1,930	1,930	58.17	55.93	60.24	-2.24	-3.85	58.17	56.75	-1.42	-2.45
93 percent or more	850	730	15.02	15.48	14.60	0.46	3.03	15.02	16.34	1.32	8.77
Unknown	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-22. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments						After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample	
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion						(Effect size = 0.10)				(Effect size = 0.10)	
23.64 percent or less	1,340	1,410	48.70	44.57	52.50	-4.13*	-8.48	48.70	46.59	-2.11	-4.33
23.65–41.64 percent	1,770	1,850	28.40	29.30	27.58	0.89	3.14	28.40	27.32	-1.08	-3.81
41.65–60.34 percent	540	430	6.81	7.87	5.84	1.06	15.54	6.81	6.76	-0.06	-0.81
60.35 percent or more	240	280	2.72	2.40	3.02	-0.33	-11.95	2.72	2.58	-0.15	-5.34
Unknown	490	450	13.36	15.87	11.06	2.50	18.73	13.36	16.75	3.39	25.38
Six-year federal loan default status						(Effect size = 0.25)				(Effect size = 0.04)	
No	3,350	2,540	64.62	76.54	53.63	11.93*	18.46	64.62	62.83	-1.78	-2.76
Yes	1,030	1,890	35.38	23.46	46.37	-11.93*	-33.71	35.38	37.17	1.78	5.04
Private institution tuition and fees as percent of core revenues (FASB reporting)						(Effect size = 0.06)				(Effect size = 0.05)	
62.66 percent or less	80	70	1.11	1.29	0.94	0.18	16.45	1.11	1.48	0.37	33.40
62.67–79.32 percent	800	720	19.75	20.46	19.09	0.71	3.60	19.75	20.76	1.01	5.11
79.33–98.72 percent	1,100	1,010	30.53	31.41	29.72	0.88	2.89	30.53	30.58	0.05	0.16
98.73 or more	2,300	2,590	47.39	45.21	49.39	-2.18	-4.59	47.39	45.74	-1.65	-3.49
Unknown	90	50	1.23	1.62	0.86	0.40	32.51	1.23	1.45	0.22	18.22

See notes at end of table.

**Table K-22. Student-level nonresponse bias analysis for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017—Continued**

Selected variables	Before weight adjustments							After nonresponse weight adjustment				
	Sample counts		Means, base weighted			Respondents vs. full sample		Means		Respondents vs. full sample		
	Unweighted respondents	Unweighted non-respondents	Full sample	Respondent	Non-respondent	Estimated bias <sup>1</sup>	Relative bias <sup>2</sup>	Full sample, base weighted	Respondents, non-response adjusted <sup>3</sup>	Estimated bias <sup>4</sup>	Relative bias <sup>2</sup>	
Private institution instructional expenses per FTE enrollment (FASB reporting)						(Effect size = 0.05)				(Effect size = 0.05)		
\$3,120.54 or less	1,690	1,850	60.76	61.13	60.41	0.38	0.62	60.76	62.89	2.13	3.51	
\$3,120.55–\$5,425.76	1,620	1,630	29.55	28.02	30.96	-1.53	-5.19	29.55	27.42	-2.13	-7.22	
\$5,425.77–\$8,864.46	720	680	6.66	7.10	6.26	0.44	6.54	6.66	6.30	-0.36	-5.46	
\$8,864.47 or more	260	220	1.81	2.13	1.51	0.32	17.95	1.81	1.95	0.14	7.73	
Unknown	90	50	1.23	1.62	0.86	0.40	32.51	1.23	1.45	0.22	18.22	

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Bias in the sample mean is estimated as the difference between the mean of respondent cases and the mean of all sample cases, using the base weight.<sup>2</sup> Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean.<sup>3</sup> Base weight, adjusted for nonresponse.<sup>4</sup> Bias in the sample mean is estimated as the difference between the weighted respondent mean (using the base weight adjusted for nonresponse) and weighted full-sample mean (using the base weight).<sup>5</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. Sample sizes rounded to the nearest 10. Effect size is calculated as the square root of the sum over categories of the squared differences (respondent vs. full sample) over full-sample means. Effect sizes are not reported if any variable categories do not meet reporting standards. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table K-23. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Control and level of institution					
Public less-than-2-year	0.19	0.19	0.61	-0.42*	-0.42*
Public 2-year	36.71	36.71	37.96	-1.25*	-1.25*
Public 4-year, non-doctorate-granting	11.54	11.54	9.92	1.62*	1.62*
Public 4-year, doctorate-granting	23.63	23.63	21.64	1.99*	1.99*
Private nonprofit less-than-4-year	0.36	0.36	0.76	-0.40*	-0.40*
Private nonprofit 4-year, non-doctorate-granting	8.68	8.68	6.39	2.29*	2.29*
Private nonprofit 4-year, doctorate-granting	9.27	9.27	9.55	-0.28	-0.28
Private for-profit less-than-2-year	2.63	2.63	3.55	-0.92*	-0.92*
Private for-profit 2-year	2.76	2.76	3.77	-1.01*	-1.01*
Private for-profit 4-year	4.22	4.22	5.86	-1.64*	-1.64*
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	5.90	5.90	5.81	0.09	0.09
Mideast	15.25	15.25	15.03	0.22	0.22
Great Lakes	15.12	15.12	14.87	0.25	0.25
Plains	7.48	7.48	6.95	0.53*	0.53*
Southeast	23.93	23.93	23.99	-0.06	-0.06
Southwest	12.62	12.62	13.48	-0.86	-0.86
Rocky Mountains	3.95	3.95	4.05	-0.10	-0.10
Far West	15.76	15.76	15.83	-0.07	-0.07
Institution total enrollment					
0–2,628	13.40	13.40	14.89	-1.49*	-1.49*
2,629–10,233	24.36	24.36	23.62	0.74*	0.74
10,234–26,884	33.07	33.07	32.71	0.36	0.36
26,885 or more	29.17	29.17	28.77	0.40	0.40
Age as of Dec 31, 2011					
15–23	88.03	88.03	86.78	1.25*	1.25*
24–29	5.29	5.29	6.02	-0.73*	-0.73*
30 or more	6.69	6.69	7.20	-0.51	-0.51
Pell Grant status					
Received	52.54	52.14	51.43	1.11*	0.71
Did not receive	47.46	47.86	48.57	-1.11*	-0.71
Total Pell Grant amount received					
\$0 or unknown	43.86	43.86	42.30	1.56*	1.56*
\$1–\$3,500	13.12	13.12	13.59	-0.47	-0.47
\$3,501–\$6,352	11.75	11.75	12.52	-0.77*	-0.77*
\$6,353–\$13,088	13.92	13.92	14.66	-0.74*	-0.74*
\$13,089 or more	17.35	17.35	16.93	0.42*	0.42
Stafford Loan status					
Received	52.14	52.04	54.21	-2.07*	-2.17*
Did not receive	47.86	47.96	45.79	2.07*	2.17*

See notes at end of table.

**Table K-23. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Stafford amount received					
\$0 or unknown	41.92	41.92	43.13	-1.21*	-1.21*
\$1–\$6,365	12.75	12.75	13.08	-0.33	-0.33
\$6,366–\$12,755	11.72	11.72	12.01	-0.29	-0.29
\$12,756–\$26,000	16.34	16.34	15.65	0.69*	0.69*
\$26,001 or more	17.27	17.27	16.13	1.14*	1.14*
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	88.15	88.15	88.66	-0.51*	-0.51*
\$1–\$6,900	2.44	2.44	2.50	-0.06	-0.06
\$6,901–\$14,995	2.91	2.91	2.74	0.17*	0.17
\$14,996–\$34,345	3.04	3.04	2.91	0.13	0.13
\$34,346 or more	3.45	3.45	3.18	0.27*	0.27*
Federal aid status					
Did not receive	41.82	41.83	43.01	-1.19*	-1.18*
Received	58.18	58.17	56.99	1.19*	1.18*
Institution aid status					
Did not receive	63.90	63.90	66.26	-2.36*	-2.36*
Received	29.36	29.36	26.82	2.54*	2.54*
Unknown	6.74	6.74	6.92	-0.18	-0.18
State aid status					
Did not receive	70.89	70.89	71.97	-1.08*	-1.08*
Received	22.37	22.37	21.10	1.27*	1.27*
Unknown	6.74	6.74	6.92	-0.18	-0.18
CPS record available					
Yes	81.62	79.96	80.76	0.86*	-0.80
No	18.38	20.04	19.24	-0.86*	0.80
Major					
Humanities	23.71	23.56	23.48	0.23	0.08
Social/behavioral sciences	4.61	4.60	4.38	0.23*	0.22
Life sciences	7.41	7.15	6.79	0.62*	0.36
Physical sciences/math	1.50	1.38	1.36	0.14*	0.02
Computer/Information science	2.25	2.19	2.59	-0.34*	-0.40*
Engineering	4.66	4.65	4.73	-0.07	-0.08
Education	3.32	3.21	2.93	0.39*	0.28*
Business/management	9.31	9.87	9.24	0.07	0.63*
Health	10.20	9.87	11.36	-1.16*	-1.49*
Vocational/technical	2.93	3.40	3.39	-0.46*	0.01
Other technical/professional	9.94	10.26	10.38	-0.44*	-0.12
Unknown	20.17	19.86	19.37	0.80*	0.49

See notes at end of table.

**Table K-23. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	35.55	34.81	35.57	-0.02	-0.76
65–80 percent	29.04	28.96	28.97	0.07	-0.01
81–92 percent	19.76	20.33	20.84	-1.08*	-0.51
93 percent or more	15.38	15.64	14.26	1.12*	1.38*
Unknown	0.27	0.25	0.36	-0.09	-0.11
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	31.48	31.16	32.90	-1.42*	-1.74*
23.65–41.64 percent	21.03	21.60	21.47	-0.44	0.13
41.65–60.34 percent	19.04	19.74	17.58	1.46*	2.16*
60.35 percent or more	24.57	23.67	22.77	1.80*	0.90*
Unknown	3.88	3.83	5.28	-1.40*	-1.45*
Six-year federal loan default status					
No	88.85	88.85	89.29	-0.44	-0.44
Yes	11.15	11.15	10.71	0.44	0.44
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	21.00	21.64	21.69	-0.69	-0.05
12.91–22.61 percent	25.50	25.69	26.11	-0.61	-0.42
22.62–31.65 percent	26.90	26.54	26.55	0.35*	-0.01
31.66 percent or more	25.35	24.85	24.38	0.97*	0.47*
Unknown	1.25	1.27	1.28	-0.03	-0.01
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	38.43	37.20	34.32	4.11	2.88
62.67–79.32 percent	26.52	26.77	24.70	1.82	2.07
79.33–98.72 percent	18.93	19.83	20.07	-1.14	-0.24
98.73 percent or more	13.70	13.90	17.81	-4.11*	-3.91*
Unknown	2.42	2.30	3.11	-0.69*	-0.81*
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	25.42	25.55	26.63	-1.21	-1.08
\$4,144.48–\$5,618.87	24.49	24.41	25.25	-0.76	-0.84
\$5,618.88–\$7,662.30	23.68	23.49	23.15	0.53*	0.34
\$7,662.31 or more	25.15	25.28	23.69	1.46*	1.59*
Unknown	1.25	1.27	1.28	-0.03	-0.01

See notes at end of table.

**Table K-23. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	17.76	17.88	22.29	-4.53*	-4.41*
\$3,120.55–\$5,425.76	20.31	20.94	22.55	-2.24*	-1.61*
\$5,425.77–\$8,864.46	21.36	22.06	19.08	2.28	2.98
\$8,864.47 or more	38.15	36.82	32.97	5.18*	3.85
Unknown	2.42	2.30	3.11	-0.69*	-0.81*

\*  $p < 0.05$

<sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent;

GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-24. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	‡	‡	‡	‡	‡
Mideast	‡	‡	‡	‡	‡
Great Lakes	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡
Southeast	‡	‡	‡	‡	‡
Southwest	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡
Far West	‡	‡	‡	‡	‡
Institution total enrollment					
0–2,628	98.87	99.68	96.80	2.07	2.88
2,629–10,233	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	61.30	63.15	56.68	4.62	6.47
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	52.86	43.65	45.64	7.22	-1.99
Did not receive	47.14	56.35	54.36	-7.22	1.99
Total Pell Grant amount received					
\$0 or unknown	‡	‡	‡	‡	‡
\$1–\$3,500	‡	‡	‡	‡	‡
\$3,501–\$6,352	‡	‡	‡	‡	‡
\$6,353–\$13,088	‡	‡	‡	‡	‡
\$13,089 or more	‡	‡	‡	‡	‡
Stafford Loan status					
Received	62.16	57.81	77.68	-15.52	-19.87*
Did not receive	‡	‡	‡	‡	‡
Total Stafford amount received					
\$0 or unknown	53.51	52.72	68.46	-14.95	-15.74
\$1–\$6,365	‡	‡	‡	‡	‡
\$6,366–\$12,755	‡	‡	‡	‡	‡
\$12,756–\$26,000	‡	‡	‡	‡	‡
\$26,001 or more	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-24. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	96.76	98.57	97.48	-0.72	1.09
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	53.51	52.72	68.46	-14.95	-15.74
Received	‡	‡	‡	‡	‡
Institution aid status					
Did not receive	95.21	95.82	91.73	3.48	4.09
Received	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡
State aid status					
Did not receive	90.62	91.16	85.55	5.07	5.61
Received	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡
CPS record available					
Yes	73.03	74.76	76.37	-3.34	-1.61
No	‡	‡	‡	‡	‡
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡
Health	‡	‡	‡	‡	‡
Vocational/technical	26.55	28.74	26.83	-0.28	1.91
Other technical/professional	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	‡	‡	‡	‡	‡
65–80 percent	‡	‡	‡	‡	‡
81–92 percent	‡	‡	‡	‡	‡
93 percent or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-24. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡
Unknown	100.00	100.00	100.00	#	#
Six-year federal loan default status					
No	85.17	85.94	90.06	-4.89	-4.12
Yes	‡	‡	‡	‡	‡
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	‡	‡	‡	‡	‡
12.91–22.61 percent	‡	‡	‡	‡	‡
22.62–31.65 percent	‡	‡	‡	‡	‡
31.66 percent or more	46.09	45.45	44.04	2.05	1.41
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	‡	‡	‡	‡	‡
\$5,618.88–\$7,662.30	‡	‡	‡	‡	‡
\$7,662.31 or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-25. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 2-year institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	4.33	4.14	4.54	-0.21	-0.40
Mideast	12.83	13.14	12.77	0.06	0.37
Great Lakes	15.34	14.87	15.83	-0.49	-0.96
Plains	8.01	7.96	7.34	0.67*	0.62
Southeast	20.61	20.01	20.19	0.42	-0.18
Southwest	15.84	16.08	16.00	-0.16	0.08
Rocky Mountains	2.71	2.72	3.06	-0.35	-0.34
Far West	20.32	21.09	20.26	0.06	0.83
Institution total enrollment					
0–2,628	2.47	2.61	2.37	0.10	0.24
2,629–10,233	25.90	25.78	25.65	0.25	0.13
10,234–26,884	44.40	43.68	44.26	0.14	-0.58
26,885 or more	27.23	27.93	27.73	-0.50	0.20
Age as of Dec 31, 2011					
15–23	81.96	82.12	83.04	-1.08*	-0.92
24–29	8.19	8.22	7.72	0.47	0.50
30 or more	9.84	9.66	9.25	0.59	0.41
Pell Grant status					
Received	45.11	44.67	52.50	-7.39*	-7.83*
Did not receive	54.89	55.33	47.50	7.39*	7.83*
Total Pell Grant amount received					
\$0 or unknown	35.19	35.36	39.83	-4.64*	-4.47*
\$1–\$3,500	17.75	18.02	18.35	-0.60	-0.33
\$3,501–\$6,352	13.85	14.30	12.53	1.32*	1.77*
\$6,353–\$13,088	17.03	16.46	15.36	1.67*	1.10*
\$13,089 or more	16.20	15.87	13.93	2.27*	1.94*
Stafford Loan status					
Received	75.08	75.16	80.50	-5.42*	-5.34*
Did not receive	24.92	24.84	19.50	5.42*	5.34*
Total Stafford amount received					
\$0 or unknown	57.25	57.40	60.79	-3.54*	-3.39*
\$1–\$6,365	14.32	14.27	13.33	0.99*	0.94
\$6,366–\$12,755	10.76	10.70	9.58	1.18*	1.12*
\$12,756–\$26,000	11.48	11.53	10.83	0.65*	0.70
\$26,001 or more	6.19	6.10	5.47	0.72*	0.63*

See notes at end of table.



**Table K-25. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	96.34	96.45	96.35	-0.01	0.10
\$1–\$6,900	1.01	1.01	0.94	0.07	0.07
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	57.16	57.31	60.67	-3.51*	-3.36*
Received	42.84	42.69	39.33	3.51*	3.36*
Institution aid status					
Did not receive	78.39	78.09	79.56	-1.17	-1.47
Received	13.20	13.76	12.46	0.74	1.30*
Unknown	8.41	8.15	7.98	0.43	0.17
State aid status					
Did not receive	74.15	74.18	76.16	-2.01*	-1.98*
Received	17.44	17.67	15.86	1.58*	1.81*
Unknown	8.41	8.15	7.98	0.43	0.17
CPS record available					
Yes	78.00	75.86	73.41	4.59*	2.45*
No	22.00	24.14	26.59	-4.59*	-2.45*
Major					
Humanities	35.77	35.29	35.96	-0.19	-0.67
Social/behavioral sciences	1.71	1.56	1.63	0.08	-0.07
Life sciences	2.76	2.80	2.96	-0.20	-0.16
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	2.33	2.10	2.37	-0.04	-0.27
Engineering	3.62	3.35	3.86	-0.24	-0.51*
Education	2.32	2.11	2.15	0.17	-0.04
Business/management	8.75	8.61	8.25	0.50	0.36
Health	9.44	9.10	9.27	0.17	-0.17
Vocational/technical	4.30	5.13	4.20	0.10	0.93*
Other technical/professional	9.23	10.07	9.15	0.08	0.92
Unknown	19.08	19.24	19.56	-0.48	-0.32
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	47.17	46.26	48.72	-1.55*	-2.46*
65–80 percent	33.96	33.98	33.26	0.70	0.72
81–92 percent	12.83	13.70	12.23	0.60	1.47*
93 percent or more	5.80	5.74	5.54	0.26	0.20
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-25. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	72.88	71.54	72.77	0.11	-1.23
23.65–41.64 percent	23.45	24.54	23.54	-0.09	1.00
41.65–60.34 percent	2.89	2.96	2.72	0.17	0.24
60.35 percent or more	0.52	0.64	0.73	-0.21	-0.09
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	90.43	90.21	92.67	-2.24*	-2.46*
Yes	9.57	9.79	7.33	2.24*	2.46*
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	36.38	37.61	35.82	0.56	1.79
12.91–22.61 percent	30.88	30.12	30.74	0.14	-0.62
22.62–31.65 percent	22.61	22.21	23.17	-0.56	-0.96
31.66 percent or more	9.88	9.74	10.04	-0.16	-0.30
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	43.48	43.52	43.04	0.44	0.48
\$4,144.48–\$5,618.87	37.28	37.44	37.36	-0.08	0.08
\$5,618.88–\$7,662.30	15.28	14.96	15.47	-0.19	-0.51
\$7,662.31 or more	3.71	3.75	3.88	-0.17	-0.13
Unknown	‡	‡	‡	‡	‡

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-26. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	‡	‡	‡	‡	‡
Mideast	16.61	16.92	15.54	1.07	1.38
Great Lakes	14.28	15.07	13.73	0.55	1.34
Plains	‡	‡	‡	‡	‡
Southeast	34.84	34.56	37.97	-3.13*	-3.41*
Southwest	4.03	3.97	3.83	0.20	0.14
Rocky Mountains	6.31	6.85	6.45	-0.14	0.40
Far West	16.66	15.20	15.79	0.87	-0.59
Institution total enrollment					
0–2,628	‡	‡	‡	‡	‡
2,629–10,233	38.26	38.66	35.53	2.73*	3.13*
10,234–26,884	36.58	36.85	37.96	-1.38	-1.11
26,885 or more	21.36	20.75	23.05	-1.69	-2.30
Age as of Dec 31, 2011					
15–23	93.00	92.89	92.99	0.01	-0.10
24–29	‡	‡	‡	‡	‡
30 or more	3.71	3.55	3.23	0.48	0.32
Pell Grant status					
Received	52.39	52.68	52.39	#	0.29
Did not receive	47.61	47.32	47.61	#	-0.29
Total Pell Grant amount received					
\$0 or unknown	42.41	44.11	42.35	0.06	1.76
\$1–\$3,500	11.97	11.73	12.75	-0.78	-1.02
\$3,501–\$6,352	10.10	9.41	10.15	-0.05	-0.74
\$6,353–\$13,088	14.64	14.18	15.20	-0.56	-1.02
\$13,089 or more	20.88	20.57	19.56	1.32*	1.01
Stafford Loan status					
Received	50.38	51.97	56.34	-5.96*	-4.37*
Did not receive	49.62	48.03	43.66	5.96*	4.37*
Total Stafford amount received					
\$0 or unknown	39.89	41.46	44.87	-4.98*	-3.41*
\$1–\$6,365	13.71	13.19	13.56	0.15	-0.37
\$6,366–\$12,755	11.86	11.46	11.65	0.21	-0.19
\$12,756–\$26,000	17.93	17.03	15.26	2.67*	1.77*
\$26,001 or more	16.61	16.85	14.66	1.95*	2.19*

See notes at end of table.

**Table K-26. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	89.84	90.61	91.20	-1.36*	-0.59
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	39.89	41.46	44.87	-4.98*	-3.41*
Received	60.11	58.54	55.13	4.98*	3.41*
Institution aid status					
Did not receive	76.99	77.25	79.24	-2.25*	-1.99
Received	20.57	20.58	18.76	1.81*	1.82
Unknown	‡	‡	‡	‡	‡
State aid status					
Did not receive	68.18	69.50	70.51	-2.33*	-1.01
Received	29.38	28.33	27.48	1.90*	0.85
Unknown	‡	‡	‡	‡	‡
CPS record available					
Yes	81.06	79.10	80.35	0.71	-1.25
No	18.94	20.90	19.65	-0.71	1.25
Major					
Humanities	30.74	32.06	30.87	-0.13	1.19
Social/behavioral sciences	6.10	6.15	5.63	0.47	0.52
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	7.41	7.54	7.66	-0.25	-0.12
Health	8.15	7.72	9.08	-0.93	-1.36
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	8.60	8.21	7.55	1.05*	0.66
Unknown	16.73	16.54	18.19	-1.46	-1.65
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	30.46	30.87	29.47	0.99	1.40
65–80 percent	39.77	39.02	41.39	-1.62	-2.37
81–92 percent	23.45	23.67	23.09	0.36	0.58
93 percent or more	5.78	6.12	5.57	0.21	0.55
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-26. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	17.42	17.54	15.58	1.84	1.96
23.65–41.64 percent	44.21	43.88	48.86	-4.65*	-4.98*
41.65–60.34 percent	26.98	28.59	25.59	1.39	3.00*
60.35 percent or more	10.16	9.16	8.99	1.17*	0.17
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	88.15	89.50	89.61	-1.46*	-0.11
Yes	11.85	10.50	10.39	1.46*	0.11
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	8.19	8.27	7.82	0.37	0.45
12.91–22.61 percent	24.09	25.96	27.99	-3.90*	-2.03
22.62–31.65 percent	29.27	28.92	27.38	1.89	1.54
31.66 percent or more	37.65	35.99	36.19	1.46	-0.20
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	20.13	20.16	22.66	-2.53	-2.50
\$4,144.48–\$5,618.87	25.75	24.74	25.36	0.39	-0.62
\$5,618.88–\$7,662.30	33.33	32.86	31.55	1.78	1.31
\$7,662.31 or more	19.99	21.38	19.82	0.17	1.56
Unknown	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-27. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	3.62	3.99	3.72	-0.10	0.27
Mideast	9.76	9.51	9.65	0.11	-0.14
Great Lakes	17.53	17.36	17.57	-0.04	-0.21
Plains	7.30	7.98	7.14	0.16	0.84*
Southeast	29.42	29.74	29.68	-0.26	0.06
Southwest	14.24	13.71	14.84	-0.60*	-1.13*
Rocky Mountains	4.35	4.09	4.35	#	-0.26
Far West	13.78	13.62	13.05	0.73	0.57
Institution total enrollment					
0–2,628	‡	‡	‡	‡	‡
2,629–10,233	6.70	6.54	7.04	-0.34	-0.50
10,234–26,884	36.98	37.91	37.56	-0.58	0.35
26,885 or more	56.32	55.55	55.40	0.92	0.15
Age as of Dec 31, 2011					
15–23	99.33	98.85	98.81	0.52*	0.04
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	66.28	65.71	63.53	2.75*	2.18*
Did not receive	33.72	34.29	36.47	-2.75*	-2.18*
Total Pell Grant amount received					
\$0 or unknown	57.33	56.78	55.10	2.23*	1.68*
\$1–\$3,500	7.28	7.26	7.36	-0.08	-0.10
\$3,501–\$6,352	6.50	6.36	6.35	0.15	0.01
\$6,353–\$13,088	9.45	10.09	9.98	-0.53*	0.11
\$13,089 or more	19.45	19.52	21.22	-1.77*	-1.70*
Stafford Loan status					
Received	44.54	42.88	41.59	2.95*	1.29
Did not receive	55.46	57.12	58.41	-2.95*	-1.29
Total Stafford amount received					
\$0 or unknown	36.57	35.61	34.39	2.18*	1.22
\$1–\$6,365	8.42	8.95	8.75	-0.33	0.20
\$6,366–\$12,755	8.92	9.26	9.82	-0.90*	-0.56
\$12,756–\$26,000	19.98	19.99	20.19	-0.21	-0.20
\$26,001 or more	26.11	26.19	26.84	-0.73*	-0.65

See notes at end of table.

**Table K-27. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	83.09	82.46	82.75	0.34	-0.29
\$1–\$6,900	2.74	3.18	2.73	0.01	0.45*
\$6,901–\$14,995	4.46	4.58	4.59	-0.13	-0.01
\$14,996–\$34,345	4.61	4.78	4.72	-0.11	0.06
\$34,346 or more	5.10	4.99	5.20	-0.10	-0.21
Federal aid status					
Did not receive	36.50	35.54	34.32	2.18*	1.22
Received	63.50	64.46	65.68	-2.18*	-1.22
Institution aid status					
Did not receive	59.45	59.63	59.23	0.22	0.40
Received	36.87	36.47	37.03	-0.16	-0.56
Unknown	3.68	3.91	3.75	-0.07	0.16
State aid status					
Did not receive	62.48	62.80	61.19	1.29*	1.61*
Received	33.84	33.29	35.07	-1.23*	-1.78*
Unknown	3.68	3.91	3.75	-0.07	0.16
CPS record available					
Yes	82.35	80.37	83.58	-1.23*	-3.21*
No	17.65	19.63	16.42	1.23*	3.21*
Major					
Humanities	14.55	14.23	14.88	-0.33	-0.65
Social/behavioral sciences	7.87	7.99	8.44	-0.57*	-0.45
Life sciences	15.39	14.41	14.58	0.81	-0.17
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	8.32	8.36	8.33	-0.01	0.03
Education	4.03	3.94	3.89	0.14	0.05
Business/management	10.03	11.16	9.66	0.37*	1.50*
Health	7.35	7.25	7.53	-0.18	-0.28
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	7.78	7.71	7.93	-0.15	-0.22
Unknown	20.06	20.23	20.08	-0.02	0.15
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	43.58	42.97	42.19	1.39*	0.78
65–80 percent	28.14	28.62	28.61	-0.47	0.01
81–92 percent	21.78	21.53	22.64	-0.86*	-1.11
93 percent or more	6.51	6.88	6.56	-0.05	0.32
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-27. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	18.18	18.51	19.06	-0.88*	-0.55
41.65–60.34 percent	35.27	35.99	35.81	-0.54	0.18
60.35 percent or more	45.67	44.23	44.08	1.59*	0.15
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	94.73	93.84	94.40	0.33	-0.56
Yes	5.27	6.16	5.60	-0.33	0.56
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	3.43	3.47	3.39	0.04	0.08
12.91–22.61 percent	18.02	18.87	17.73	0.29	1.14
22.62–31.65 percent	32.46	32.19	32.51	-0.05	-0.32
31.66 percent or more	43.21	42.71	43.57	-0.36	-0.86
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	4.14	4.10	4.20	-0.06	-0.10
\$5,618.88–\$7,662.30	32.07	32.24	33.08	-1.01*	-0.84
\$7,662.31 or more	60.85	60.50	59.83	1.02*	0.67
Unknown	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table K-28. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	‡	‡	‡	‡	‡
Mideast	21.63	21.10	15.27	6.36	5.83
Great Lakes	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡
Southeast	34.49	34.43	40.46	-5.97	-6.03
Southwest	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡
Far West	15.77	18.55	16.66	-0.89	1.89
Institution total enrollment					
0–2,628	99.25	98.77	99.53	-0.28	-0.76
2,629–10,233	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	69.66	70.37	63.93	5.73	6.44
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	32.95	29.90	25.25	7.70	4.65
Did not receive	67.05	70.10	74.75	-7.70	-4.65
Total Pell Grant amount received					
\$0 or unknown	27.29	25.87	20.03	7.26*	5.84
\$1–\$3,500	‡	‡	‡	‡	‡
\$3,501–\$6,352	26.21	32.76	20.15	6.06	12.61
\$6,353–\$13,088	‡	‡	‡	‡	‡
\$13,089 or more	‡	‡	‡	‡	‡
Stafford Loan status					
Received	30.97	29.32	36.57	-5.60	-7.25
Did not receive	69.03	70.68	63.43	5.60	7.25
Total Stafford amount received					
\$0 or unknown	27.81	26.54	34.66	-6.85	-8.12
\$1–\$6,365	20.96	21.82	17.53	3.43	4.29
\$6,366–\$12,755	23.39	29.45	18.61	4.78	10.84
\$12,756–\$26,000	‡	‡	‡	‡	‡
\$26,001 or more	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-28. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	79.75	82.59	80.07	-0.32	2.52
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	27.81	26.54	34.66	-6.85	-8.12
Received	72.19	73.46	65.34	6.85	8.12
Institution aid status					
Did not receive	58.04	60.02	51.88	6.16	8.14*
Received	36.66	33.54	38.59	-1.93	-5.05
Unknown	‡	‡	‡	‡	‡
State aid status					
Did not receive	71.14	74.23	60.08	11.06*	14.15*
Received	23.56	19.33	30.39	-6.83*	-11.06*
Unknown	‡	‡	‡	‡	‡
CPS record available					
Yes	85.28	85.40	90.15	-4.87	-4.75
No	‡	‡	‡	‡	‡
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡
Health	24.19	25.73	23.11	1.08	2.62
Vocational/technical	20.97	18.87	20.31	0.66	-1.44
Other technical/professional	‡	‡	‡	‡	‡
Unknown	39.73	38.10	43.14	-3.41	-5.04
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	‡	‡	‡	‡	‡
65–80 percent	24.49	25.10	20.04	4.45	5.06
81–92 percent	48.63	47.45	52.29	-3.66	-4.84
93 percent or more	15.47	19.04	20.36	-4.89	-1.32
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-28. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit less-than-4-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	25.34	23.33	33.69	-8.35*	-10.36*
23.65–41.64 percent	‡	‡	‡	‡	‡
41.65–60.34 percent	27.02	30.12	26.39	0.63	3.73
60.35 percent or more	29.94	26.07	20.19	9.75*	5.88
Unknown	15.43	18.13	16.50	-1.07	1.63
Six-year federal loan default status					
No	76.09	74.54	77.51	-1.42	-2.97
Yes	23.91	25.46	22.49	1.42	2.97
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	41.72	41.64	51.23	-9.51*	-9.59*
62.67–79.32 percent	‡	‡	‡	‡	‡
79.33–98.72 percent	28.34	27.76	23.45	4.89	4.31
98.73 percent or more	23.08	26.43	21.62	1.46	4.81
Unknown	‡	‡	‡	‡	‡
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	54.63	54.73	57.83	-3.20	-3.10
\$3,120.55–\$5,425.76	21.43	21.92	15.35	6.08	6.57
\$5,425.77–\$8,864.46	16.59	18.31	22.78	-6.19	-4.47
\$8,864.47 or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-29. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	12.67	13.57	13.27	-0.60	0.30
Mideast	22.17	21.13	20.33	1.84	0.80
Great Lakes	18.42	20.12	18.19	0.23	1.93
Plains	‡	‡	‡	‡	‡
Southeast	21.87	21.38	25.21	-3.34*	-3.83*
Southwest	3.15	4.24	3.26	-0.11	0.98
Rocky Mountains	‡	‡	‡	‡	‡
Far West	7.35	6.38	6.67	0.68*	-0.29
Institution total enrollment					
0–2,628	61.58	60.27	61.70	-0.12	-1.43
2,629–10,233	35.68	36.75	35.33	0.35	1.42
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	98.36	97.59	97.50	0.86*	0.09
24–29	‡	‡	‡	‡	‡
30 or more	1.16	1.95	1.54	-0.38*	0.41
Pell Grant status					
Received	62.53	60.94	58.17	4.36*	2.77
Did not receive	37.47	39.06	41.83	-4.36*	-2.77
Total Pell Grant amount received					
\$0 or unknown	54.63	53.52	51.22	3.41*	2.30
\$1–\$3,500	7.52	7.53	6.29	1.23*	1.24*
\$3,501–\$6,352	8.56	8.68	10.10	-1.54	-1.42
\$6,353–\$13,088	10.18	10.23	12.52	-2.34*	-2.29*
\$13,089 or more	19.10	20.04	19.87	-0.77	0.17
Stafford Loan status					
Received	30.64	30.19	31.29	-0.65	-1.10
Did not receive	69.36	69.81	68.71	0.65	1.10
Total Stafford amount received					
\$0 or unknown	27.72	27.13	28.11	-0.39	-0.98
\$1–\$6,365	9.18	9.69	9.67	-0.49	0.02
\$6,366–\$12,755	9.82	9.93	11.64	-1.82	-1.71
\$12,756–\$26,000	18.11	18.43	17.06	1.05	1.37
\$26,001 or more	35.16	34.80	33.51	1.65	1.29

See notes at end of table.

**Table K-29. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	74.76	75.18	76.00	-1.24	-0.82
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	6.22	6.26	6.23	-0.01	0.03
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	8.55	8.79	8.50	0.05	0.29
Federal aid status					
Did not receive	27.67	27.09	28.06	-0.39	-0.97
Received	72.33	72.91	71.94	0.39	0.97
Institution aid status					
Did not receive	17.36	17.91	17.01	0.35	0.90
Received	77.56	76.63	77.41	0.15	-0.78
Unknown	5.08	5.47	5.58	-0.50	-0.11
State aid status					
Did not receive	69.01	66.80	66.57	2.44	0.23
Received	25.91	27.73	27.85	-1.94	-0.12
Unknown	5.08	5.47	5.58	-0.50	-0.11
CPS record available					
Yes	86.72	86.08	87.02	-0.30	-0.94
No	13.28	13.92	12.98	0.30	0.94
Major					
Humanities	17.14	17.56	18.25	-1.11	-0.69
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	9.30	9.57	8.58	0.72	0.99
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	6.87	8.16	6.57	0.30	1.59*
Health	5.01	5.10	4.82	0.19	0.28
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	6.35	7.90	6.14	0.21	1.76*
Unknown	39.65	35.62	39.61	0.04	-3.99*
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	‡	‡	‡	‡	‡
65–80 percent	‡	‡	‡	‡	‡
81–92 percent	16.34	18.51	16.67	-0.33	1.84
93 percent or more	64.80	64.66	64.49	0.31	0.17
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-29. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	3.86	4.28	5.70	-1.84	-1.42
23.65–41.64 percent	13.40	14.36	15.95	-2.55	-1.59
41.65–60.34 percent	32.33	34.67	31.80	0.53	2.87*
60.35 percent or more	50.41	46.70	46.55	3.86*	0.15
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	90.19	89.88	90.21	-0.02	-0.33
Yes	9.81	10.12	9.79	0.02	0.33
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	53.99	50.43	52.78	1.21	-2.35
62.67–79.32 percent	28.42	30.23	28.96	-0.54	1.27
79.33–98.72 percent	15.70	17.28	15.10	0.60	2.18*
98.73 percent or more	‡	‡	‡	‡	‡
Unknown	1.71	1.88	2.70	-0.99	-0.82
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	15.26	17.23	16.68	-1.42	0.55
\$5,425.77–\$8,864.46	37.10	37.87	37.37	-0.27	0.50
\$8,864.47 or more	45.30	41.98	42.58	2.72*	-0.60
Unknown	1.71	1.88	2.70	-0.99	-0.82

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-30. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	15.31	14.23	14.54	0.77	-0.31
Mideast	32.05	32.96	32.32	-0.27	0.64
Great Lakes	13.21	12.82	13.35	-0.14	-0.53
Plains	5.94	5.64	5.87	0.07	-0.23
Southeast	16.00	17.10	16.18	-0.18	0.92
Southwest	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡
Far West	9.41	9.72	9.05	0.36	0.67
Institution total enrollment					
0–2,628	‡	‡	‡	‡	‡
2,629–10,233	44.19	44.23	44.45	-0.26	-0.22
10,234–26,884	33.85	34.11	33.76	0.09	0.35
26,885 or more	15.60	15.30	15.64	-0.04	-0.34
Age as of Dec 31, 2011					
15–23	98.74	98.37	98.98	-0.24	-0.61
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	71.21	71.21	67.68	3.53*	3.53*
Did not receive	28.79	28.79	32.32	-3.53*	-3.53*
Total Pell Grant amount received					
\$0 or unknown	64.82	63.76	61.76	3.06*	2.00
\$1–\$3,500	6.32	6.86	6.55	-0.23	0.31
\$3,501–\$6,352	5.15	5.26	4.95	0.20	0.31
\$6,353–\$13,088	7.45	7.34	8.34	-0.89*	-1.00*
\$13,089 or more	16.26	16.78	18.40	-2.14*	-1.62*
Stafford Loan status					
Received	42.49	42.07	39.75	2.74*	2.32
Did not receive	57.51	57.93	60.25	-2.74*	-2.32
Total Stafford amount received					
\$0 or unknown	38.55	38.19	35.76	2.79*	2.43*
\$1–\$6,365	6.03	5.82	6.21	-0.18	-0.39
\$6,366–\$12,755	6.77	7.00	6.95	-0.18	0.05
\$12,756–\$26,000	18.87	18.92	19.87	-1.00*	-0.95
\$26,001 or more	29.77	30.07	31.21	-1.44*	-1.14

See notes at end of table.

**Table K-30. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	79.13	78.83	78.42	0.71	0.41
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	9.91	10.14	10.02	-0.11	0.12
Federal aid status					
Did not receive	38.00	37.69	35.21	2.79*	2.48*
Received	62.00	62.31	64.79	-2.79*	-2.48*
Institution aid status					
Did not receive	24.44	24.59	23.00	1.44	1.59
Received	66.50	65.86	67.77	-1.27	-1.91
Unknown	9.06	9.55	9.24	-0.18	0.31
State aid status					
Did not receive	71.58	70.52	70.52	1.06	#
Received	19.36	19.93	20.25	-0.89	-0.32
Unknown	9.06	9.55	9.24	-0.18	0.31
CPS record available					
Yes	77.15	75.10	79.59	-2.44*	-4.49*
No	22.85	24.90	20.41	2.44*	4.49*
Major					
Humanities	17.22	16.48	17.97	-0.75*	-1.49*
Social/behavioral sciences	9.20	9.30	9.18	0.02	0.12
Life sciences	10.31	10.65	10.90	-0.59*	-0.25
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	5.52	6.10	5.86	-0.34*	0.24
Education	‡	‡	‡	‡	‡
Business/management	9.82	11.75	9.78	0.04	1.97*
Health	5.77	5.75	5.93	-0.16	-0.18
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	‡	‡	‡	‡	‡
Unknown	26.05	25.47	24.91	1.14	0.56
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	24.29	22.21	25.51	-1.22*	-3.30*
65–80 percent	15.92	16.07	14.47	1.45	1.60*
81–92 percent	15.36	15.77	16.43	-1.07*	-0.66
93 percent or more	44.23	45.77	43.44	0.79	2.33*
Unknown	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-30. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	5.05	5.75	5.01	0.04	0.74
41.65–60.34 percent	25.87	26.73	24.66	1.21	2.07
60.35 percent or more	67.23	65.84	68.39	-1.16	-2.55*
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	95.12	95.30	94.72	0.40	0.58
Yes	4.88	4.70	5.28	-0.40	-0.58
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	56.50	56.03	57.62	-1.12	-1.59
62.67–79.32 percent	27.67	27.53	27.04	0.63	0.49
79.33–98.72 percent	15.71	16.29	15.22	0.49	1.07
98.73 percent or more	‡	‡	‡	‡	‡
Unknown	0.11	0.15	0.12	-0.01	0.03
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	8.52	8.06	7.24	1.28	0.82
\$5,425.77–\$8,864.46	21.83	23.21	22.16	-0.33	1.05
\$8,864.47 or more	69.43	68.47	70.34	-0.91	-1.87
Unknown	0.11	0.15	0.12	-0.01	0.03

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-31. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	7.79	7.99	7.92	-0.13	0.07
Mideast	12.67	10.66	14.25	-1.58	-3.59
Great Lakes	8.14	7.30	8.06	0.08	-0.76
Plains	8.09	6.77	6.23	1.86	0.54
Southeast	17.24	19.29	19.28	-2.04	0.01
Southwest	27.77	27.40	24.76	3.01	2.64
Rocky Mountains	7.50	7.64	8.53	-1.03	-0.89
Far West	10.78	12.95	10.96	-0.18	1.99
Institution total enrollment					
0–2,628	98.08	97.89	97.85	0.23	0.04
2,629–10,233	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	66.53	66.21	65.02	1.51	1.19
24–29	14.94	14.38	15.42	-0.48	-1.04
30 or more	18.53	19.41	19.56	-1.03	-0.15
Pell Grant status					
Received	16.11	14.70	5.35	10.76*	9.35*
Did not receive	83.89	85.30	94.65	-10.76*	-9.35*
Total Pell Grant amount received					
\$0 or unknown	12.97	12.60	5.02	7.95*	7.58*
\$1–\$3,500	18.80	19.26	12.69	6.11*	6.57*
\$3,501–\$6,352	43.21	38.50	50.73	-7.52*	-12.23*
\$6,353–\$13,088	19.81	24.06	25.29	-5.48*	-1.23
\$13,089 or more	‡	‡	‡	‡	‡
Stafford Loan status					
Received	8.72	12.97	16.97	-8.25*	-4.00
Did not receive	91.28	87.03	83.03	8.25*	4.00
Total Stafford amount received					
\$0 or unknown	10.06	14.12	16.62	-6.56*	-2.50
\$1–\$6,365	29.15	27.89	29.55	-0.40	-1.66
\$6,366–\$12,755	44.72	40.76	41.28	3.44	-0.52
\$12,756–\$26,000	12.49	13.99	9.62	2.87*	4.37
\$26,001 or more	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-31. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	88.70	90.31	89.29	-0.59	1.02
\$1–\$6,900	7.63	6.03	8.17	-0.54	-2.14*
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	10.06	14.12	16.62	-6.56*	-2.50
Received	89.94	85.88	83.38	6.56*	2.50
Institution aid status					
Did not receive	75.62	76.36	81.49	-5.87	-5.13
Received	‡	‡	‡	‡	‡
Unknown	21.99	20.88	16.48	5.51	4.40
State aid status					
Did not receive	74.87	76.84	80.48	-5.61	-3.64
Received	‡	‡	‡	‡	‡
Unknown	21.99	20.88	16.48	5.51	4.40
CPS record available					
Yes	94.19	94.85	95.80	-1.61	-0.95
No	5.81	5.15	4.20	1.61	0.95
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡
Health	48.24	45.78	47.94	0.30	-2.16
Vocational/technical	4.91	5.77	4.50	0.41	1.27
Other technical/professional	40.95	40.59	40.02	0.93	0.57
Unknown	4.23	5.78	3.76	0.47	2.02
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid					
64 percent or less	5.76	5.34	6.55	-0.79	-1.21
65–80 percent	54.00	50.96	48.49	5.51	2.47
81–92 percent	32.23	36.41	35.77	-3.54	0.64
93 percent or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-31. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit less-than-2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡
Unknown	99.67	99.86	98.70	0.97	1.16
Six-year federal loan default status					
No	61.44	62.21	66.44	-5.00	-4.23
Yes	38.56	37.79	33.56	5.00	4.23
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	‡	‡	‡	‡	‡
62.67–79.32 percent	33.80	30.15	26.92	6.88*	3.23
79.33–98.72 percent	26.99	29.45	25.80	1.19	3.65
98.73 percent or more	21.63	22.53	29.00	-7.37*	-6.47*
Unknown	12.97	11.64	13.66	-0.69	-2.02
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	30.87	32.92	35.82	-4.95*	-2.90
\$3,120.55–\$5,425.76	48.77	48.59	41.88	6.89*	6.71*
\$5,425.77–\$8,864.46	6.64	6.35	7.51	-0.87	-1.16
\$8,864.47 or more	‡	‡	‡	‡	‡
Unknown	12.97	11.64	13.66	-0.69	-2.02

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-32. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	2.48	2.92	3.14	-0.66	-0.22
Mideast	22.59	20.85	20.74	1.85	0.11
Great Lakes	10.85	12.48	10.11	0.74	2.37
Plains	‡	‡	‡	‡	‡
Southeast	17.31	19.46	17.37	-0.06	2.09
Southwest	13.47	13.40	13.76	-0.29	-0.36
Rocky Mountains	5.71	6.14	4.98	0.73	1.16
Far West	25.57	22.84	28.11	-2.54	-5.27*
Institution total enrollment					
0–2,628	70.41	71.23	71.52	-1.11	-0.29
2,629–10,233	27.33	26.24	25.84	1.49	0.40
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	66.96	70.01	69.49	-2.53	0.52
24–29	14.79	13.36	13.34	1.45	0.02
30 or more	18.25	16.63	17.16	1.09	-0.53
Pell Grant status					
Received	21.05	21.97	6.74	14.31*	15.23*
Did not receive	78.95	78.03	93.26	-14.31*	-15.23*
Total Pell Grant amount received					
\$0 or unknown	15.86	17.40	6.09	9.77*	11.31*
\$1–\$3,500	20.68	19.37	20.65	0.03	-1.28
\$3,501–\$6,352	32.31	32.33	34.65	-2.34	-2.32
\$6,353–\$13,088	23.34	23.27	27.83	-4.49*	-4.56*
\$13,089 or more	7.81	7.63	10.77	-2.96*	-3.14*
Stafford Loan status					
Received	10.93	12.60	21.69	-10.76*	-9.09*
Did not receive	89.07	87.40	78.31	10.76*	9.09*
Total Stafford amount received					
\$0 or unknown	10.75	13.08	17.16	-6.41*	-4.08*
\$1–\$6,365	24.94	23.46	25.11	-0.17	-1.65
\$6,366–\$12,755	33.15	33.50	30.23	2.92*	3.27*
\$12,756–\$26,000	25.54	23.88	22.66	2.88	1.22
\$26,001 or more	5.61	6.08	4.85	0.76	1.23

See notes at end of table.

**Table K-32. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	84.69	83.41	85.88	-1.19	-2.47
\$1–\$6,900	5.75	5.77	6.81	-1.06	-1.04
\$6,901–\$14,995	4.72	5.28	3.76	0.96	1.52
\$14,996–\$34,345	4.19	5.02	3.07	1.12	1.95*
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	10.75	13.08	17.16	-6.41*	-4.08*
Received	89.25	86.92	82.84	6.41*	4.08*
Institution aid status					
Did not receive	83.76	82.94	84.02	-0.26	-1.08
Received	6.48	7.17	6.44	0.04	0.73
Unknown	9.75	9.89	9.54	0.21	0.35
State aid status					
Did not receive	84.98	85.47	83.27	1.71	2.20
Received	‡	‡	‡	‡	‡
Unknown	9.75	9.89	9.54	0.21	0.35
CPS record available					
Yes	97.01	96.49	95.97	1.04	0.52
No	2.99	3.51	4.03	-1.04	-0.52
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	2.14	1.98	2.24	-0.10	-0.26
Education	‡	‡	‡	‡	‡
Business/management	6.29	4.76	5.28	1.01	-0.52
Health	40.29	37.84	41.55	-1.26	-3.71
Vocational/technical	27.16	29.75	28.09	-0.93	1.66
Other technical/professional	10.68	11.79	10.85	-0.17	0.94
Unknown	8.92	8.68	7.60	1.32	1.08
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	21.19	21.61	21.29	-0.10	0.32
65–80 percent	30.66	32.82	33.19	-2.53	-0.37
81–92 percent	31.69	28.97	32.06	-0.37	-3.09
93 percent or more	16.46	16.60	13.45	3.01	3.15
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-32. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 2-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	6.25	6.03	5.96	0.29	0.07
41.65–60.34 percent	33.96	34.82	32.98	0.98	1.84
60.35 percent or more	57.12	56.33	58.68	-1.56	-2.35
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	62.00	65.07	66.70	-4.70	-1.63
Yes	38.00	34.93	33.30	4.70	1.63
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	17.17	16.51	19.87	-2.70	-3.36
62.67–79.32 percent	21.02	23.82	20.94	0.08	2.88
79.33–98.72 percent	12.87	13.11	13.67	-0.80	-0.56
98.73 percent or more	44.60	42.73	41.54	3.06	1.19
Unknown	4.34	3.82	3.99	0.35	-0.17
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	46.64	45.88	44.38	2.26	1.50
\$3,120.55–\$5,425.76	35.97	36.17	38.11	-2.14	-1.94
\$5,425.77–\$8,864.46	7.35	7.49	7.74	-0.39	-0.25
\$8,864.47 or more	5.71	6.64	5.80	-0.09	0.84
Unknown	4.34	3.82	3.99	0.35	-0.17

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$

<sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-33. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	3.14	2.53	2.40	0.74	0.13
Mideast	8.00	8.60	10.72	-2.72	-2.12*
Great Lakes	7.34	6.89	8.38	-1.04	-1.49
Plains	14.12	14.82	12.01	2.11	2.81
Southeast	21.80	21.85	20.95	0.85	0.90
Southwest	26.09	25.41	27.60	-1.51	-2.19
Rocky Mountains	6.60	7.20	4.26	2.34	2.94
Far West	12.91	12.70	13.66	-0.75	-0.96
Institution total enrollment					
0–2,628	24.84	25.98	27.50	-2.66	-1.52
2,629–10,233	20.15	19.35	21.91	-1.76	-2.56
10,234–26,884	9.08	8.12	8.51	0.57	-0.39
26,885 or more	45.93	46.55	42.07	3.86	4.48
Age as of Dec 31, 2011					
15–23	48.96	51.03	54.85	-5.89*	-3.82
24–29	21.05	19.56	20.75	0.30	-1.19
30 or more	29.99	29.40	24.40	5.59*	5.00
Pell Grant status					
Received	24.08	24.94	25.05	-0.97	-0.11
Did not receive	75.92	75.06	74.95	0.97	0.11
Total Pell Grant amount received					
\$0 or unknown	18.65	19.95	18.38	0.27	1.57
\$1–\$3,500	26.79	24.60	22.06	4.73*	2.54*
\$3,501–\$6,352	13.50	13.96	14.68	-1.18	-0.72
\$6,353–\$13,088	21.33	21.63	22.38	-1.05	-0.75
\$13,089 or more	19.72	19.86	22.50	-2.78*	-2.64*
Stafford Loan status					
Received	20.85	21.16	18.68	2.17	2.48
Did not receive	79.15	78.84	81.32	-2.17	-2.48
Total Stafford amount received					
\$0 or unknown	21.76	19.62	17.64	4.12	1.98
\$1–\$6,365	23.24	23.25	22.80	0.44	0.45
\$6,366–\$12,755	14.58	15.24	15.29	-0.71	-0.05
\$12,756–\$26,000	21.40	22.99	22.73	-1.33	0.26
\$26,001 or more	19.02	18.90	21.53	-2.51*	-2.63*

See notes at end of table.



**Table K-33. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	90.32	90.14	88.43	1.89*	1.71*
\$1–\$6,900	3.02	3.03	3.65	-0.63	-0.62
\$6,901–\$14,995	2.03	2.11	2.71	-0.68*	-0.60*
\$14,996–\$34,345	2.40	2.51	2.91	-0.51	-0.40
\$34,346 or more	2.22	2.22	2.30	-0.08	-0.08
Federal aid status					
Did not receive	21.76	19.60	17.64	4.12	1.96
Received	78.24	80.40	82.36	-4.12	-1.96
Institution aid status					
Did not receive	88.30	87.62	86.83	1.47	0.79
Received	3.50	3.85	3.23	0.27	0.62
Unknown	8.20	8.53	9.94	-1.74	-1.41
State aid status					
Did not receive	86.88	86.26	83.14	3.74*	3.12*
Received	4.91	5.21	6.92	-2.01*	-1.71*
Unknown	8.20	8.53	9.94	-1.74	-1.41
CPS record available					
Yes	92.04	93.44	94.15	-2.11	-0.71
No	7.96	6.56	5.85	2.11	0.71
Major					
Humanities	10.91	10.21	10.21	0.70	#
Social/behavioral sciences	1.61	1.64	1.72	-0.11	-0.08
Life sciences	4.09	3.30	4.12	-0.03	-0.82
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	11.42	11.22	13.66	-2.24*	-2.44*
Engineering	3.10	3.48	3.67	-0.57	-0.19
Education	2.73	2.79	2.27	0.46	0.52
Business/management	27.15	29.08	25.75	1.40	3.33
Health	13.36	13.09	14.05	-0.69	-0.96
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	22.41	22.36	22.52	-0.11	-0.16
Unknown	3.04	2.63	1.87	1.17	0.76
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	9.09	10.02	9.28	-0.19	0.74
65–80 percent	18.27	16.79	16.29	1.98	0.50
81–92 percent	57.44	58.17	58.04	-0.60	0.13
93 percent or more	15.19	15.02	16.39	-1.20	-1.37
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-33. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 4-year institutions using weight WTA000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	47.34	48.70	47.41	-0.07	1.29
23.65–41.64 percent	28.55	28.40	30.91	-2.36	-2.51
41.65–60.34 percent	6.95	6.81	7.29	-0.34	-0.48
60.35 percent or more	2.60	2.72	2.56	0.04	0.16
Unknown	14.57	13.36	11.83	2.74	1.53
Six-year federal loan default status					
No	63.58	64.62	68.03	-4.45*	-3.41*
Yes	36.42	35.38	31.97	4.45*	3.41*
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	1.39	1.11	1.33	0.06	-0.22
62.67–79.32 percent	20.81	19.75	20.04	0.77	-0.29
79.33–98.72 percent	30.79	30.53	33.58	-2.79	-3.05
98.73 percent or more	45.68	47.39	43.19	2.49	4.20
Unknown	1.34	1.23	1.87	-0.53	-0.64
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	61.56	60.76	54.89	6.67*	5.87
\$3,120.55–\$5,425.76	28.52	29.55	33.11	-4.59	-3.56
\$5,425.77–\$8,864.46	6.71	6.66	7.95	-1.24	-1.29
\$8,864.47 or more	1.87	1.81	2.18	-0.31	-0.37
Unknown	1.34	1.23	1.87	-0.53	-0.64

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-34. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Control and level of institution					
Public less-than-2-year	0.19	0.19	0.59	-0.40*	-0.40*
Public 2-year	36.71	36.71	37.97	-1.26*	-1.26
Public 4-year, non-doctorate-granting	11.54	11.54	9.83	1.71*	1.71*
Public 4-year, doctorate-granting	23.63	23.63	21.74	1.89*	1.89*
Private nonprofit less-than-4-year	0.36	0.36	0.76	-0.40*	-0.40*
Private nonprofit 4-year, non-doctorate-granting	8.68	8.68	6.40	2.28*	2.28*
Private nonprofit 4-year, doctorate-granting	9.27	9.27	9.53	-0.26	-0.26
Private for-profit less-than-2-year	2.63	2.63	3.55	-0.92*	-0.92*
Private for-profit 2-year	2.76	2.76	3.77	-1.01*	-1.01*
Private for-profit 4-year	4.22	4.22	5.85	-1.63*	-1.63*
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	5.90	5.90	5.83	0.07	0.07
Mideast	15.25	15.25	14.61	0.64*	0.64
Great Lakes	15.12	15.12	15.35	-0.23	-0.23
Plains	7.48	7.48	7.03	0.45	0.45
Southeast	23.93	23.93	23.97	-0.04	-0.04
Southwest	12.62	12.62	13.23	-0.61	-0.61
Rocky Mountains	3.95	3.95	4.09	-0.14	-0.14
Far West	15.76	15.76	15.89	-0.13	-0.13
Institution total enrollment					
0–2,628	13.40	13.40	14.78	-1.38*	-1.38*
2,629–10,233	24.36	24.36	23.74	0.62	0.62
10,234–26,884	33.07	33.07	32.79	0.28	0.28
26,885 or more	29.17	29.17	28.69	0.48	0.48
Age as of Dec 31, 2011					
15–23	88.03	88.03	86.34	1.69*	1.69*
24–29	5.29	5.29	6.12	-0.83*	-0.83*
30 or more	6.69	6.69	7.55	-0.86*	-0.86*
Pell Grant status					
Received	52.58	52.14	51.45	1.13*	0.69
Did not receive	47.42	47.86	48.55	-1.13*	-0.69
Total Pell Grant amount received					
\$0 or unknown	43.86	43.86	42.17	1.69*	1.69*
\$1–\$3,500	13.12	13.12	13.24	-0.12	-0.12
\$3,501–\$6,352	11.75	11.75	12.46	-0.71*	-0.71
\$6,353–\$13,088	13.92	13.92	14.72	-0.80*	-0.80*
\$13,089 or more	17.35	17.35	17.41	-0.06	-0.06
Stafford Loan status					
Received	52.12	52.04	54.38	-2.26*	-2.34*
Did not receive	47.88	47.96	45.62	2.26*	2.34*

See notes at end of table.

**Table K-34. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Stafford amount received					
\$0 or unknown	41.92	41.92	43.44	-1.52*	-1.52*
\$1–\$6,365	12.75	12.75	12.67	0.08	0.08
\$6,366–\$12,755	11.72	11.72	11.83	-0.11	-0.11
\$12,756–\$26,000	16.34	16.34	15.71	0.63*	0.63
\$26,001 or more	17.27	17.27	16.34	0.93*	0.93*
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	88.15	88.15	89.04	-0.89*	-0.89*
\$1–\$6,900	2.44	2.44	2.46	-0.02	-0.02
\$6,901–\$14,995	2.91	2.91	2.69	0.22*	0.22
\$14,996–\$34,345	3.04	3.04	2.78	0.26*	0.26*
\$34,346 or more	3.45	3.45	3.03	0.42*	0.42*
Federal aid status					
Did not receive	41.82	41.83	43.32	-1.50*	-1.49*
Received	58.18	58.17	56.68	1.50*	1.49*
Institution aid status					
Did not receive	63.90	63.90	66.60	-2.70*	-2.70*
Received	29.36	29.36	25.91	3.45*	3.45*
Unknown	6.74	6.74	7.49	-0.75	-0.75
State aid status					
Did not receive	70.89	70.89	71.87	-0.98*	-0.98
Received	22.37	22.37	20.64	1.73*	1.73*
Unknown	6.74	6.74	7.49	-0.75	-0.75
CPS record available					
Yes	81.64	79.96	80.29	1.35*	-0.33
No	18.36	20.04	19.71	-1.35*	0.33
Major					
Humanities	23.66	23.56	22.94	0.72	0.62
Social/behavioral sciences	4.53	4.60	4.28	0.25	0.32
Life sciences	7.61	7.15	6.78	0.83*	0.37
Physical sciences/math	1.43	1.38	1.24	0.19*	0.14
Computer/Information science	2.25	2.19	2.63	-0.38*	-0.44*
Engineering	4.72	4.65	4.70	0.02	-0.05
Education	3.34	3.21	2.91	0.43*	0.30*
Business/management	9.26	9.87	9.07	0.19	0.80*
Health	10.37	9.87	11.82	-1.45*	-1.95*
Vocational/technical	2.69	3.40	3.20	-0.51*	0.20
Other technical/professional	10.13	10.26	10.76	-0.63*	-0.50
Unknown	20.01	19.86	19.68	0.33	0.18

See notes at end of table.

**Table K-34. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	35.76	34.81	35.55	0.21	-0.74
65–80 percent	28.92	28.96	28.96	-0.04	#
81–92 percent	19.60	20.33	21.26	-1.66*	-0.93
93 percent or more	15.41	15.64	13.83	1.58*	1.81*
Unknown	0.31	0.25	0.41	-0.10	-0.16
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	31.46	31.16	33.42	-1.96*	-2.26*
23.65–41.64 percent	20.61	21.60	20.89	-0.28	0.71
41.65–60.34 percent	19.05	19.74	17.50	1.55*	2.24*
60.35 percent or more	24.87	23.67	22.81	2.06*	0.86
Unknown	4.01	3.83	5.40	-1.39*	-1.57*
Six-year federal loan default status					
No	88.85	88.85	89.58	-0.73*	-0.73
Yes	11.15	11.15	10.42	0.73*	0.73
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	21.00	21.64	21.80	-0.80	-0.16
12.91–22.61 percent	25.68	25.69	25.88	-0.20	-0.19
22.62–31.65 percent	27.05	26.54	27.10	-0.05	-0.56
31.66 percent or more	24.92	24.85	23.85	1.07*	1.00*
Unknown	1.35	1.27	1.37	-0.02	-0.10
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	39.03	37.20	33.43	5.60*	3.77
62.67–79.32 percent	26.27	26.77	24.23	2.04	2.54
79.33–98.72 percent	18.74	19.83	20.54	-1.80	-0.71
98.73 percent or more	13.57	13.90	17.52	-3.95*	-3.62*
Unknown	2.39	2.30	4.28	-1.89*	-1.98*
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	25.21	25.55	25.98	-0.77	-0.43
\$4,144.48–\$5,618.87	24.63	24.41	25.69	-1.06	-1.28
\$5,618.88–\$7,662.30	23.54	23.49	23.24	0.30	0.25
\$7,662.31 or more	25.27	25.28	23.73	1.54*	1.55*
Unknown	1.35	1.27	1.37	-0.02	-0.10

See notes at end of table.

**Table K-34. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in all institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	18.18	17.88	22.43	-4.25*	-4.55*
\$3,120.55–\$5,425.76	20.06	20.94	22.53	-2.47*	-1.59*
\$5,425.77–\$8,864.46	21.57	22.06	18.55	3.02*	3.51*
\$8,864.47 or more	37.80	36.82	32.21	5.59*	4.61*
Unknown	2.39	2.30	4.28	-1.89*	-1.98*

# Rounds to zero.

\*  $p < 0.05$

<sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent;

GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-35. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	‡	‡	‡	‡	‡
Mideast	‡	‡	‡	‡	‡
Great Lakes	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡
Southeast	‡	‡	‡	‡	‡
Southwest	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡
Far West	‡	‡	‡	‡	‡
Institution total enrollment					
0–2,628	98.86	99.68	97.19	1.67	2.49
2,629–10,233	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	58.14	63.15	59.78	-1.64	3.37
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	42.44	43.65	46.05	-3.61	-2.40
Did not receive	57.56	56.35	53.95	3.61	2.40
Total Pell Grant amount received					
\$0 or unknown	34.05	36.91	39.41	-5.36	-2.50
\$1–\$3,500	‡	‡	‡	‡	‡
\$3,501–\$6,352	‡	‡	‡	‡	‡
\$6,353–\$13,088	‡	‡	‡	‡	‡
\$13,089 or more	‡	‡	‡	‡	‡
Stafford Loan status					
Received	51.01	57.81	77.30	-26.29*	-19.49*
Did not receive	48.99	42.19	22.70	26.29*	19.49*
Total Stafford amount received					
\$0 or unknown	45.08	52.72	69.03	-23.95*	-16.31
\$1–\$6,365	‡	‡	‡	‡	‡
\$6,366–\$12,755	‡	‡	‡	‡	‡
\$12,756–\$26,000	‡	‡	‡	‡	‡
\$26,001 or more	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-35. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	94.94	98.57	96.56	-1.62	2.01
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	45.08	52.72	69.03	-23.95*	-16.31
Received	54.92	47.28	30.97	23.95*	16.31
Institution aid status					
Did not receive	94.32	95.82	91.03	3.29	4.79
Received	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡
State aid status					
Did not receive	89.88	91.16	85.85	4.03	5.31*
Received	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡
CPS record available					
Yes	83.30	74.76	81.80	1.50	-7.04
No	‡	‡	‡	‡	‡
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡
Health	‡	‡	‡	‡	‡
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	‡	‡	‡	‡	‡
65–80 percent	‡	‡	‡	‡	‡
81–92 percent	‡	‡	‡	‡	‡
93 percent or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-35. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡
Unknown	100.00	100.00	100.00	#	#
Six-year federal loan default status					
No	80.36	85.94	91.69	-11.33*	-5.75*
Yes	‡	‡	‡	‡	‡
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	‡	‡	‡	‡	‡
12.91–22.61 percent	‡	‡	‡	‡	‡
22.62–31.65 percent	‡	‡	‡	‡	‡
31.66 percent or more	41.79	45.45	43.46	-1.67	1.99
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	‡	‡	‡	‡	‡
\$5,618.88–\$7,662.30	‡	‡	‡	‡	‡
\$7,662.31 or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-36. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 2-year institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	4.26	4.14	4.69	-0.43	-0.55
Mideast	12.49	13.14	12.12	0.37	1.02
Great Lakes	15.62	14.87	16.08	-0.46	-1.21
Plains	7.96	7.96	7.25	0.71*	0.71
Southeast	20.07	20.01	19.50	0.57	0.51
Southwest	16.22	16.08	15.99	0.23	0.09
Rocky Mountains	2.86	2.72	3.26	-0.40	-0.54
Far West	20.52	21.09	21.10	-0.58	-0.01
Institution total enrollment					
0–2,628	2.66	2.61	2.50	0.16	0.11
2,629–10,233	24.94	25.78	24.59	0.35	1.19
10,234–26,884	44.73	43.68	44.81	-0.08	-1.13
26,885 or more	27.68	27.93	28.10	-0.42	-0.17
Age as of Dec 31, 2011					
15–23	82.54	82.12	82.77	-0.23	-0.65
24–29	7.80	8.22	7.63	0.17	0.59
30 or more	9.66	9.66	9.60	0.06	0.06
Pell Grant status					
Received	44.51	44.67	52.52	-8.01*	-7.85*
Did not receive	55.49	55.33	47.48	8.01*	7.85*
Total Pell Grant amount received					
\$0 or unknown	34.37	35.36	39.04	-4.67*	-3.68*
\$1–\$3,500	17.77	18.02	18.40	-0.63	-0.38
\$3,501–\$6,352	13.96	14.30	12.76	1.20*	1.54*
\$6,353–\$13,088	17.29	16.46	15.51	1.78*	0.95*
\$13,089 or more	16.61	15.87	14.29	2.32*	1.58*
Stafford Loan status					
Received	75.06	75.16	80.61	-5.55*	-5.45*
Did not receive	24.94	24.84	19.39	5.55*	5.45*
Total Stafford amount received					
\$0 or unknown	57.32	57.40	61.45	-4.13*	-4.05*
\$1–\$6,365	13.78	14.27	12.80	0.98*	1.47*
\$6,366–\$12,755	10.94	10.70	9.52	1.42*	1.18*
\$12,756–\$26,000	11.89	11.53	10.80	1.09*	0.73
\$26,001 or more	6.06	6.10	5.42	0.64*	0.68*

See notes at end of table.

**Table K-36. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	96.23	96.45	96.23	#	0.22
\$1–\$6,900	0.97	1.01	1.01	-0.04	#
\$6,901–\$14,995	1.20	1.14	1.17	0.03	-0.03
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	57.19	57.31	61.26	-4.07*	-3.95*
Received	42.81	42.69	38.74	4.07*	3.95*
Institution aid status					
Did not receive	78.22	78.09	79.34	-1.12	-1.25
Received	13.11	13.76	12.14	0.97*	1.62*
Unknown	8.67	8.15	8.51	0.16	-0.36
State aid status					
Did not receive	74.19	74.18	76.48	-2.29*	-2.30*
Received	17.15	17.67	15.01	2.14*	2.66*
Unknown	8.67	8.15	8.51	0.16	-0.36
CPS record available					
Yes	78.37	75.86	72.43	5.94*	3.43*
No	21.63	24.14	27.57	-5.94*	-3.43*
Major					
Humanities	35.84	35.29	35.51	0.33	-0.22
Social/behavioral sciences	1.68	1.56	1.52	0.16	0.04
Life sciences	2.83	2.80	3.01	-0.18	-0.21
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	2.12	2.10	2.30	-0.18	-0.20
Engineering	3.47	3.35	3.73	-0.26	-0.38
Education	2.19	2.11	1.94	0.25	0.17
Business/management	8.79	8.61	8.27	0.52	0.34
Health	9.61	9.10	9.56	0.05	-0.46
Vocational/technical	4.17	5.13	3.99	0.18	1.14*
Other technical/professional	9.67	10.07	9.61	0.06	0.46
Unknown	18.97	19.24	19.97	-1.00	-0.73
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	47.48	46.26	49.27	-1.79*	-3.01*
65–80 percent	34.47	33.98	33.93	0.54	0.05
81–92 percent	11.70	13.70	11.03	0.67	2.67*
93 percent or more	6.04	5.74	5.46	0.58*	0.28
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-36. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	73.21	71.54	73.18	0.03	-1.64
23.65–41.64 percent	23.15	24.54	23.02	0.13	1.52
41.65–60.34 percent	2.72	2.96	2.61	0.11	0.35
60.35 percent or more	0.61	0.64	0.87	-0.26	-0.23
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	90.89	90.21	93.15	-2.26*	-2.94*
Yes	9.11	9.79	6.85	2.26*	2.94*
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	36.28	37.61	36.09	0.19	1.52
12.91–22.61 percent	31.01	30.12	30.69	0.32	-0.57
22.62–31.65 percent	22.72	22.21	22.87	-0.15	-0.66
31.66 percent or more	9.69	9.74	10.04	-0.35	-0.30
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	43.04	43.52	42.10	0.94	1.42
\$4,144.48–\$5,618.87	37.79	37.44	38.06	-0.27	-0.62
\$5,618.88–\$7,662.30	14.83	14.96	15.39	-0.56	-0.43
\$7,662.31 or more	4.04	3.75	4.13	-0.09	-0.38
Unknown	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: . CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-37. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	‡	‡	‡	‡	‡
Mideast	17.47	16.92	15.98	1.49	0.94
Great Lakes	13.94	15.07	15.60	-1.66	-0.53
Plains	‡	‡	‡	‡	‡
Southeast	35.18	34.56	37.44	-2.26	-2.88
Southwest	3.86	3.97	3.50	0.36*	0.47
Rocky Mountains	6.10	6.85	5.97	0.13	0.88
Far West	16.17	15.20	15.05	1.12	0.15
Institution total enrollment					
0–2,628	‡	‡	‡	‡	‡
2,629–10,233	39.31	38.66	36.63	2.68	2.03
10,234–26,884	35.43	36.85	37.07	-1.64	-0.22
26,885 or more	21.49	20.75	22.52	-1.03	-1.77
Age as of Dec 31, 2011					
15–23	93.23	92.89	92.50	0.73	0.39
24–29	3.17	3.55	3.95	-0.78	-0.40
30 or more	3.60	3.55	3.55	0.05	#
Pell Grant status					
Received	53.92	52.68	52.38	1.54	0.30
Did not receive	46.08	47.32	47.62	-1.54	-0.30
Total Pell Grant amount received					
\$0 or unknown	43.71	44.11	41.94	1.77	2.17
\$1–\$3,500	12.71	11.73	13.13	-0.42	-1.40
\$3,501–\$6,352	9.45	9.41	10.66	-1.21	-1.25
\$6,353–\$13,088	13.80	14.18	14.34	-0.54	-0.16
\$13,089 or more	20.33	20.57	19.93	0.40	0.64
Stafford Loan status					
Received	50.33	51.97	55.60	-5.27*	-3.63
Did not receive	49.67	48.03	44.40	5.27*	3.63
Total Stafford amount received					
\$0 or unknown	39.67	41.46	44.42	-4.75*	-2.96
\$1–\$6,365	14.15	13.19	13.19	0.96	#
\$6,366–\$12,755	11.96	11.46	11.51	0.45	-0.05
\$12,756–\$26,000	17.46	17.03	16.23	1.23	0.80
\$26,001 or more	16.77	16.85	14.66	2.11*	2.19*

See notes at end of table.

**Table K-37. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	89.64	90.61	91.05	-1.41*	-0.44
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	39.67	41.46	44.42	-4.75*	-2.96
Received	60.33	58.54	55.58	4.75*	2.96
Institution aid status					
Did not receive	76.51	77.25	80.16	-3.65*	-2.91*
Received	21.08	20.58	18.00	3.08*	2.58*
Unknown	‡	‡	‡	‡	‡
State aid status					
Did not receive	67.45	69.50	71.75	-4.30*	-2.25*
Received	30.14	28.33	26.41	3.73*	1.92*
Unknown	‡	‡	‡	‡	‡
CPS record available					
Yes	80.07	79.10	80.67	-0.60	-1.57
No	19.93	20.90	19.33	0.60	1.57
Major					
Humanities	30.51	32.06	30.04	0.47	2.02
Social/behavioral sciences	6.09	6.15	5.75	0.34	0.40
Life sciences	7.20	6.56	6.44	0.76	0.12
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	7.35	7.54	7.42	-0.07	0.12
Health	8.49	7.72	10.17	-1.68*	-2.45*
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	9.14	8.21	7.21	1.93*	1.00
Unknown	16.32	16.54	17.86	-1.54	-1.32
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	30.69	30.87	29.32	1.37	1.55
65–80 percent	38.77	39.02	40.89	-2.12	-1.87
81–92 percent	24.14	23.67	24.24	-0.10	-0.57
93 percent or more	5.76	6.12	5.05	0.71	1.07
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-37. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	17.19	17.54	15.93	1.26	1.61
23.65–41.64 percent	42.93	43.88	48.22	-5.29*	-4.34*
41.65–60.34 percent	27.54	28.59	25.49	2.05*	3.10*
60.35 percent or more	10.97	9.16	9.39	1.58*	-0.23
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	88.82	89.50	90.07	-1.25	-0.57
Yes	11.18	10.50	9.93	1.25	0.57
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	8.65	8.27	7.68	0.97	0.59
12.91–22.61 percent	24.07	25.96	27.88	-3.81*	-1.92
22.62–31.65 percent	29.49	28.92	28.23	1.26	0.69
31.66 percent or more	36.81	35.99	35.44	1.37	0.55
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	20.32	20.16	21.92	-1.60	-1.76
\$4,144.48–\$5,618.87	25.42	24.74	25.86	-0.44	-1.12
\$5,618.88–\$7,662.30	33.67	32.86	32.24	1.43	0.62
\$7,662.31 or more	19.62	21.38	19.21	0.41	2.17
Unknown	‡	‡	‡	‡	‡

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-38. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	3.76	3.99	3.69	0.07	0.30
Mideast	10.03	9.51	9.67	0.36	-0.16
Great Lakes	17.70	17.36	17.52	0.18	-0.16
Plains	7.54	7.98	8.01	-0.47	-0.03
Southeast	29.76	29.74	31.77	-2.01	-2.03
Southwest	13.25	13.71	13.03	0.22	0.68
Rocky Mountains	4.16	4.09	4.20	-0.04	-0.11
Far West	13.80	13.62	12.10	1.70*	1.52
Institution total enrollment					
0–2,628	‡	‡	‡	‡	‡
2,629–10,233	6.87	6.54	7.46	-0.59	-0.92
10,234–26,884	37.07	37.91	37.38	-0.31	0.53
26,885 or more	56.06	55.55	55.16	0.90	0.39
Age as of Dec 31, 2011					
15–23	99.43	98.85	98.66	0.77	0.19
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	66.03	65.71	63.46	2.57*	2.25
Did not receive	33.97	34.29	36.54	-2.57*	-2.25
Total Pell Grant amount received					
\$0 or unknown	57.56	56.78	56.15	1.41	0.63
\$1–\$3,500	7.04	7.26	6.18	0.86*	1.08*
\$3,501–\$6,352	6.62	6.36	6.07	0.55	0.29
\$6,353–\$13,088	9.20	10.09	9.96	-0.76	0.13
\$13,089 or more	19.58	19.52	21.63	-2.05*	-2.11*
Stafford Loan status					
Received	44.83	42.88	41.99	2.84*	0.89
Did not receive	55.17	57.12	58.01	-2.84*	-0.89
Total Stafford amount received					
\$0 or unknown	36.63	35.61	34.95	1.68	0.66
\$1–\$6,365	8.83	8.95	8.56	0.27	0.39
\$6,366–\$12,755	8.50	9.26	8.73	-0.23	0.53
\$12,756–\$26,000	19.95	19.99	20.35	-0.40	-0.36
\$26,001 or more	26.09	26.19	27.41	-1.32	-1.22

See notes at end of table.



**Table K-38. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	83.06	82.46	83.70	-0.64	-1.24
\$1–\$6,900	2.72	3.18	2.55	0.17	0.63*
\$6,901–\$14,995	4.67	4.58	4.56	0.11	0.02
\$14,996–\$34,345	4.61	4.78	4.48	0.13	0.30
\$34,346 or more	4.94	4.99	4.72	0.22	0.27
Federal aid status					
Did not receive	36.53	35.54	34.86	1.67	0.68
Received	63.47	64.46	65.14	-1.67	-0.68
Institution aid status					
Did not receive	59.69	59.63	60.40	-0.71	-0.77
Received	36.82	36.47	35.90	0.92	0.57
Unknown	3.49	3.91	3.70	-0.21	0.21
State aid status					
Did not receive	62.42	62.80	60.36	2.06*	2.44*
Received	34.09	33.29	35.94	-1.85*	-2.65*
Unknown	3.49	3.91	3.70	-0.21	0.21
CPS record available					
Yes	82.39	80.37	83.46	-1.07	-3.09*
No	17.61	19.63	16.54	1.07	3.09*
Major					
Humanities	14.45	14.23	14.44	0.01	-0.21
Social/behavioral sciences	7.82	7.99	8.42	-0.60	-0.43
Life sciences	15.76	14.41	14.57	1.19	-0.16
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	8.33	8.36	7.96	0.37	0.40
Education	4.17	3.94	4.05	0.12	-0.11
Business/management	10.00	11.16	9.18	0.82*	1.98*
Health	7.33	7.25	8.01	-0.68	-0.76
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	7.62	7.71	7.70	-0.08	0.01
Unknown	19.85	20.23	21.17	-1.32	-0.94
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	43.98	42.97	41.23	2.75*	1.74
65–80 percent	27.42	28.62	27.73	-0.31	0.89
81–92 percent	22.21	21.53	24.50	-2.29*	-2.97*
93 percent or more	6.39	6.88	6.55	-0.16	0.33
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-38. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in public 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	17.73	18.51	18.25	-0.52	0.26
41.65–60.34 percent	35.50	35.99	35.96	-0.46	0.03
60.35 percent or more	46.04	44.23	44.33	1.71	-0.10
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	94.33	93.84	94.50	-0.17	-0.66
Yes	5.67	6.16	5.50	0.17	0.66
Public institution tuition and fees as percent of core revenues (GASB reporting)					
12.90 percent or less	3.36	3.47	3.27	0.09	0.20
12.91–22.61 percent	18.36	18.87	17.14	1.22	1.73
22.62–31.65 percent	32.65	32.19	34.43	-1.78	-2.24
31.66 percent or more	42.62	42.71	42.20	0.42	0.51
Unknown	‡	‡	‡	‡	‡
Public institution instructional expenses per FTE enrollment (GASB reporting)					
\$4,144.47 or less	‡	‡	‡	‡	‡
\$4,144.48–\$5,618.87	3.91	4.10	4.22	-0.31	-0.12
\$5,618.88–\$7,662.30	32.14	32.24	33.08	-0.94	-0.84
\$7,662.31 or more	60.88	60.50	59.66	1.22	0.84
Unknown	‡	‡	‡	‡	‡

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FTE = full-time-equivalent; GASB = Governmental Accounting Standards Board. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-39. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	‡	‡	‡	‡	‡
Mideast	18.17	21.10	13.97	4.20*	7.13
Great Lakes	‡	‡	‡	‡	‡
Plains	‡	‡	‡	‡	‡
Southeast	39.52	34.43	43.19	-3.67	-8.76
Southwest	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡
Far West	14.99	18.55	17.10	-2.11	1.45
Institution total enrollment					
0–2,628	99.17	98.77	99.41	-0.24	-0.64
2,629–10,233	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	71.26	70.37	65.85	5.41	4.52
24–29	‡	‡	‡	‡	‡
30 or more	‡	‡	‡	‡	‡
Pell Grant status					
Received	33.50	29.90	26.50	7.00	3.40
Did not receive	66.50	70.10	73.50	-7.00	-3.40
Total Pell Grant amount received					
\$0 or unknown	28.77	25.87	20.59	8.18*	5.28
\$1–\$3,500	‡	‡	‡	‡	‡
\$3,501–\$6,352	28.68	32.76	23.76	4.92	9.00
\$6,353–\$13,088	16.99	18.13	23.81	-6.82	-5.68
\$13,089 or more	‡	‡	‡	‡	‡
Stafford Loan status					
Received	28.76	29.32	36.32	-7.56	-7.00
Did not receive	71.24	70.68	63.68	7.56	7.00
Total Stafford amount received					
\$0 or unknown	27.08	26.54	34.33	-7.25	-7.79
\$1–\$6,365	20.79	21.82	18.60	2.19	3.22
\$6,366–\$12,755	24.12	29.45	19.58	4.54	9.87
\$12,756–\$26,000	16.88	13.78	14.06	2.82*	-0.28
\$26,001 or more	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-39. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	77.02	82.59	78.38	-1.36	4.21
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	27.08	26.54	34.33	-7.25	-7.79
Received	72.92	73.46	65.67	7.25	7.79
Institution aid status					
Did not receive	58.25	60.02	51.59	6.66*	8.43
Received	37.46	33.54	39.77	-2.31	-6.23
Unknown	‡	‡	‡	‡	‡
State aid status					
Did not receive	68.86	74.23	59.55	9.31*	14.68*
Received	26.85	19.33	31.81	-4.96	-12.48*
Unknown	‡	‡	‡	‡	‡
CPS record available					
Yes	86.59	85.40	90.64	-4.05	-5.24
No	‡	‡	‡	‡	‡
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡
Health	21.29	25.73	23.40	-2.11	2.33
Vocational/technical	22.14	18.87	19.30	2.84	-0.43
Other technical/professional	‡	‡	‡	‡	‡
Unknown	38.88	38.10	43.28	-4.40	-5.18
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	‡	‡	‡	‡	‡
65–80 percent	20.92	25.10	20.90	0.02	4.20
81–92 percent	49.75	47.45	51.43	-1.68	-3.98
93 percent or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-39. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit less-than-4-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	28.37	23.33	35.11	-6.74	-11.78*
23.65–41.64 percent	‡	‡	‡	‡	‡
41.65–60.34 percent	25.79	30.12	25.04	0.75	5.08
60.35 percent or more	28.39	26.07	19.50	8.89	6.57
Unknown	14.59	18.13	16.85	-2.26	1.28
Six-year federal loan default status					
No	71.63	74.54	74.86	-3.23	-0.32
Yes	28.37	25.46	25.14	3.23	0.32
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	44.14	41.64	53.32	-9.18*	-11.68*
62.67–79.32 percent	‡	‡	‡	‡	‡
79.33–98.72 percent	26.04	27.76	22.45	3.59	5.31
98.73 percent or more	21.32	26.43	20.35	0.97	6.08
Unknown	‡	‡	‡	‡	‡
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	57.18	54.73	60.73	-3.55	-6.00
\$3,120.55–\$5,425.76	17.74	21.92	14.24	3.50	7.68
\$5,425.77–\$8,864.46	16.02	18.31	20.75	-4.73	-2.44
\$8,864.47 or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-40. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	12.74	13.57	13.21	-0.47	0.36
Mideast	22.64	21.13	19.49	3.15*	1.64
Great Lakes	17.72	20.12	22.05	-4.33	-1.93
Plains	‡	‡	‡	‡	‡
Southeast	21.65	21.38	23.11	-1.46	-1.73
Southwest	3.26	4.24	3.11	0.15	1.13
Rocky Mountains	‡	‡	‡	‡	‡
Far West	7.29	6.38	6.43	0.86*	-0.05
Institution total enrollment					
0–2,628	60.78	60.27	57.46	3.32	2.81
2,629–10,233	36.35	36.75	39.05	-2.70	-2.30
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	98.21	97.59	95.45	2.76	2.14
24–29	‡	‡	‡	‡	‡
30 or more	1.17	1.95	2.97	-1.80	-1.02
Pell Grant status					
Received	63.12	60.94	58.11	5.01	2.83
Did not receive	36.88	39.06	41.89	-5.01	-2.83
Total Pell Grant amount received					
\$0 or unknown	54.98	53.52	51.46	3.52	2.06
\$1–\$3,500	8.15	7.53	6.23	1.92*	1.30*
\$3,501–\$6,352	7.62	8.68	7.33	0.29	1.35
\$6,353–\$13,088	10.59	10.23	13.07	-2.48	-2.84
\$13,089 or more	18.66	20.04	21.92	-3.26	-1.88
Stafford Loan status					
Received	29.83	30.19	33.15	-3.32*	-2.96
Did not receive	70.17	69.81	66.85	3.32*	2.96
Total Stafford amount received					
\$0 or unknown	27.11	27.13	27.53	-0.42	-0.40
\$1–\$6,365	9.37	9.69	8.39	0.98	1.30
\$6,366–\$12,755	9.97	9.93	12.01	-2.04	-2.08
\$12,756–\$26,000	18.33	18.43	18.29	0.04	0.14
\$26,001 or more	35.22	34.80	33.78	1.44	1.02

See notes at end of table.

**Table K-40. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	74.98	75.18	77.65	-2.67*	-2.47
\$1–\$6,900	3.85	3.71	3.23	0.62*	0.48
\$6,901–\$14,995	6.03	6.26	5.83	0.20	0.43
\$14,996–\$34,345	6.80	6.06	5.55	1.25*	0.51
\$34,346 or more	8.34	8.79	7.74	0.60	1.05
Federal aid status					
Did not receive	27.03	27.09	27.44	-0.41	-0.35
Received	72.97	72.91	72.56	0.41	0.35
Institution aid status					
Did not receive	16.61	17.91	16.81	-0.20	1.10
Received	78.47	76.63	72.96	5.51	3.67
Unknown	4.91	5.47	10.23	-5.32	-4.76
State aid status					
Did not receive	68.58	66.80	63.99	4.59	2.81
Received	26.51	27.73	25.78	0.73	1.95
Unknown	4.91	5.47	10.23	-5.32	-4.76
CPS record available					
Yes	87.14	86.08	86.39	0.75	-0.31
No	12.86	13.92	13.61	-0.75	0.31
Major					
Humanities	17.16	17.56	16.12	1.04	1.44
Social/behavioral sciences	5.70	5.77	6.11	-0.41	-0.34
Life sciences	10.11	9.57	8.77	1.34*	0.80
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	5.55	5.54	4.79	0.76*	0.75
Business/management	6.65	8.16	5.80	0.85*	2.36*
Health	4.85	5.10	5.37	-0.52	-0.27
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	6.27	7.90	10.48	-4.21	-2.58
Unknown	39.02	35.62	37.42	1.60	-1.80
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	10.80	9.09	10.59	0.21	-1.50
65–80 percent	8.43	7.74	7.32	1.11	0.42
81–92 percent	16.86	18.51	22.01	-5.15	-3.50
93 percent or more	63.91	64.66	60.09	3.82	4.57
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-40. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, non-doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	3.51	4.28	10.43	-6.92	-6.15
23.65–41.64 percent	13.19	14.36	13.02	0.17	1.34
41.65–60.34 percent	32.04	34.67	30.23	1.81	4.44*
60.35 percent or more	51.25	46.70	46.32	4.93*	0.38
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	89.83	89.88	88.58	1.25	1.30
Yes	10.17	10.12	11.42	-1.25	-1.30
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	55.04	50.43	49.17	5.87*	1.26
62.67–79.32 percent	27.49	30.23	27.39	0.10	2.84
79.33–98.72 percent	15.67	17.28	15.47	0.20	1.81
98.73 percent or more	‡	‡	‡	‡	‡
Unknown	1.60	1.88	7.40	-5.80	-5.52
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	14.92	17.23	15.52	-0.60	1.71
\$5,425.77–\$8,864.46	37.96	37.87	35.26	2.70	2.61
\$8,864.47 or more	45.00	41.98	41.32	3.68	0.66
Unknown	1.60	1.88	7.40	-5.80	-5.52

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).



**Table K-41. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	15.21	14.23	14.68	0.53	-0.45
Mideast	31.75	32.96	31.29	0.46	1.67
Great Lakes	13.04	12.82	13.15	-0.11	-0.33
Plains	5.99	5.64	5.81	0.18	-0.17
Southeast	16.17	17.10	16.26	-0.09	0.84
Southwest	‡	‡	‡	‡	‡
Rocky Mountains	‡	‡	‡	‡	‡
Far West	9.40	9.72	9.29	0.11	0.43
Institution total enrollment					
0–2,628	‡	‡	‡	‡	‡
2,629–10,233	45.11	44.23	45.25	-0.14	-1.02
10,234–26,884	33.58	34.11	33.25	0.33	0.86
26,885 or more	14.68	15.30	14.81	-0.13	0.49
Age as of Dec 31, 2011					
15–23	98.66	98.37	98.40	0.26	-0.03
24–29	‡	‡	‡	‡	‡
30 or more	1.15	1.28	1.23	-0.08	0.05
Pell Grant status					
Received	72.37	71.21	67.79	4.58*	3.42*
Did not receive	27.63	28.79	32.21	-4.58*	-3.42*
Total Pell Grant amount received					
\$0 or unknown	65.70	63.76	61.41	4.29*	2.35*
\$1–\$3,500	5.93	6.86	5.69	0.24	1.17
\$3,501–\$6,352	5.47	5.26	5.49	-0.02	-0.23
\$6,353–\$13,088	7.31	7.34	8.56	-1.25*	-1.22*
\$13,089 or more	15.59	16.78	18.86	-3.27*	-2.08*
Stafford Loan status					
Received	42.24	42.07	39.83	2.41*	2.24
Did not receive	57.76	57.93	60.17	-2.41*	-2.24
Total Stafford amount received					
\$0 or unknown	38.82	38.19	36.11	2.71*	2.08
\$1–\$6,365	6.00	5.82	5.90	0.10	-0.08
\$6,366–\$12,755	6.49	7.00	6.72	-0.23	0.28
\$12,756–\$26,000	18.62	18.92	19.78	-1.16*	-0.86
\$26,001 or more	30.07	30.07	31.50	-1.43*	-1.43

See notes at end of table.

**Table K-41. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	79.09	78.83	79.07	0.02	-0.24
\$1–\$6,900	‡	‡	‡	‡	‡
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	4.97	5.36	5.45	-0.48*	-0.09
\$34,346 or more	10.12	10.14	9.90	0.22	0.24
Federal aid status					
Did not receive	38.58	37.69	35.88	2.70*	1.81
Received	61.42	62.31	64.12	-2.70*	-1.81
Institution aid status					
Did not receive	25.55	24.59	24.96	0.59	-0.37
Received	65.73	65.86	65.74	-0.01	0.12
Unknown	8.72	9.55	9.30	-0.58	0.25
State aid status					
Did not receive	72.57	70.52	71.20	1.37	-0.68
Received	18.71	19.93	19.50	-0.79	0.43
Unknown	8.72	9.55	9.30	-0.58	0.25
CPS record available					
Yes	76.54	75.10	78.77	-2.23*	-3.67*
No	23.46	24.90	21.23	2.23*	3.67*
Major					
Humanities	16.66	16.48	17.39	-0.73	-0.91
Social/behavioral sciences	8.65	9.30	8.45	0.20	0.85
Life sciences	10.53	10.65	10.99	-0.46	-0.34
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	5.78	6.10	6.07	-0.29	0.03
Education	‡	‡	‡	‡	‡
Business/management	10.08	11.75	10.10	-0.02	1.65*
Health	5.53	5.75	5.65	-0.12	0.10
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	8.56	7.52	7.72	0.84	-0.20
Unknown	26.52	25.47	26.03	0.49	-0.56
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	24.51	22.21	26.02	-1.51*	-3.81*
65–80 percent	16.41	16.07	14.83	1.58	1.24
81–92 percent	14.94	15.77	16.07	-1.13*	-0.30
93 percent or more	43.91	45.77	42.59	1.32	3.18*
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-41. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private nonprofit 4-year, doctorate-granting institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	5.37	5.75	5.76	-0.39	-0.01
41.65–60.34 percent	25.69	26.73	25.03	0.66	1.70
60.35 percent or more	67.38	65.84	67.37	0.01	-1.53
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	95.58	95.30	95.40	0.18	-0.10
Yes	4.42	4.70	4.60	-0.18	0.10
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	56.63	56.03	57.29	-0.66	-1.26
62.67–79.32 percent	27.60	27.53	26.30	1.30	1.23
79.33–98.72 percent	15.65	16.29	15.94	-0.29	0.35
98.73 percent or more	‡	‡	‡	‡	‡
Unknown	0.12	0.15	0.48	-0.36	-0.33
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	‡	‡	‡	‡	‡
\$3,120.55–\$5,425.76	8.82	8.06	7.80	1.02	0.26
\$5,425.77–\$8,864.46	22.15	23.21	22.22	-0.07	0.99
\$8,864.47 or more	68.79	68.47	69.01	-0.22	-0.54
Unknown	0.12	0.15	0.48	-0.36	-0.33

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-42. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	6.48	7.99	6.85	-0.37	1.14
Mideast	13.42	10.66	14.99	-1.57	-4.33
Great Lakes	8.23	7.30	7.74	0.49	-0.44
Plains	6.72	6.77	4.99	1.73	1.78
Southeast	16.74	19.29	17.44	-0.70	1.85
Southwest	28.96	27.40	28.15	0.81	-0.75
Rocky Mountains	8.26	7.64	9.20	-0.94	-1.56
Far West	11.20	12.95	10.65	0.55	2.30
Institution total enrollment					
0–2,628	97.98	97.89	98.26	-0.28	-0.37
2,629–10,233	‡	‡	‡	‡	‡
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	63.64	66.21	63.84	-0.20	2.37
24–29	17.97	14.38	17.56	0.41	-3.18*
30 or more	18.39	19.41	18.60	-0.21	0.81
Pell Grant status					
Received	15.70	14.70	5.45	10.25*	9.25*
Did not receive	84.30	85.30	94.55	-10.25*	-9.25*
Total Pell Grant amount received					
\$0 or unknown	12.91	12.60	5.01	7.90*	7.59*
\$1–\$3,500	17.74	19.26	12.19	5.55*	7.07*
\$3,501–\$6,352	43.76	38.50	49.09	-5.33	-10.59*
\$6,353–\$13,088	20.45	24.06	27.21	-6.76*	-3.15
\$13,089 or more	‡	‡	‡	‡	‡
Stafford Loan status					
Received	8.96	12.97	17.12	-8.16*	-4.15
Did not receive	91.04	87.03	82.88	8.16*	4.15
Total Stafford amount received					
\$0 or unknown	10.47	14.12	16.27	-5.80*	-2.15
\$1–\$6,365	29.70	27.89	29.26	0.44	-1.37
\$6,366–\$12,755	45.39	40.76	42.38	3.01	-1.62
\$12,756–\$26,000	10.86	13.99	9.26	1.60	4.73
\$26,001 or more	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-42. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	89.37	90.31	90.50	-1.13	-0.19
\$1–\$6,900	7.63	6.03	7.32	0.31	-1.29
\$6,901–\$14,995	‡	‡	‡	‡	‡
\$14,996–\$34,345	‡	‡	‡	‡	‡
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	10.47	14.12	16.27	-5.80*	-2.15
Received	89.53	85.88	83.73	5.80*	2.15
Institution aid status					
Did not receive	74.51	76.36	78.54	-4.03*	-2.18
Received	‡	‡	‡	‡	‡
Unknown	23.33	20.88	19.54	3.79	1.34
State aid status					
Did not receive	74.47	76.84	78.12	-3.65	-1.28
Received	‡	‡	‡	‡	‡
Unknown	23.33	20.88	19.54	3.79	1.34
CPS record available					
Yes	94.27	94.85	95.62	-1.35	-0.77
No	5.73	5.15	4.38	1.35	0.77
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	‡	‡	‡	‡	‡
Health	49.33	45.78	48.28	1.05	-2.50
Vocational/technical	2.91	5.77	3.47	-0.56	2.30
Other technical/professional	42.11	40.59	39.89	2.22	0.70
Unknown	3.72	5.78	3.48	0.24	2.30
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	5.83	5.34	5.94	-0.11	-0.60
65–80 percent	50.91	50.96	48.14	2.77	2.82
81–92 percent	34.14	36.41	36.20	-2.06	0.21
93 percent or more	‡	‡	‡	‡	‡
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-42. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit less-than-2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	‡	‡	‡	‡	‡
41.65–60.34 percent	‡	‡	‡	‡	‡
60.35 percent or more	‡	‡	‡	‡	‡
Unknown	99.90	99.86	99.94	-0.04	-0.08
Six-year federal loan default status					
No	58.63	62.21	66.43	-7.80*	-4.22
Yes	41.37	37.79	33.57	7.80*	4.22
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	‡	‡	‡	‡	‡
62.67–79.32 percent	34.13	30.15	28.14	5.99*	2.01
79.33–98.72 percent	26.32	29.45	26.24	0.08	3.21
98.73 percent or more	20.34	22.53	27.43	-7.09*	-4.90
Unknown	13.88	11.64	14.12	-0.24	-2.48
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	28.77	32.92	33.89	-5.12*	-0.97
\$3,120.55–\$5,425.76	50.85	48.59	44.51	6.34*	4.08
\$5,425.77–\$8,864.46	5.99	6.35	6.86	-0.87	-0.51
\$8,864.47 or more	‡	‡	‡	‡	‡
Unknown	13.88	11.64	14.12	-0.24	-2.48

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ <sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-43. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	2.45	2.92	2.82	-0.37	0.10
Mideast	21.66	20.85	20.09	1.57	0.76
Great Lakes	10.10	12.48	9.43	0.67	3.05
Plains	‡	‡	‡	‡	‡
Southeast	18.79	19.46	18.72	0.07	0.74
Southwest	14.18	13.40	13.87	0.31	-0.47
Rocky Mountains	5.08	6.14	4.52	0.56	1.62
Far West	25.24	22.84	28.57	-3.33	-5.73*
Institution total enrollment					
0–2,628	69.02	71.23	70.64	-1.62	0.59
2,629–10,233	29.31	26.24	26.94	2.37	-0.70
10,234–26,884	‡	‡	‡	‡	‡
26,885 or more	‡	‡	‡	‡	‡
Age as of Dec 31, 2011					
15–23	64.07	70.01	68.83	-4.76	1.18
24–29	17.42	13.36	14.43	2.99	-1.07
30 or more	18.51	16.63	16.74	1.77	-0.11
Pell Grant status					
Received	20.58	21.97	6.67	13.91*	15.30*
Did not receive	79.42	78.03	93.33	-13.91*	-15.30*
Total Pell Grant amount received					
\$0 or unknown	15.72	17.40	6.17	9.55*	11.23*
\$1–\$3,500	21.57	19.37	21.10	0.47	-1.73
\$3,501–\$6,352	31.60	32.33	34.60	-3.00	-2.27
\$6,353–\$13,088	24.36	23.27	28.41	-4.05	-5.14*
\$13,089 or more	6.75	7.63	9.72	-2.97*	-2.09
Stafford Loan status					
Received	11.38	12.60	22.12	-10.74*	-9.52*
Did not receive	88.62	87.40	77.88	10.74*	9.52*
Total Stafford amount received					
\$0 or unknown	10.53	13.08	17.98	-7.45*	-4.90*
\$1–\$6,365	27.32	23.46	25.52	1.80	-2.06
\$6,366–\$12,755	32.40	33.50	30.04	2.36	3.46*
\$12,756–\$26,000	24.26	23.88	21.68	2.58	2.20
\$26,001 or more	5.48	6.08	4.78	0.70	1.30

See notes at end of table.

**Table K-43. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	86.28	83.41	87.02	-0.74	-3.61*
\$1–\$6,900	5.23	5.77	6.34	-1.11*	-0.57
\$6,901–\$14,995	4.17	5.28	3.47	0.70	1.81
\$14,996–\$34,345	3.79	5.02	2.81	0.98	2.21*
\$34,346 or more	‡	‡	‡	‡	‡
Federal aid status					
Did not receive	10.53	13.08	17.98	-7.45*	-4.90*
Received	89.47	86.92	82.02	7.45*	4.90*
Institution aid status					
Did not receive	85.20	82.94	85.07	0.13	-2.13
Received	5.59	7.17	6.09	-0.50	1.08
Unknown	9.21	9.89	8.84	0.37	1.05
State aid status					
Did not receive	85.81	85.47	83.75	2.06	1.72
Received	4.99	4.64	7.41	-2.42*	-2.77
Unknown	9.21	9.89	8.84	0.37	1.05
CPS record available					
Yes	97.03	96.49	96.08	0.95	0.41
No	2.97	3.51	3.92	-0.95	-0.41
Major					
Humanities	‡	‡	‡	‡	‡
Social/behavioral sciences	‡	‡	‡	‡	‡
Life sciences	‡	‡	‡	‡	‡
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	‡	‡	‡	‡	‡
Engineering	‡	‡	‡	‡	‡
Education	‡	‡	‡	‡	‡
Business/management	4.93	4.76	4.60	0.33	0.16
Health	42.17	37.84	43.06	-0.89	-5.22*
Vocational/technical	26.10	29.75	27.61	-1.51	2.14
Other technical/professional	11.29	11.79	11.25	0.04	0.54
Unknown	9.22	8.68	6.81	2.41	1.87
Percentage of full-time, first-time degree/ certificate-seeking undergraduate students who received any grant aid					
64 percent or less	20.47	21.61	21.31	-0.84	0.30
65–80 percent	30.59	32.82	32.80	-2.21	0.02
81–92 percent	32.57	28.97	33.12	-0.55	-4.15*
93 percent or more	16.38	16.60	12.77	3.61	3.83
Unknown	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-43. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 2-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	‡	‡	‡	‡	‡
23.65–41.64 percent	5.87	6.03	5.84	0.03	0.19
41.65–60.34 percent	33.89	34.82	33.12	0.77	1.70
60.35 percent or more	57.30	56.33	59.21	-1.91	-2.88
Unknown	‡	‡	‡	‡	‡
Six-year federal loan default status					
No	60.78	65.07	67.40	-6.62*	-2.33
Yes	39.22	34.93	32.60	6.62*	2.33
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	18.43	16.51	19.88	-1.45	-3.37
62.67–79.32 percent	21.21	23.82	20.85	0.36	2.97
79.33–98.72 percent	12.53	13.11	13.90	-1.37	-0.79
98.73 percent or more	44.55	42.73	41.74	2.81	0.99
Unknown	3.29	3.82	3.63	-0.34	0.19
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	50.78	45.88	45.29	5.49*	0.59
\$3,120.55–\$5,425.76	33.73	36.17	37.54	-3.81	-1.37
\$5,425.77–\$8,864.46	7.00	7.49	7.93	-0.93	-0.44
\$8,864.47 or more	5.20	6.64	5.60	-0.40	1.04
Unknown	3.29	3.82	3.63	-0.34	0.19

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$

<sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-44. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Bureau of Economic Analysis Code (Office of Business Economics [OBE]) Region <sup>2</sup>					
New England	3.54	2.53	2.77	0.77	-0.24
Mideast	7.20	8.60	9.95	-2.75	-1.35
Great Lakes	6.87	6.89	8.55	-1.68	-1.66
Plains	13.31	14.82	12.02	1.29	2.80
Southeast	22.63	21.85	20.38	2.25	1.47
Southwest	26.70	25.41	28.14	-1.44	-2.73
Rocky Mountains	7.22	7.20	4.53	2.69	2.67
Far West	12.53	12.70	13.65	-1.12	-0.95
Institution total enrollment					
0–2,628	25.33	25.98	28.26	-2.93	-2.28
2,629–10,233	19.96	19.35	21.95	-1.99	-2.60
10,234–26,884	9.55	8.12	8.77	0.78	-0.65
26,885 or more	45.16	46.55	41.03	4.13	5.52
Age as of Dec 31, 2011					
15–23	46.92	51.03	54.04	-7.12*	-3.01
24–29	21.47	19.56	20.58	0.89	-1.02
30 or more	31.61	29.40	25.39	6.22	4.01
Pell Grant status					
Received	24.56	24.94	25.07	-0.51	-0.13
Did not receive	75.44	75.06	74.93	0.51	0.13
Total Pell Grant amount received					
\$0 or unknown	18.80	19.95	18.30	0.50	1.65
\$1–\$3,500	25.45	24.60	21.05	4.40	3.55*
\$3,501–\$6,352	14.52	13.96	15.11	-0.59	-1.15
\$6,353–\$13,088	21.39	21.63	22.18	-0.79	-0.55
\$13,089 or more	19.84	19.86	23.37	-3.53*	-3.51*
Stafford Loan status					
Received	21.49	21.16	18.52	2.97	2.64
Did not receive	78.51	78.84	81.48	-2.97	-2.64
Total Stafford amount received					
\$0 or unknown	22.37	19.62	17.39	4.98	2.23*
\$1–\$6,365	21.99	23.25	22.82	-0.83	0.43
\$6,366–\$12,755	15.24	15.24	15.82	-0.58	-0.58
\$12,756–\$26,000	21.30	22.99	21.48	-0.18	1.51
\$26,001 or more	19.10	18.90	22.49	-3.39*	-3.59*

See notes at end of table.

**Table K-44. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Total Parent Loan for Undergraduate Students (PLUS) amount received					
\$0 or unknown	90.59	90.14	88.58	2.01*	1.56*
\$1–\$6,900	2.86	3.03	3.49	-0.63	-0.46
\$6,901–\$14,995	1.89	2.11	2.63	-0.74*	-0.52*
\$14,996–\$34,345	2.50	2.51	3.12	-0.62	-0.61
\$34,346 or more	2.17	2.22	2.19	-0.02	0.03
Federal aid status					
Did not receive	22.37	19.60	17.39	4.98	2.21*
Received	77.63	80.40	82.61	-4.98	-2.21*
Institution aid status					
Did not receive	88.62	87.62	86.75	1.87	0.87
Received	3.60	3.85	3.24	0.36	0.61
Unknown	7.78	8.53	10.01	-2.23*	-1.48
State aid status					
Did not receive	87.56	86.26	83.40	4.16*	2.86
Received	4.67	5.21	6.58	-1.91*	-1.37*
Unknown	7.78	8.53	10.01	-2.23*	-1.48
CPS record available					
Yes	91.61	93.44	93.66	-2.05	-0.22
No	8.39	6.56	6.34	2.05	0.22
Major					
Humanities	11.47	10.21	10.30	1.17	-0.09
Social/behavioral sciences	1.47	1.64	1.95	-0.48	-0.31
Life sciences	3.83	3.30	3.93	-0.10	-0.63
Physical sciences/math	‡	‡	‡	‡	‡
Computer/Information science	11.97	11.22	13.45	-1.48	-2.23*
Engineering	3.05	3.48	3.65	-0.60	-0.17
Education	3.00	2.79	2.28	0.72	0.51
Business/management	26.63	29.08	25.07	1.56	4.01*
Health	13.89	13.09	14.61	-0.72	-1.52
Vocational/technical	‡	‡	‡	‡	‡
Other technical/professional	21.73	22.36	22.73	-1.00	-0.37
Unknown	2.82	2.63	1.94	0.88	0.69
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid					
64 percent or less	8.51	10.02	8.88	-0.37	1.14
65–80 percent	18.40	16.79	16.63	1.77	0.16
81–92 percent	56.75	58.17	57.89	-1.14	0.28
93 percent or more	16.34	15.02	16.59	-0.25	-1.57
Unknown	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-44. Student-level analysis after nonresponse and poststratification adjustments for selected variables for students in private for-profit 4-year institutions using weight WTB000: 2017—Continued**

Selected variables	After nonresponse weight adjustment mean; respondents, nonresponse adjusted <sup>1</sup> (1)	After poststratification adjustment			
		Means		Difference	
		Full sample, base weighted (2)	Respondents, adjusted for nonresponse and post-stratification (3)	Mean (1) – Mean (3)	Mean (2) – Mean (3)
Graduation rate of full-time, first-time degree/certificate-seeking undergraduate students within 150 percent of normal time to completion					
23.64 percent or less	46.59	48.70	46.96	-0.37	1.74
23.65–41.64 percent	27.32	28.40	30.89	-3.57	-2.49
41.65–60.34 percent	6.76	6.81	7.22	-0.46	-0.41
60.35 percent or more	2.58	2.72	2.50	0.08	0.22
Unknown	16.75	13.36	12.43	4.32	0.93
Six-year federal loan default status					
No	62.83	64.62	69.03	-6.20*	-4.41*
Yes	37.17	35.38	30.97	6.20*	4.41*
Private institution tuition and fees as percent of core revenues (FASB reporting)					
62.66 percent or less	1.48	1.11	1.38	0.10	-0.27
62.67–79.32 percent	20.76	19.75	19.83	0.93	-0.08
79.33–98.72 percent	30.58	30.53	34.16	-3.58	-3.63
98.73 percent or more	45.74	47.39	42.59	3.15	4.80
Unknown	1.45	1.23	2.05	-0.60	-0.82
Private institution instructional expenses per FTE enrollment (FASB reporting)					
\$3,120.54 or less	62.89	60.76	55.48	7.41	5.28
\$3,120.55–\$5,425.76	27.42	29.55	32.24	-4.82	-2.69
\$5,425.77–\$8,864.46	6.30	6.66	7.94	-1.64	-1.28
\$8,864.47 or more	1.95	1.81	2.30	-0.35	-0.49
Unknown	1.45	1.23	2.05	-0.60	-0.82

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$

<sup>1</sup> Base weight, adjusted for nonresponse.

<sup>2</sup> New England = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Mideast = Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania; Great Lakes = Illinois, Indiana, Michigan, Ohio, Wisconsin; Plains = Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; Southeast = Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Southwest = Arizona, New Mexico, Oklahoma, Texas; Rocky Mountains = Colorado, Idaho, Montana, Utah, Wyoming; Far West = Alaska, California, Hawaii, Nevada, Oregon, Washington.

NOTE: CPS = Central Processing System; FASB = Financial Accounting Standards Board; FTE = full-time-equivalent. "Base weight" refers to the student sampling weight (final institution weight times student sampling adjustment) adjusted for student multiplicity and unknown eligibility. Categories for Institution total enrollment, Pell Grant amount, Stafford Loan amount, PLUS amount, Percentage of students receiving any grant aid, and Graduation rate were defined by quartiles.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>ALTEARN14</b>											
Before imputation											
Mean percent relative bias across characteristics	24.78	‡	19.03	15.54	7.79	45.71	17.72	9.51	49.02	43.67	24.47
Median percent relative bias across characteristics	17.98	‡	8.49	10.52	5.57	39.13	11.73	6.84	29.49	27.45	14.82
Percentage of characteristics with significant bias	75.51	‡	43.06	38.46	30.43	34.09	42.65	19.40	18.87	21.54	13.33
Median effect size	0.20	‡	0.10	0.14	0.07	0.37	0.12	0.07	0.39	0.30	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.06	‡	0.80	0.32	0.55	‡	3.25	0.22	‡	13.14	1.60
Effect size for difference <sup>2</sup>	#	‡	0.01	#	0.01	‡	0.01	#	‡	0.20	0.01
<b>ALTWORK14</b>											
Before imputation											
Mean percent relative bias across characteristics	24.37	‡	18.52	15.17	7.59	42.48	17.38	9.04	43.80	40.32	23.27
Median percent relative bias across characteristics	17.94	‡	8.48	10.51	5.14	37.77	11.80	5.86	25.40	28.76	14.32
Percentage of characteristics with significant bias	75.51	‡	44.44	38.10	32.84	25.00	42.65	17.91	16.98	24.62	16.00
Median effect size	0.19	‡	0.10	0.14	0.06	0.37	0.11	0.07	0.31	0.30	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.29	‡	0.10	0.37	0.22	‡	0.36	0.26	‡	2.84	0.36
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>CARAMT17 (Monthly car loan payment 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.91	9.98	9.36	9.38	6.05	16.28	10.75	7.97	16.01	13.67	10.35
Median percent relative bias across characteristics	8.79	9.88	4.76	7.11	4.60	13.51	7.33	6.29	12.14	10.43	5.74
Percentage of characteristics with significant bias	72.45	4.76	39.44	37.50	35.82	13.04	36.76	30.30	26.42	24.24	12.00
Median effect size	0.09	0.17	0.06	0.08	0.06	0.20	0.09	0.06	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.52	‡	1.00	2.44	0.26	6.37	2.86	3.44	19.94*	6.75	4.24
Effect size for difference <sup>2</sup>	#	‡	0.01	0.02	#	0.04	0.02	0.02	0.14	0.05	0.03

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>CARLN17 (Have a car loan 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.40	9.41	6.02	16.28	10.72	8.04	15.89	13.62	10.59
Median percent relative bias across characteristics	8.95	9.88	4.73	7.18	4.40	13.51	6.71	6.36	11.86	10.43	6.78
Percentage of characteristics with significant bias	72.45	4.76	39.44	37.50	32.84	13.04	36.76	32.31	26.42	24.24	12.00
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.32	‡	0.76	1.33	0.47	6.49	1.69	0.66	10.11*	2.16	1.89
Effect size for difference <sup>2</sup>	#	‡	0.01	0.01	#	‡	0.02	0.01	0.10	0.02	0.02
<b>CRDBAL17 (Credit cards: balance due 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	17.46	7.34	12.35	13.28	7.73	24.88	14.43	10.65	20.21	17.59	17.34
Median percent relative bias across characteristics	12.78	5.86	8.15	9.36	5.29	21.62	9.81	7.42	13.72	10.58	9.10
Percentage of characteristics with significant bias	79.59	9.52	36.62	43.75	32.84	21.74	38.24	27.69	27.78	18.18	14.67
Median effect size	0.15	0.20	0.08	0.11	0.07	0.31	0.09	0.08	0.18	0.13	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	12.06*	‡	14.59*	20.69*	3.92	47.87	9.81*	13.88*	7.23	25.56*	20.74*
Effect size for difference <sup>2</sup>	0.05	‡	0.06	0.08	0.02	0.16	0.04	0.05	0.03	0.11	0.08
<b>CRDNUM17 (Credit cards: number in own name 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.77	9.98	9.33	9.09	6.08	16.28	10.62	8.17	15.62	13.71	10.40
Median percent relative bias across characteristics	8.79	9.88	4.74	6.67	4.60	14.00	6.56	6.57	11.41	10.66	6.59
Percentage of characteristics with significant bias	71.43	4.76	39.44	37.50	37.31	10.87	36.76	32.31	25.93	27.27	12.00
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.14	0.11	0.05
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.71	‡	0.21	1.90	0.34	33.67*	3.56	2.05	16.49*	6.14*	1.44
Effect size for difference <sup>2</sup>	0.01	‡	#	0.02	#	‡	0.04	0.02	0.17	0.07	0.02

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>CRDPAY17 (Credit cards: pay off balance 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	17.26	7.96	12.31	13.31	7.55	24.88	14.25	10.51	19.88	16.65	17.31
Median percent relative bias across characteristics	12.96	6.63	8.33	9.60	5.28	21.62	9.21	7.66	13.60	8.11	9.37
Percentage of characteristics with significant bias	78.57	9.09	36.62	42.19	40.30	21.74	38.24	29.23	27.78	18.18	14.67
Median effect size	0.15	0.21	0.08	0.11	0.07	0.31	0.09	0.08	0.18	0.12	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	11.58*	‡	16.49*	13.78*	5.02*	18.92*	7.26*	6.59*	19.52*	23.53*	24.73*
Effect size for difference <sup>2</sup>	0.12	‡	0.17	0.14	0.05	‡	0.08	0.07	0.19	0.23	0.25
<b>D1DERMAJ (Derived Major 2017 - Specific 2010 CIP Code for Degree 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.82	10.74	7.60	5.92	4.62	18.13	9.35	6.51	13.81	13.82	8.32
Median percent relative bias across characteristics	7.82	9.28	4.56	4.34	3.09	15.31	6.27	4.57	11.43	11.81	5.75
Percentage of characteristics with significant bias	72.45	23.81	42.86	36.21	31.82	13.95	43.33	29.51	16.67	21.54	14.67
Median effect size	0.08	0.14	0.04	0.06	0.05	0.17	0.07	0.05	0.11	0.10	0.05
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	24.78*	‡	‡	‡	‡	‡	‡	‡	34.68*	20.92*	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>D2DERMAJ (Derived Major 2017 - Specific 2010 CIP Code for Degree 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.44	18.74	13.74	11.41	9.84	32.28	14.21	20.81	30.14	22.30	16.98
Median percent relative bias across characteristics	8.49	11.74	6.68	7.29	8.09	25.62	9.19	17.41	25.63	15.36	13.73
Percentage of characteristics with significant bias	58.16	0.00	38.57	42.37	34.85	18.60	36.51	48.39	39.62	18.46	20.00
Median effect size	0.12	0.35	0.07	0.11	0.11	0.32	0.12	0.21	0.28	0.15	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	6.27*	‡	‡	‡	‡	‡	‡	‡	‡	65.22*	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>D3DERMAJ (Derived Major 2017 - Specific 2010 CIP Code for Degree 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	27.22	‡	33.62	30.51	32.81	‡	31.77	46.66	46.98	47.27	40.96
Median percent relative bias across characteristics	23.39	‡	20.44	23.63	27.60	‡	24.95	42.76	49.83	28.27	34.62
Percentage of characteristics with significant bias	54.08	‡	33.80	22.41	37.88	‡	21.31	26.23	25.49	20.31	28.00
Median effect size	0.22	‡	0.17	0.27	0.32	‡	0.28	0.49	0.47	0.22	0.24
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.08	‡	3.66	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>D4DERMAJ (Derived Major 2017 - Specific 2010 CIP Code for Degree 4)</b>											
Before imputation											
Mean percent relative bias across characteristics	59.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	42.76	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	22.83	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.35	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>DEGEVR14 (Likelihood of ever completing current/most recent degree 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	29.52	40.70	21.72	20.79	8.99	41.64	18.21	9.32	50.69	50.43	34.42
Median percent relative bias across characteristics	19.81	36.71	10.92	17.34	7.18	32.03	13.01	5.32	36.33	42.02	21.42
Percentage of characteristics with significant bias	81.63	20.00	42.47	50.00	36.23	26.67	36.23	16.18	12.96	24.62	25.33
Median effect size	0.21	0.62	0.12	0.18	0.07	0.47	0.11	0.06	0.27	0.30	0.23
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.55*	‡	4.44*	2.35	0.29	7.29	0.04	0.01	3.43	19.04*	19.03*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>DEGEXP14 (Likelihood of completing degree by expected date 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	29.57	40.70	21.88	20.69	8.98	41.64	18.20	9.35	50.69	50.49	34.45
Median percent relative bias across characteristics	19.85	36.71	11.25	17.03	7.17	32.03	13.14	5.32	36.33	42.45	21.16
Percentage of characteristics with significant bias	81.63	20.00	42.47	50.00	36.23	26.67	36.23	16.18	12.96	24.62	25.33
Median effect size	0.21	0.62	0.12	0.18	0.07	0.47	0.11	0.06	0.27	0.30	0.23
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.93*	‡	5.41	4.39	0.63	32.91*	3.47	0.71	51.47*	24.75	19.86*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>DEGEXPDT14 (Date expected to complete degree requirements 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	17.88	18.29	14.16	14.88	7.84	16.18	15.69	7.86	22.90	17.45	25.56
Median percent relative bias across characteristics	14.26	11.44	5.88	10.17	5.35	12.27	10.20	4.15	19.44	11.54	13.67
Percentage of characteristics with significant bias	72.45	0.00	38.36	36.92	33.33	17.78	30.43	8.96	22.64	22.73	22.67
Median effect size	0.15	0.36	0.07	0.12	0.07	0.22	0.10	0.05	0.17	0.12	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	7.81*	‡	6.96*	11.42*	5.27*	‡	5.47*	3.66*	1.07	4.86*	8.18*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>DEGEXPDT17 (Date expected to complete degree requirements 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	21.83	16.21	16.81	16.36	7.04	22.97	16.75	9.68	21.26	19.98	25.09
Median percent relative bias across characteristics	16.89	11.53	7.91	12.47	4.80	17.06	9.77	5.85	14.65	12.13	11.24
Percentage of characteristics with significant bias	78.57	4.76	45.07	48.39	38.81	24.44	47.76	21.88	33.33	24.62	25.33
Median effect size	0.17	0.16	0.08	0.14	0.05	0.23	0.09	0.06	0.20	0.14	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.56*	‡	2.35	0.38	0.26	0.26	0.56	0.05	0.34	0.80	1.98*
Effect size for difference <sup>2</sup>	0.04	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>DEGONLN17 (Certificate or degree program entirely online)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.45	9.33	9.35	8.49	5.94	16.00	10.19	8.18	15.28	13.63	10.46
Median percent relative bias across characteristics	9.04	7.01	5.10	6.26	4.44	12.95	6.64	6.37	12.02	10.61	8.08
Percentage of characteristics with significant bias	72.45	0.00	35.21	37.50	34.33	8.70	36.76	32.31	26.42	27.27	10.67
Median effect size	0.09	0.18	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.51	‡	0.47	0.33	0.10	1.20*	0.10	0.11	1.39*	0.55	1.69
Effect size for difference <sup>2</sup>	0.01	‡	0.01	‡	‡	‡	‡	‡	‡	0.01	0.02
<b>DEPANY17 (Has dependents: any 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.32	5.43	9.68	9.35	6.18	17.23	10.53	8.51	12.87	13.46	9.54
Median percent relative bias across characteristics	9.17	3.86	5.51	7.39	4.24	14.23	7.34	6.76	7.75	11.35	5.78
Percentage of characteristics with significant bias	74.49	0.00	38.03	41.94	39.39	13.64	41.54	35.48	16.98	27.27	12.00
Median effect size	0.11	0.09	0.05	0.08	0.06	0.18	0.09	0.06	0.11	0.10	0.05
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.42*	‡	0.96	0.76	0.07	1.36	0.48	0.30	9.49*	10.26*	3.21*
Effect size for difference <sup>2</sup>	0.02	‡	0.01	‡	‡	‡	‡	‡	0.10	0.10	0.03
<b>DEPCOL17 (Independent students: number of dependents in college 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.50	15.19	23.44	23.90	22.08	20.92	26.41	27.59	30.23	29.28	21.30
Median percent relative bias across characteristics	11.43	11.82	14.56	16.66	18.30	15.26	17.07	21.41	25.61	18.56	13.95
Percentage of characteristics with significant bias	37.76	5.26	35.71	25.81	30.30	0.00	20.00	16.13	32.08	31.82	12.00
Median effect size	0.09	0.25	0.10	0.19	0.19	0.20	0.18	0.24	0.33	0.18	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.71	‡	2.29	14.30	1.83	13.32	15.00	4.62	26.21	32.67	2.47
Effect size for difference <sup>2</sup>	#	‡	#	0.01	#	0.02	0.02	#	0.06	0.07	#

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>DEPEND5B (Dependency and marital status (separated is unmarried) 2011–12)</b>											
Before imputation											
Mean percent relative bias across characteristics	13.09	19.67	13.04	13.95	10.94	19.68	14.61	16.77	13.16	11.28	9.97
Median percent relative bias across characteristics	10.07	19.09	6.95	8.86	6.67	14.49	10.09	11.79	8.47	6.27	6.19
Percentage of characteristics with significant bias	67.35	20.83	38.89	39.06	36.23	6.82	41.18	45.45	26.92	25.76	10.67
Median effect size	0.12	0.23	0.09	0.13	0.08	0.26	0.11	0.13	0.11	0.08	0.05
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	5.04*	‡	9.60*	1.33	0.02	‡	1.10*	0.39	1.51	1.89	2.99*
Effect size for difference <sup>2</sup>	0.06	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>DEPNUM17 (Has dependents: number 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	13.24	10.50	9.83	9.90	6.07	18.56	11.43	8.80	14.93	13.38	12.33
Median percent relative bias across characteristics	10.26	10.14	5.65	7.45	4.60	16.87	6.92	6.86	9.89	9.78	9.30
Percentage of characteristics with significant bias	71.43	4.76	40.00	45.16	39.39	22.73	43.08	38.71	22.64	25.76	17.33
Median effect size	0.11	0.15	0.05	0.10	0.06	0.22	0.09	0.06	0.13	0.11	0.08
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	15.14*	‡	12.93*	11.88*	16.09*	4.61	12.12*	13.12*	2.14	3.89	10.07*
Effect size for difference <sup>2</sup>	0.07	‡	0.07	0.04	0.04	0.03	0.04	0.03	0.02	0.03	0.09
<b>DEPNUMCH17 (Has dependents: number of children 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.93	10.00	9.61	9.61	5.99	18.39	11.26	8.75	15.18	13.37	12.03
Median percent relative bias across characteristics	9.82	9.75	5.96	7.48	4.41	17.13	6.78	7.05	11.23	10.90	9.44
Percentage of characteristics with significant bias	73.47	4.55	42.86	44.26	39.39	22.73	43.08	37.10	22.64	25.76	18.67
Median effect size	0.11	0.14	0.05	0.09	0.06	0.22	0.09	0.06	0.13	0.11	0.08
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	13.02*	‡	11.62*	4.32	12.56*	5.42	9.89*	9.95*	1.55	2.24	8.55*
Effect size for difference <sup>2</sup>	0.06	‡	0.06	0.01	0.03	0.03	0.03	0.02	0.01	0.02	0.07

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>DEPNUMOT17 (Has dependents: number other than children 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.46	10.16	9.72	9.86	6.04	18.55	10.57	8.60	13.25	12.78	10.98
Median percent relative bias across characteristics	9.63	10.97	5.05	8.13	4.03	15.95	7.27	6.23	9.22	11.02	7.81
Percentage of characteristics with significant bias	70.41	4.55	42.86	44.26	39.39	18.18	44.62	35.48	16.98	22.73	20.00
Median effect size	0.11	0.14	0.05	0.09	0.06	0.22	0.09	0.06	0.11	0.10	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	19.58*	‡	16.10*	23.15*	19.95*	4.78	12.31	20.36	27.31	5.63	23.08*
Effect size for difference <sup>2</sup>	0.04	‡	0.04	0.03	0.03	0.01	0.02	0.02	0.07	0.02	0.07
<b>DGEVR17 (Highest degree ever expected 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.82	9.45	9.54	8.59	5.93	17.17	10.11	8.30	16.38	13.93	10.43
Median percent relative bias across characteristics	9.17	8.77	5.15	6.49	4.34	14.42	6.54	6.22	12.59	12.49	8.57
Percentage of characteristics with significant bias	72.45	0.00	38.03	39.06	32.84	13.04	36.76	32.31	27.78	27.27	12.00
Median effect size	0.09	0.17	0.05	0.08	0.06	0.22	0.08	0.06	0.15	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	3.73*	‡	3.07	1.41	1.34	‡	0.40	1.70*	8.47*	3.74*	3.04
Effect size for difference <sup>2</sup>	0.04	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>DSCTRATE14 (Discount rate 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.80	9.15	8.40	9.53	5.52	15.49	12.27	7.27	13.21	10.63	12.56
Median percent relative bias across characteristics	9.53	9.14	4.16	5.87	4.00	13.48	10.01	4.98	8.42	7.35	7.09
Percentage of characteristics with significant bias	76.53	0.00	35.21	35.94	32.84	15.22	42.65	23.08	18.52	21.21	17.33
Median effect size	0.11	0.16	0.05	0.09	0.06	0.23	0.09	0.05	0.11	0.07	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.22	‡	1.70	0.54	1.48*	‡	0.32	1.54*	2.17	1.66	2.35*
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less-than- 4-year	Private nonprofit 4- year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less-than- 2-year	Private for-profit 2-year	Private for-profit 4-year
<b>DSCTRATE17 (Discount rate 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.94	10.04	9.85	9.15	6.06	16.92	10.71	8.10	15.80	13.79	10.57
Median percent relative bias across characteristics	9.19	9.67	4.93	6.97	4.49	13.29	7.12	6.24	11.09	10.72	6.60
Percentage of characteristics with significant bias	74.49	4.76	40.28	35.94	32.84	8.70	37.68	32.31	22.64	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.02	‡	1.54	3.08	1.01	‡	3.12	2.34	15.72*	10.80*	3.25*
Effect size for difference <sup>2</sup>	0.01	‡	0.02	‡	‡	‡	‡	‡	‡	‡	0.04
<b>DSTUINC17 (Dependent students: income 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	38.39	65.02	33.74	17.60	20.49	103.66	29.54	33.23	121.82	158.80	103.33
Median percent relative bias across characteristics	25.28	53.63	21.85	9.82	15.43	65.86	22.33	22.69	62.26	67.07	59.86
Percentage of characteristics with significant bias	65.26	31.25	49.28	13.11	36.36	80.00	33.85	28.13	21.62	23.64	30.00
Median effect size	0.29	0.81	0.26	0.17	0.20	1.19	0.27	0.35	0.81	0.87	0.77
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	3.54*	71.59	0.45	3.36	4.03	65.18	12.73	9.06	73.24*	20.01	32.40*
Effect size for difference <sup>2</sup>	0.04	0.61	0.01	0.04	0.04	0.62	0.10	0.08	0.75	0.23	0.29
<b>EMPNUM3Y (Number of jobs through June 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.33	‡	0.40	1.97	0.83	‡	5.30	0.78	3.74	2.56	1.00
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>ENINPT6Y (Attendance intensity pattern through 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	17.41	28.17	7.69	7.71	4.94	34.31	11.47	8.11	52.10	27.62	29.10
Median percent relative bias across characteristics	10.51	26.66	4.84	4.93	3.30	23.56	7.72	5.96	29.11	15.43	19.88
Percentage of characteristics with significant bias	82.65	14.29	39.44	30.65	37.88	10.87	33.33	29.69	7.41	13.64	28.00
Median effect size	0.11	0.24	0.06	0.08	0.05	0.40	0.07	0.05	0.40	0.21	0.23
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	6.46*	23.02	6.04*	3.04*	2.41*	22.25	6.39*	3.77*	65.38*	60.41*	38.49*
Effect size for difference <sup>2</sup>	0.07	‡	0.07	‡	‡	‡	‡	‡	‡	‡	0.40
<b>EXOCC6 (Expected job: type of occupation 2012 (specific))</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.83*	‡	1.82	0.86	2.42	‡	2.95	1.31	‡	‡	8.51*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>EXOCC6Y14 (Expected job: type of occupation 2014 (specific))</b>											
Before imputation											
Mean percent relative bias across characteristics	23.03	27.43	17.59	14.69	7.46	37.62	15.22	8.39	26.70	31.15	23.25
Median percent relative bias across characteristics	17.07	19.03	8.19	10.49	5.38	36.65	11.78	4.50	12.49	15.76	17.51
Percentage of characteristics with significant bias	76.53	21.88	47.22	36.92	33.33	20.83	37.68	17.65	14.04	16.18	24.00
Median effect size	0.18	0.39	0.10	0.13	0.06	0.37	0.09	0.06	0.16	0.15	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	7.89*	‡	9.45	‡	‡	‡	‡	‡	‡	78.39*	36.49*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>EXPBA (Plan to continue to a bachelor's degree program within 5 year, 2011–12)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.80	‡	10.67	29.07	‡	24.63	65.95	116.11	‡	31.38	19.84
Median percent relative bias across characteristics	13.61	‡	6.53	24.56	‡	17.62	48.06	80.38	‡	19.28	14.22
Percentage of characteristics with significant bias	57.14	‡	43.06	34.48	‡	15.00	20.34	38.46	‡	23.08	10.67
Median effect size	0.18	‡	0.06	0.24	‡	0.26	0.50	0.84	‡	0.20	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.91	‡	1.51	5.23	‡	‡	‡	‡	‡	19.39*	5.14*
Effect size for difference <sup>2</sup>	0.02	‡	0.02	‡	‡	‡	‡	‡	‡	0.21	0.06
<b>EXPFLD (Job nonmonetary benefits: importance of being an expert 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.57	‡	0.80	2.23	0.66	‡	2.42	0.24	6.71*	1.50	1.66*
Effect size for difference <sup>2</sup>	0.01	‡	0.01	‡	‡	‡	‡	‡	‡	‡	0.02
<b>EXPFLD14 (Job nonmonetary benefits: importance of being an expert 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.78	9.31	8.15	9.79	5.53	18.00	12.26	7.32	13.16	10.02	12.54
Median percent relative bias across characteristics	9.74	10.64	4.14	6.02	4.07	17.06	10.24	5.08	8.09	5.72	7.02
Percentage of characteristics with significant bias	76.53	0.00	33.80	39.06	32.84	18.18	42.65	23.08	18.52	22.73	17.33
Median effect size	0.11	0.15	0.05	0.09	0.06	0.25	0.08	0.05	0.11	0.07	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.51	‡	1.61	6.68*	1.67	7.70	2.95	0.62	4.98	2.12	3.64*
Effect size for difference <sup>2</sup>	0.01	‡	0.02	0.07	0.02	‡	0.03	0.01	0.08	0.03	0.04

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>EXPFLD17 (Job nonmonetary benefits: importance of being an expert 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.74	9.67	9.25	8.85	6.01	16.85	10.49	8.01	15.79	13.74	10.36
Median percent relative bias across characteristics	9.09	8.68	4.84	6.94	4.37	13.50	6.89	6.19	11.72	10.73	8.63
Percentage of characteristics with significant bias	71.43	0.00	38.03	35.94	35.82	19.57	35.29	31.82	26.42	30.30	10.67
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.09	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.85	‡	1.01	4.38*	1.30	6.69	0.93	1.44	4.50	6.00*	1.69
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.06	0.02	‡	0.01	0.02	‡	0.06	0.02
<b>EXPWAGE (Expected job: annual salary expected 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.39	‡	0.91	0.88	0.22	2.38	0.60	0.78	9.25*	0.85	0.70
Effect size for difference <sup>2</sup>	#	‡	0.01	0.01	#	0.02	0.01	0.01	0.10	0.01	0.01
<b>EXPWAGE14 (Expected job: annual salary expected 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.16	28.03	17.81	15.26	7.25	37.99	15.30	8.52	25.20	31.14	22.60
Median percent relative bias across characteristics	17.80	23.54	8.31	10.32	5.49	36.33	11.72	4.04	11.15	15.76	17.42
Percentage of characteristics with significant bias	76.53	18.18	44.44	34.85	33.33	22.92	40.58	13.24	14.04	17.65	21.33
Median effect size	0.18	0.37	0.10	0.13	0.06	0.39	0.09	0.05	0.15	0.15	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.22	107.66	0.64	9.43*	6.05*	37.75*	0.49	4.76*	17.28*	34.96*	9.42*
Effect size for difference <sup>2</sup>	0.01	0.90	#	0.09	0.06	0.31	#	0.04	0.29	0.25	0.06

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>FAMTIM (Job nonmonetary benefits: importance of balancing work/family 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.23	‡	0.86	0.91	0.56	‡	0.54	0.42	1.98	0.75	1.12
Effect size for difference <sup>2</sup>	0.01	‡	0.02	‡	‡	‡	‡	‡	‡	‡	‡
<b>FAMTIM14 (Job nonmonetary benefits: importance of balancing work/family 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.63	9.31	8.16	9.45	5.58	18.00	12.27	7.11	13.51	10.26	12.45
Median percent relative bias across characteristics	9.76	10.64	4.62	5.69	3.96	17.06	10.02	4.92	9.09	7.14	6.73
Percentage of characteristics with significant bias	77.55	0.00	33.80	37.50	32.84	18.18	42.65	23.08	18.52	22.73	17.33
Median effect size	0.11	0.15	0.05	0.09	0.06	0.25	0.09	0.05	0.11	0.07	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.07	‡	0.32	6.35*	1.58	5.00	2.15	0.42	2.62	3.43	1.21
Effect size for difference <sup>2</sup>	#	‡	#	‡	‡	‡	0.04	#	‡	0.04	0.02
<b>FAMTIM17 (Job nonmonetary benefits: importance of balancing work/family 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.73	9.67	9.27	8.88	5.95	16.85	10.53	8.11	15.83	13.73	10.41
Median percent relative bias across characteristics	9.09	8.68	4.89	6.90	4.32	13.50	6.93	6.32	11.82	10.85	8.29
Percentage of characteristics with significant bias	72.45	0.00	38.03	35.94	34.33	19.57	36.76	32.31	26.42	27.27	10.67
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.17	‡	0.41	1.64	0.31	1.17	0.94	0.89	5.98	3.74	0.42
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	‡	‡	‡	‡	‡	0.05	0.01

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>FEDBEN17 (Received federal benefit: any 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.93	10.18	9.69	8.60	5.72	16.09	10.29	8.35	14.67	12.87	10.20
Median percent relative bias across characteristics	8.99	10.12	5.05	6.60	3.77	13.09	6.08	6.65	9.97	10.94	6.23
Percentage of characteristics with significant bias	70.41	0.00	34.72	37.50	28.99	17.39	32.35	33.33	24.53	22.73	10.67
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.10	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.33	‡	0.43	0.20	0.27	0.88	0.13	0.20	8.85*	8.20*	2.23
Effect size for difference <sup>2</sup>	#	‡	#	#	#	‡	‡	#	0.09	0.09	0.02
<b>FIN2K17 (Financial security: \$2,000 within the next month 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.83	9.98	9.36	8.85	6.08	16.72	10.59	8.06	16.14	13.77	10.54
Median percent relative bias across characteristics	8.93	9.88	5.53	6.51	4.50	14.80	6.95	6.18	12.12	10.71	6.82
Percentage of characteristics with significant bias	72.45	4.76	40.85	35.94	37.31	6.52	36.76	32.31	26.42	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.21	0.09	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.21*	‡	2.08	2.35	0.73	‡	0.79	0.66	11.21*	2.85	1.13
Effect size for difference <sup>2</sup>	0.01	‡	0.02	0.03	0.01	‡	‡	‡	0.12	0.03	0.01
<b>FINLITA17 (Financial literacy: Effect of inflation on purchasing 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.94	10.18	9.28	9.00	6.21	16.35	10.65	7.96	16.42	13.84	10.50
Median percent relative bias across characteristics	8.88	9.19	5.43	6.81	4.40	13.74	6.78	5.97	11.52	10.93	7.06
Percentage of characteristics with significant bias	73.47	4.55	38.03	37.50	37.31	6.52	36.76	31.82	26.42	31.82	13.33
Median effect size	0.10	0.19	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.10	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.45	‡	1.11	4.10*	0.85	5.14	2.06	0.34	12.42*	9.34*	3.09*
Effect size for difference <sup>2</sup>	#	‡	0.01	0.04	0.01	‡	0.02	#	0.14	0.10	0.03

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>FINLITB17 (Financial literacy: Effect of interest on savings 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.87	9.98	9.30	9.00	6.17	16.17	10.71	7.95	16.20	13.94	10.52
Median percent relative bias across characteristics	8.80	9.88	4.97	6.93	4.72	13.08	6.99	6.21	11.59	10.37	6.75
Percentage of characteristics with significant bias	71.43	4.76	40.85	35.94	34.33	6.52	37.68	31.82	25.93	30.30	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.14	‡	0.15	1.80*	0.64	3.38*	0.22	0.16	6.51*	0.73	0.87
Effect size for difference <sup>2</sup>	#	‡	#	‡	‡	‡	‡	‡	‡	0.01	0.02
<b>FINLITC17 (Financial literacy: Effect of diversification on risk 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.82	9.98	9.22	8.94	6.04	16.22	10.57	8.02	16.22	13.83	10.43
Median percent relative bias across characteristics	8.94	9.88	4.97	6.82	4.40	13.54	6.85	6.31	12.32	10.49	6.84
Percentage of characteristics with significant bias	72.45	4.76	39.44	35.94	32.84	8.70	36.76	31.82	28.30	30.30	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.10	0.05
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.31*	‡	1.00	3.75*	2.90*	9.31*	2.11	0.86	10.96*	6.86*	1.01
Effect size for difference <sup>2</sup>	0.01	‡	0.01	‡	‡	‡	‡	‡	‡	0.08	0.02
<b>GPAEST17 (Grade point average estimate 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	19.31	26.53	14.52	11.28	5.68	35.14	12.54	8.68	17.60	22.23	18.71
Median percent relative bias across characteristics	15.19	27.24	6.88	7.47	2.85	30.22	7.93	5.39	12.56	15.12	14.23
Percentage of characteristics with significant bias	80.61	17.39	45.71	47.54	31.82	30.43	37.88	20.31	11.11	20.00	21.33
Median effect size	0.14	0.28	0.08	0.12	0.06	0.35	0.08	0.06	0.16	0.15	0.11
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.20*	‡	2.52*	0.44	0.47	‡	3.02*	3.13*	18.83*	17.95*	9.05*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HIDEGEVR14 (Likelihood of completing the highest level of education ever expected 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.72	10.22	11.11	9.98	7.09	26.48	15.06	8.47	17.35	15.20	12.17
Median percent relative bias across characteristics	9.55	7.91	5.99	6.28	6.28	22.43	13.12	5.75	11.78	13.31	8.86
Percentage of characteristics with significant bias	66.33	8.33	40.28	24.24	32.86	34.78	35.71	21.74	12.50	24.24	12.00
Median effect size	0.09	0.25	0.07	0.10	0.06	0.34	0.08	0.07	0.15	0.12	0.08
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.36	‡	1.35	5.44*	2.39	‡	4.19	1.91	21.20*	8.36	8.21*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HIEXPWGE (Expected job: highest annual salary expected 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.90	‡	2.03	0.52	0.63	0.16	1.28	1.84*	7.25*	1.97	2.63
Effect size for difference <sup>2</sup>	0.01	‡	0.01	#	0.01	#	0.01	0.02	0.05	0.02	0.02
<b>HIEXPWGE14 (Expected job: highest annual salary expected 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.18	28.03	17.87	15.27	7.22	37.68	15.26	8.94	25.20	30.43	22.55
Median percent relative bias across characteristics	17.77	23.54	8.47	10.82	5.32	34.98	11.77	4.13	11.15	16.04	18.08
Percentage of characteristics with significant bias	75.51	18.18	44.44	34.85	31.88	20.83	40.58	11.76	14.04	19.12	24.00
Median effect size	0.19	0.37	0.10	0.13	0.06	0.38	0.09	0.06	0.15	0.15	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.65	116.80*	1.02	5.92	4.91*	25.19*	6.66	6.47*	43.77*	48.18*	8.81*
Effect size for difference <sup>2</sup>	0.01	0.91	0.01	0.04	0.03	0.17	0.04	0.04	0.26	0.30	0.05

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HIGHLVEX (Highest degree ever expected to complete, 2011–12)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.55	4.63	8.23	8.59	4.53	13.05	9.97	7.30	11.55	12.82	10.75
Median percent relative bias across characteristics	8.39	1.19	5.41	6.53	2.53	11.11	7.16	4.71	7.26	8.48	6.76
Percentage of characteristics with significant bias	67.35	5.88	38.03	41.67	28.79	9.30	39.06	27.42	26.92	30.77	18.67
Median effect size	0.09	0.12	0.04	0.09	0.06	0.20	0.08	0.05	0.10	0.10	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.38*	‡	1.61	3.26	0.48	‡	4.99*	1.24	3.76	4.32*	5.17*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HLPTH (Job nonmonetary benefits: importance of helping others 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.23	‡	0.68	4.73*	1.29	‡	3.47	1.32	2.74	1.81	0.97
Effect size for difference <sup>2</sup>	#	‡	0.01	0.06	0.01	‡	‡	‡	‡	‡	0.01
<b>HLPTH14 (Job nonmonetary benefits: importance of helping others 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.60	9.31	8.21	9.58	5.43	18.00	12.27	7.31	13.08	10.00	12.42
Median percent relative bias across characteristics	9.71	10.64	4.49	5.67	3.68	17.06	10.04	4.83	8.14	6.47	7.04
Percentage of characteristics with significant bias	73.47	0.00	36.62	40.63	32.84	18.18	44.12	21.54	18.52	21.21	17.33
Median effect size	0.11	0.15	0.05	0.09	0.06	0.25	0.09	0.05	0.11	0.07	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.02	‡	0.37	7.20*	4.23*	‡	4.32	2.67*	3.55	6.90*	0.97
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.09	0.05	‡	0.04	0.03	0.06	0.07	0.01

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HLPOTH17 (Job nonmonetary benefits: importance of helping others 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.75	9.67	9.33	8.85	6.02	16.85	10.55	8.08	15.79	13.73	10.34
Median percent relative bias across characteristics	9.16	8.68	4.85	6.97	4.36	13.50	7.03	6.35	11.72	10.93	8.64
Percentage of characteristics with significant bias	72.45	0.00	39.44	35.94	35.82	19.57	35.29	32.31	26.42	27.27	10.67
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.09	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.29	‡	0.59	1.50	0.73	2.85	2.78	1.81	2.06	7.26*	1.16
Effect size for difference <sup>2</sup>	#	‡	0.01	0.02	0.01	‡	0.03	0.02	0.02	0.10	0.02
<b>HRSWKJ1Y1 (Jobs while enrolled: hours worked for job 1 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	17.75	19.09	17.54	15.32	14.77	28.66	22.82	18.04	30.72	28.83	24.96
Median percent relative bias across characteristics	11.64	12.04	8.20	10.14	10.87	23.82	19.16	14.59	15.51	23.21	20.47
Percentage of characteristics with significant bias	45.92	14.29	29.17	24.19	26.87	11.36	32.35	20.31	5.77	19.70	17.33
Median effect size	0.12	0.33	0.10	0.15	0.14	0.33	0.18	0.15	0.34	0.29	0.16
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.01*	‡	0.01	0.45	6.00*	‡	2.34	7.50*	‡	3.50	0.81*
Effect size for difference <sup>2</sup>	0.02	‡	#	0.01	0.11	‡	0.04	0.12	‡	0.11	0.03
<b>HRSWKJ1Y2 (Jobs while enrolled: hours worked for job 1 at year 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	21.63	‡	17.53	15.41	11.44	32.87	19.52	13.12	31.19	31.23	24.59
Median percent relative bias across characteristics	13.84	‡	8.97	9.40	7.88	24.21	15.17	10.00	23.96	22.60	14.90
Percentage of characteristics with significant bias	69.39	‡	34.72	33.87	34.33	13.33	35.29	20.00	11.54	15.15	13.33
Median effect size	0.15	‡	0.11	0.14	0.11	0.37	0.15	0.10	0.34	0.21	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.49	‡	0.29	1.73*	3.47*	‡	3.34	3.70*	‡	1.41	1.10*
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.04	0.07	‡	0.05	0.06	‡	0.05	0.03

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>HRSWKJ1Y3 (Jobs while enrolled: hours worked for job 1 at year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	22.35	‡	19.14	14.13	8.76	33.82	17.66	12.12	33.69	53.46	21.35
Median percent relative bias across characteristics	13.83	‡	9.62	8.23	5.42	27.32	13.20	6.63	23.99	33.75	11.57
Percentage of characteristics with significant bias	69.39	‡	45.83	36.51	32.84	20.45	39.71	28.13	13.46	34.85	13.33
Median effect size	0.16	‡	0.11	0.13	0.10	0.33	0.14	0.09	0.31	0.36	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.18*	‡	0.71	1.98*	2.88*	‡	2.45	3.08*	‡	‡	0.56
Effect size for difference <sup>2</sup>	0.02	‡	0.02	0.04	0.06	‡	0.04	0.05	‡	‡	0.02
<b>HRSWKJ1Y4 (Jobs while enrolled: hours worked for job 1 at year 4)</b>											
Before imputation											
Mean percent relative bias across characteristics	28.97	‡	22.52	16.85	11.67	34.30	19.78	14.88	30.17	46.95	29.30
Median percent relative bias across characteristics	21.93	‡	13.57	12.63	8.33	27.47	13.03	12.42	20.53	26.97	21.51
Percentage of characteristics with significant bias	72.45	‡	35.21	40.32	33.33	17.07	39.39	24.62	24.53	31.25	16.00
Median effect size	0.24	‡	0.13	0.16	0.11	0.31	0.15	0.11	0.24	0.34	0.18
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.83	‡	0.60	0.02	2.17	56.76*	2.57	0.92	34.61*	55.00*	11.65*
Effect size for difference <sup>2</sup>	0.02	‡	0.01	#	0.05	1.01	0.04	0.01	0.55	1.01	0.25
<b>HRSWKJ1Y5 (Jobs while enrolled: hours worked for job 1 at year 5)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.74	‡	25.10	15.24	16.32	38.68	28.43	25.49	36.51	47.77	33.25
Median percent relative bias across characteristics	15.39	‡	13.23	11.60	11.61	27.58	19.63	23.64	23.64	28.91	24.48
Percentage of characteristics with significant bias	62.24	‡	39.44	21.31	35.82	12.50	36.92	18.75	23.08	22.58	25.33
Median effect size	0.18	‡	0.15	0.13	0.18	0.42	0.25	0.24	0.38	0.32	0.18
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.95*	‡	3.63*	2.25	3.83*	‡	1.78	4.26	8.66	44.87*	6.23*
Effect size for difference <sup>2</sup>	0.04	‡	0.09	0.06	0.09	‡	0.03	0.08	0.16	0.84	0.14

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HRSWKJ1Y6 (Jobs while enrolled: hours worked for job 1 at year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.60	‡	22.77	17.95	21.78	34.89	30.83	29.86	35.39	55.09	35.79
Median percent relative bias across characteristics	18.17	‡	13.16	12.05	17.58	28.19	21.36	25.28	31.04	32.25	23.80
Percentage of characteristics with significant bias	48.98	‡	37.14	16.67	31.34	20.93	15.87	15.63	21.57	28.57	22.67
Median effect size	0.17	‡	0.13	0.15	0.22	0.45	0.23	0.33	0.29	0.37	0.22
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.68*	‡	3.74*	5.01*	7.66*	‡	6.64	1.16	10.48	16.86*	7.97*
Effect size for difference <sup>2</sup>	0.06	‡	0.09	0.14	0.17	‡	0.13	0.02	0.23	0.38	0.19
<b>HRSWKJ2Y1 (Jobs while enrolled: hours worked for job 2 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	21.74	37.26	18.72	17.29	20.52	33.54	31.52	29.79	31.51	37.77	34.45
Median percent relative bias across characteristics	15.56	26.43	10.68	13.15	16.43	23.45	27.52	23.35	23.56	28.90	16.27
Percentage of characteristics with significant bias	46.94	17.65	28.17	9.68	37.88	2.33	22.39	25.00	13.46	26.15	18.67
Median effect size	0.18	0.70	0.15	0.16	0.17	0.42	0.25	0.29	0.30	0.26	0.24
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.07	‡	1.02	5.18	2.22	‡	10.44*	2.57	‡	1.45	1.30
Effect size for difference <sup>2</sup>	0.02	‡	0.02	0.11	0.04	‡	0.15	0.04	‡	0.04	0.04
<b>HRSWKJ2Y2 (Jobs while enrolled: hours worked for job 2 at year 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	26.68	‡	22.90	16.44	16.09	37.05	25.55	22.45	39.03	40.04	44.75
Median percent relative bias across characteristics	20.49	‡	12.29	13.08	11.22	27.08	21.20	18.11	32.04	28.21	24.02
Percentage of characteristics with significant bias	64.29	‡	30.99	6.45	31.34	16.67	29.85	21.88	13.46	27.69	16.00
Median effect size	0.21	‡	0.17	0.15	0.16	0.45	0.19	0.21	0.33	0.33	0.29
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.45	‡	0.45	2.33	1.09	‡	6.89	#	‡	1.38	1.07
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.05	0.02	‡	0.10	#	‡	0.03	0.03

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>HRSWKJ2Y3 (Jobs while enrolled: hours worked for job 2 at year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	34.78	‡	29.21	20.50	16.05	34.88	24.79	23.60	72.83	58.53	45.27
Median percent relative bias across characteristics	29.31	‡	21.17	15.40	10.74	24.84	14.63	16.23	35.77	43.35	28.76
Percentage of characteristics with significant bias	76.53	‡	33.80	30.65	26.87	9.38	31.34	26.56	28.26	29.03	17.33
Median effect size	0.29	‡	0.20	0.20	0.13	0.57	0.21	0.19	0.70	0.42	0.31
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.54*	‡	0.95	4.17*	1.14	‡	9.92*	5.39*	‡	‡	1.59
Effect size for difference <sup>2</sup>	0.04	‡	0.02	0.08	0.02	‡	0.14	0.08	‡	‡	0.04
<b>HRSWKJ2Y4 (Jobs while enrolled: hours worked for job 2 at year 4)</b>											
Before imputation											
Mean percent relative bias across characteristics	40.72	‡	37.69	28.62	16.34	‡	27.85	22.22	72.35	73.54	68.76
Median percent relative bias across characteristics	30.45	‡	19.82	20.61	12.79	‡	22.14	17.38	29.24	41.45	45.75
Percentage of characteristics with significant bias	75.26	‡	28.57	31.03	24.24	‡	22.58	19.35	25.00	24.53	23.29
Median effect size	0.34	‡	0.21	0.28	0.16	‡	0.21	0.18	0.61	0.50	0.38
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.17	‡	1.57	4.43	3.92	‡	6.41	0.84	134.42*	10.65	11.97*
Effect size for difference <sup>2</sup>	0.04	‡	0.04	0.09	0.08	‡	0.09	0.01	1.90	0.23	0.25
<b>HRSWKJ2Y5 (Jobs while enrolled: hours worked for job 2 at year 5)</b>											
Before imputation											
Mean percent relative bias across characteristics	34.03	‡	33.71	31.07	20.00	‡	36.55	26.35	85.22	54.50	52.99
Median percent relative bias across characteristics	23.51	‡	15.10	21.71	12.72	‡	25.33	18.30	63.35	27.06	40.40
Percentage of characteristics with significant bias	59.18	‡	28.57	18.97	33.33	‡	28.57	15.87	26.83	17.24	20.27
Median effect size	0.25	‡	0.17	0.30	0.16	‡	0.24	0.22	0.75	0.40	0.31
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.90	‡	0.38	4.36	5.36*	‡	6.60	5.73	‡	18.02	8.58*
Effect size for difference <sup>2</sup>	0.02	‡	0.01	0.11	0.11	‡	0.12	0.10	‡	0.34	0.21

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HRSWKJ2Y6 (Jobs while enrolled: hours worked for job 2 at year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	31.86	‡	34.46	22.11	24.91	‡	40.43	38.42	86.06	64.17	50.18
Median percent relative bias across characteristics	23.82	‡	18.84	13.71	16.20	‡	27.38	24.48	51.70	46.03	34.69
Percentage of characteristics with significant bias	44.79	‡	37.14	14.29	18.18	‡	25.42	16.95	13.64	28.57	18.67
Median effect size	0.21	‡	0.15	0.23	0.24	‡	0.33	0.33	0.69	0.44	0.29
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.04	‡	0.53	1.37	7.06*	‡	17.19*	5.44	‡	37.35*	5.08
Effect size for difference <sup>2</sup>	#	‡	0.01	0.04	0.15	‡	0.26	0.09	‡	0.59	0.12
<b>HRSWKJ3Y1 (Jobs while enrolled: hours worked for job 3 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	29.01	‡	28.91	27.93	29.67	43.31	39.02	40.10	77.27	44.11	84.98
Median percent relative bias across characteristics	19.16	‡	17.92	18.49	23.71	35.36	34.00	29.48	41.43	37.47	43.59
Percentage of characteristics with significant bias	36.08	‡	23.94	10.17	27.69	5.00	30.77	21.31	19.51	18.64	15.07
Median effect size	0.23	‡	0.23	0.22	0.29	0.51	0.38	0.44	0.50	0.45	0.61
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.24	‡	4.72	‡	2.50	‡	‡	‡	‡	‡	4.73
Effect size for difference <sup>2</sup>	0.04	‡	0.11	‡	0.05	‡	‡	‡	‡	‡	0.11
<b>HRSWKJ3Y2 (Jobs while enrolled: hours worked for job 3 at year 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	40.30	‡	35.46	29.75	28.48	31.00	33.13	48.91	82.23	58.87	93.12
Median percent relative bias across characteristics	34.40	‡	23.71	20.78	21.77	25.27	29.24	35.47	34.79	34.68	47.66
Percentage of characteristics with significant bias	55.67	‡	25.71	20.69	33.33	4.88	18.75	34.92	8.82	31.03	20.27
Median effect size	0.36	‡	0.23	0.31	0.24	0.47	0.23	0.50	0.70	0.40	0.66
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.60	‡	0.24	‡	2.43	‡	2.16	‡	‡	‡	4.50
Effect size for difference <sup>2</sup>	0.01	‡	0.01	‡	0.05	‡	0.03	‡	‡	‡	0.09

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HRSWKJ3Y3 (Jobs while enrolled: hours worked for job 3 at year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	52.80	‡	44.25	46.44	28.36	49.75	32.81	41.45	128.97	79.19	70.28
Median percent relative bias across characteristics	45.39	‡	27.93	35.50	21.74	35.34	28.01	27.33	35.73	60.29	58.38
Percentage of characteristics with significant bias	65.98	‡	25.71	30.51	24.24	13.04	20.31	21.67	45.83	30.23	26.03
Median effect size	0.45	‡	0.31	0.50	0.21	0.69	0.30	0.41	0.67	0.52	0.54
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.99	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	0.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ3Y4 (Jobs while enrolled: hours worked for job 3 at year 4)</b>											
Before imputation											
Mean percent relative bias across characteristics	53.40	‡	52.99	44.44	32.91	‡	36.49	25.79	‡	‡	92.03
Median percent relative bias across characteristics	45.39	‡	31.35	34.04	26.83	‡	24.96	20.61	‡	‡	57.72
Percentage of characteristics with significant bias	65.26	‡	30.30	32.14	28.79	‡	31.58	6.78	‡	‡	24.29
Median effect size	0.44	‡	0.38	0.49	0.27	‡	0.36	0.24	‡	‡	0.54
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.27	‡	3.56	‡	‡	‡	‡	‡	‡	‡	39.33*
Effect size for difference <sup>2</sup>	0.04	‡	0.06	‡	‡	‡	‡	‡	‡	‡	0.68
<b>HRSWKJ3Y5 (Jobs while enrolled: hours worked for job 3 at year 5)</b>											
Before imputation											
Mean percent relative bias across characteristics	44.42	‡	45.63	44.18	33.85	‡	35.60	30.06	‡	‡	76.18
Median percent relative bias across characteristics	35.98	‡	28.04	41.44	26.60	‡	28.85	16.18	‡	‡	38.25
Percentage of characteristics with significant bias	52.69	‡	34.78	21.05	21.88	‡	19.30	13.56	‡	‡	18.31
Median effect size	0.39	‡	0.31	0.43	0.29	‡	0.28	0.24	‡	‡	0.41
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	7.62*	‡	10.37	‡	4.40*	‡	‡	‡	‡	‡	6.47
Effect size for difference <sup>2</sup>	0.13	‡	0.17	‡	0.10	‡	‡	‡	‡	‡	0.15

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HRSWKJ3Y6 (Jobs while enrolled: hours worked for job 3 at year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	42.03	‡	46.00	‡	37.02	‡	‡	44.73	‡	‡	76.17
Median percent relative bias across characteristics	31.61	‡	30.90	‡	30.80	‡	‡	25.06	‡	‡	51.68
Percentage of characteristics with significant bias	40.86	‡	31.34	‡	15.87	‡	‡	6.78	‡	‡	18.18
Median effect size	0.36	‡	0.38	‡	0.31	‡	‡	0.28	‡	‡	0.59
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.10	‡	0.52	‡	‡	‡	‡	‡	‡	‡	9.73
Effect size for difference <sup>2</sup>	0.04	‡	0.01	‡	‡	‡	‡	‡	‡	‡	0.23
<b>HRSWKJ4Y1 (Jobs while enrolled: hours worked for job 4 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	29.21	‡	39.99	57.17	35.62	‡	44.06	46.70	77.73	53.70	77.28
Median percent relative bias across characteristics	22.66	‡	29.74	43.47	24.32	‡	28.66	38.98	53.70	45.69	48.23
Percentage of characteristics with significant bias	23.66	‡	22.39	18.52	18.46	‡	13.11	13.21	37.14	27.59	16.67
Median effect size	0.25	‡	0.28	0.44	0.27	‡	0.31	0.41	0.47	0.36	0.61
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.30	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ4Y2 (Jobs while enrolled: hours worked for job 4 at year 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	42.35	‡	53.11	62.33	36.31	224.60	44.97	41.58	335.24	75.00	72.73
Median percent relative bias across characteristics	36.53	‡	40.40	36.63	27.39	257.69	37.47	29.79	106.44	53.47	63.49
Percentage of characteristics with significant bias	43.62	‡	17.74	15.38	17.19	88.89	22.22	23.33	77.78	29.55	24.29
Median effect size	0.35	‡	0.34	0.58	0.27	1.61	0.40	0.47	1.03	0.52	0.61
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	3.37	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	0.06	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>HRSWKJ4Y3 (Jobs while enrolled: hours worked for job 4 at year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	53.37	‡	59.60	48.35	36.93	‡	42.43	36.43	119.56	176.65	141.66
Median percent relative bias across characteristics	40.88	‡	37.89	24.36	31.26	‡	32.14	27.57	40.46	136.56	75.18
Percentage of characteristics with significant bias	50.54	‡	25.49	7.69	8.33	‡	31.25	20.69	77.78	100.00	32.76
Median effect size	0.43	‡	0.51	0.37	0.29	‡	0.45	0.37	0.63	1.17	0.92
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.07	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ4Y4 (Jobs while enrolled: hours worked for job 4 at year 4)</b>											
Before imputation											
Mean percent relative bias across characteristics	60.91	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	51.26	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	41.94	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.45	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.53	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	0.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ4Y5 (Jobs while enrolled: hours worked for job 4 at year 5)</b>											
Before imputation											
Mean percent relative bias across characteristics	59.15	‡	‡	‡	55.77	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	49.77	‡	‡	‡	36.90	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	34.41	‡	‡	‡	13.79	‡	‡	‡	‡	‡	‡
Median effect size	0.54	‡	‡	‡	0.44	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.65	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	0.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HRSWKJ4Y6 (Jobs while enrolled: hours worked for job 4 at year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	53.73	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	48.20	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	28.89	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.44	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	5.45	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	0.12	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ5Y1 (Jobs while enrolled: hours worked for job 5 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	55.70	‡	92.15	98.10	53.18	‡	108.18	110.34	245.47	125.44	94.92
Median percent relative bias across characteristics	45.73	‡	51.02	34.62	35.99	‡	60.68	55.70	40.46	48.87	68.38
Percentage of characteristics with significant bias	26.37	‡	24.14	27.27	8.16	‡	23.08	25.53	77.78	57.58	48.28
Median effect size	0.53	‡	0.52	0.62	0.43	‡	0.70	0.64	0.63	0.92	0.69
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ5Y2 (Jobs while enrolled: hours worked for job 5 at year 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	87.67	‡	160.74	188.87	71.28	‡	63.44	91.50	‡	158.23	123.78
Median percent relative bias across characteristics	66.97	‡	54.53	134.98	36.73	‡	61.77	53.76	‡	40.82	74.35
Percentage of characteristics with significant bias	50.00	‡	23.91	100.00	10.42	‡	25.00	26.83	‡	41.38	36.84
Median effect size	0.69	‡	0.75	1.16	0.47	‡	0.57	0.69	‡	0.90	0.94
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>HRSWKJ5Y3 (Jobs while enrolled: hours worked for job 5 at year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	85.48	‡	291.96	188.74	50.36	‡	79.81	93.90	‡	‡	201.29
Median percent relative bias across characteristics	63.60	‡	58.82	134.67	34.59	‡	35.13	76.41	‡	‡	59.14
Percentage of characteristics with significant bias	35.23	‡	27.78	100.00	9.43	‡	22.58	25.58	‡	‡	30.43
Median effect size	0.56	‡	1.00	1.16	0.43	‡	0.67	0.73	‡	‡	1.19
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ5Y4 (Jobs while enrolled: hours worked for job 5 at year 4)</b>											
Before imputation											
Mean percent relative bias across characteristics	79.95	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	54.18	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	30.86	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.65	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ5Y6 (Jobs while enrolled: hours worked for job 5 at year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	93.86	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	69.28	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	35.80	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.61	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>HRSWKJ6Y1 (Jobs while enrolled: hours worked for job 6 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	75.08	‡	99.46	293.24	128.59	‡	168.56	197.56	‡	95.35	263.80
Median percent relative bias across characteristics	59.27	‡	48.65	134.84	70.07	‡	68.85	86.41	‡	53.43	105.30
Percentage of characteristics with significant bias	36.47	‡	39.58	100.00	16.22	‡	100.00	93.10	‡	14.29	21.21
Median effect size	0.65	‡	0.60	1.16	0.90	‡	0.83	0.92	‡	0.66	1.18
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ6Y2 (Jobs while enrolled: hours worked for job 6 at year 2)</b>											
Before imputation											
Mean percent relative bias across characteristics	94.27	‡	150.54	293.24	117.59	‡	124.94	‡	‡	‡	342.71
Median percent relative bias across characteristics	83.63	‡	71.16	134.84	60.21	‡	49.72	‡	‡	‡	146.37
Percentage of characteristics with significant bias	41.43	‡	64.52	100.00	23.53	‡	44.00	‡	‡	‡	38.46
Median effect size	0.86	‡	0.89	1.16	0.77	‡	0.73	‡	‡	‡	1.31
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ6Y3 (Jobs while enrolled: hours worked for job 6 at year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	76.64	‡	222.79	‡	134.22	‡	86.22	1162.08	‡	‡	472.28
Median percent relative bias across characteristics	64.85	‡	76.48	‡	49.62	‡	49.09	124.70	‡	‡	182.49
Percentage of characteristics with significant bias	30.14	‡	42.42	‡	26.67	‡	21.88	17.24	‡	‡	100.00
Median effect size	0.62	‡	0.95	‡	0.82	‡	0.69	1.03	‡	‡	1.32
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less-than- 4-year	Private nonprofit 4- year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less-than- 2-year	Private for-profit 2-year	Private for-profit 4-year
<b>HRSWKJ7Y1 (Jobs while enrolled: hours worked for job 7 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	147.92	‡	305.78	‡	147.62	‡	‡	‡	‡	311.15	174.17
Median percent relative bias across characteristics	77.25	‡	73.37	‡	64.78	‡	‡	‡	‡	156.96	86.46
Percentage of characteristics with significant bias	44.93	‡	34.15	‡	17.14	‡	‡	‡	‡	100.00	65.22
Median effect size	0.94	‡	1.01	‡	0.79	‡	‡	‡	‡	1.25	0.98
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HRSWKJ8Y1 (Jobs while enrolled: hours worked for job 8 at year 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	524.30	‡	‡	‡	304.10	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	197.03	‡	‡	‡	74.03	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	100.00	‡	‡	‡	100.00	‡	‡	‡	‡	‡	‡
Median effect size	1.40	‡	‡	‡	0.86	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>HSGPA (Grade point average in high school)</b>											
Before imputation											
Mean percent relative bias across characteristics	28.58	31.51	20.01	12.77	8.37	40.48	12.69	12.01	35.09	22.74	47.07
Median percent relative bias across characteristics	25.63	29.20	13.50	9.38	5.35	28.43	8.44	9.18	25.66	16.59	34.23
Percentage of characteristics with significant bias	86.60	13.79	40.28	38.71	31.88	25.53	42.42	31.25	23.64	18.18	44.59
Median effect size	0.23	0.37	0.16	0.15	0.09	0.47	0.11	0.09	0.23	0.16	0.35
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	10.29*	‡	9.20*	3.62	1.91*	23.67	0.69	2.57*	19.78	19.11*	16.92*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>INCSPS17 (Independent students: spouse's income 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.09	16.17	18.87	26.71	23.64	45.94	27.09	32.46	47.24	51.50	44.68
Median percent relative bias across characteristics	15.57	16.62	13.83	16.20	19.35	35.37	16.77	27.54	34.56	32.69	37.14
Percentage of characteristics with significant bias	45.92	3.85	23.94	20.63	31.82	12.20	32.84	24.62	25.49	19.40	41.89
Median effect size	0.17	0.33	0.11	0.25	0.21	0.61	0.21	0.27	0.47	0.33	0.35
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	4.03*	41.16	1.96	1.00	1.23	14.67	5.04	2.82	2.22	14.37	12.46
Effect size for difference <sup>2</sup>	0.05	0.37	0.02	0.01	0.02	0.16	0.06	0.04	0.03	0.15	0.13
<b>JBEN17A (Job 2017: eligible for life insurance)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.85	9.31	10.03	12.26	7.10	26.77	15.09	10.22	22.85	15.78	19.11
Median percent relative bias across characteristics	15.13	6.66	5.93	9.78	5.41	22.03	10.94	7.82	19.10	9.19	11.43
Percentage of characteristics with significant bias	79.59	0.00	26.76	34.92	26.87	25.00	40.30	23.44	32.69	18.18	18.67
Median effect size	0.15	0.13	0.06	0.14	0.07	0.37	0.11	0.07	0.20	0.14	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.07	‡	1.16	3.14	0.50	‡	0.63	0.54	14.50*	0.82	1.98
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.03	0.01	‡	0.01	0.01	0.14	0.01	0.02
<b>JBEN17B (Job 2017: eligible for health insurance)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.64	9.19	10.02	11.87	7.24	27.07	14.48	10.31	20.94	15.42	19.11
Median percent relative bias across characteristics	14.45	6.60	6.02	8.96	5.29	23.67	9.04	7.78	16.81	9.65	11.85
Percentage of characteristics with significant bias	81.63	0.00	26.76	33.33	26.87	25.00	37.31	21.88	32.69	18.18	17.33
Median effect size	0.15	0.13	0.06	0.12	0.07	0.36	0.11	0.07	0.19	0.13	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.30	‡	0.29	4.29	1.15	‡	2.97	0.16	18.08*	1.67	0.93
Effect size for difference <sup>2</sup>	#	‡	#	0.05	0.01	‡	0.03	#	‡	0.02	0.01

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>JBEN17C (Job 2017: eligible for retirement benefits)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.63	9.19	9.91	12.43	7.08	26.34	14.31	10.49	21.80	15.61	18.75
Median percent relative bias across characteristics	14.49	6.60	5.86	10.95	5.26	22.49	9.80	8.34	18.36	8.98	11.55
Percentage of characteristics with significant bias	80.61	0.00	27.14	33.33	26.87	18.18	35.82	23.44	32.69	18.18	18.67
Median effect size	0.15	0.13	0.06	0.13	0.07	0.34	0.11	0.07	0.19	0.14	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.49	‡	0.65	6.79*	2.44	‡	0.65	2.50	18.91*	0.17	3.86*
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.07	0.03	‡	0.01	0.03	‡	#	0.04
<b>JBEN17D (Job 2017: eligible for vacation or holidays)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.64	9.19	9.81	11.73	7.07	27.14	14.38	10.36	21.40	15.34	19.15
Median percent relative bias across characteristics	14.70	6.60	5.79	8.96	5.30	23.84	8.32	7.89	19.45	9.27	12.16
Percentage of characteristics with significant bias	80.61	0.00	25.71	34.92	26.87	22.73	37.31	23.44	33.33	18.18	17.33
Median effect size	0.15	0.13	0.06	0.12	0.07	0.36	0.11	0.07	0.18	0.14	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.36	‡	0.47	0.01	0.89	‡	0.81	0.25	11.32*	3.22	3.70*
Effect size for difference <sup>2</sup>	#	‡	0.01	#	0.01	‡	0.01	#	‡	0.04	0.04
<b>JBEN17E (Job 2017: eligible for overtime pay)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.63	9.19	9.84	11.87	6.99	27.07	14.29	10.03	21.29	15.54	19.43
Median percent relative bias across characteristics	14.64	6.60	5.94	9.62	5.30	23.67	9.94	7.99	18.96	9.75	12.71
Percentage of characteristics with significant bias	79.59	0.00	25.71	33.33	26.87	25.00	37.31	23.08	32.69	18.18	17.33
Median effect size	0.15	0.13	0.06	0.12	0.07	0.36	0.10	0.07	0.18	0.13	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.46	‡	2.03	0.62	0.26	34.82*	0.65	0.33	1.04	13.12*	0.64
Effect size for difference <sup>2</sup>	#	‡	0.02	0.01	#	‡	0.01	#	0.01	0.13	0.01

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>JOBIND17 (Primary employer: industry of employer)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.17	8.58	9.70	11.42	7.57	25.43	13.43	10.04	18.47	13.87	18.72
Median percent relative bias across characteristics	13.74	6.64	5.79	9.13	6.11	21.78	8.41	7.62	13.19	8.32	11.16
Percentage of characteristics with significant bias	80.61	0.00	27.14	33.87	28.36	27.27	36.36	26.56	25.00	16.67	16.00
Median effect size	0.14	0.14	0.06	0.11	0.07	0.35	0.11	0.07	0.17	0.14	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.64	‡	1.92	6.02*	0.73	‡	2.46	0.97	0.94	3.75*	2.69
Effect size for difference <sup>2</sup>	0.01	‡	0.03	‡	‡	‡	‡	‡	‡	‡	‡
<b>JOBLIC17 (Job 2017: has industry certification or license)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.02	8.58	9.76	11.00	7.54	25.43	13.35	10.04	18.84	14.07	19.09
Median percent relative bias across characteristics	14.08	6.64	5.94	8.53	6.21	21.78	7.78	7.62	13.11	9.30	11.43
Percentage of characteristics with significant bias	81.63	0.00	27.14	32.26	29.85	27.27	36.36	26.56	25.00	16.67	17.33
Median effect size	0.14	0.14	0.06	0.11	0.07	0.35	0.11	0.07	0.17	0.13	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.36	‡	0.67	2.30*	0.80	‡	0.07	1.00	4.93	0.91	3.06*
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	0.01	‡	#	0.01	0.05	0.01	0.04
<b>JOBOCC17 (Job 2017: occupation)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.07	8.58	9.99	11.12	7.49	27.19	14.31	10.12	17.41	14.73	19.12
Median percent relative bias across characteristics	13.47	6.64	6.49	8.60	6.69	22.99	8.96	7.51	13.45	9.30	12.74
Percentage of characteristics with significant bias	81.63	0.00	27.14	33.33	29.85	31.82	38.81	26.56	23.08	15.15	20.00
Median effect size	0.14	0.14	0.07	0.11	0.07	0.34	0.11	0.07	0.15	0.13	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	4.55*	‡	4.09	3.35	3.64	‡	‡	4.14	‡	6.48	3.03
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>JOBRCLG17 (Job 2017: related to college studies)</b>											
Before imputation											
Mean percent relative bias across characteristics	19.59	8.20	10.81	11.85	7.66	27.73	15.09	11.04	18.37	14.83	21.69
Median percent relative bias across characteristics	15.37	6.04	6.73	10.40	5.32	21.78	10.01	8.24	11.36	7.32	15.15
Percentage of characteristics with significant bias	81.63	4.76	30.00	33.87	27.27	11.63	41.79	28.13	26.92	13.64	20.00
Median effect size	0.15	0.15	0.08	0.13	0.07	0.41	0.11	0.07	0.16	0.14	0.15
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.24*	‡	1.44	0.11	2.52*	‡	3.02	3.88*	2.52	2.19	2.53
Effect size for difference <sup>2</sup>	0.02	‡	0.02	#	0.03	‡	0.03	0.04	0.03	0.02	0.03
<b>JOBRLC17 (Job 2017: job required industry certification or license)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.02	8.58	9.78	11.00	7.54	25.43	13.37	10.04	18.84	14.07	19.10
Median percent relative bias across characteristics	14.08	6.64	5.86	8.53	6.21	21.78	7.80	7.62	13.11	9.30	11.42
Percentage of characteristics with significant bias	81.63	0.00	27.14	32.26	29.85	27.27	36.36	26.56	25.00	16.67	17.33
Median effect size	0.14	0.14	0.06	0.11	0.07	0.35	0.11	0.07	0.17	0.13	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.80	‡	1.28	2.62*	1.22	3.99	1.00	0.74	8.71*	1.78	4.44*
Effect size for difference <sup>2</sup>	0.01	‡	0.02	‡	0.02	‡	0.01	‡	0.10	0.02	0.06
<b>JOBS17 (Primary employer: job satisfaction)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.03	8.58	9.78	11.06	7.51	25.43	13.35	10.04	18.72	14.07	18.96
Median percent relative bias across characteristics	14.04	6.64	6.00	8.60	6.17	21.78	7.78	7.62	13.15	9.30	11.24
Percentage of characteristics with significant bias	81.63	0.00	27.14	32.26	28.36	27.27	36.36	26.56	25.00	16.67	17.33
Median effect size	0.14	0.14	0.06	0.11	0.07	0.35	0.11	0.07	0.17	0.13	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.33	‡	0.88	2.17	0.07	‡	3.53	1.57	10.29*	7.14	3.50*
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	‡	‡	‡	‡	‡	‡	0.04

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>LEISTIME (Job nonmonetary benefits: importance of balancing work/leisure 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.28	‡	0.91	1.31	0.42	‡	2.09	0.27	1.37	0.28	1.55*
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	‡	‡	‡	‡	‡	‡	0.02
<b>LEISTIME14 (Job nonmonetary benefits: importance of balancing work/leisure 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.75	9.09	8.17	9.47	5.53	18.00	12.44	7.37	12.96	10.48	12.50
Median percent relative bias across characteristics	9.74	10.18	4.39	5.63	4.11	17.06	10.03	5.24	9.23	6.41	7.27
Percentage of characteristics with significant bias	73.47	9.52	36.62	39.06	32.84	18.18	42.65	21.54	18.52	22.73	17.33
Median effect size	0.11	0.14	0.05	0.09	0.06	0.25	0.09	0.05	0.11	0.07	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.41	‡	1.17	2.96	2.01	8.51*	3.34	0.52	5.94	4.95	1.01
Effect size for difference <sup>2</sup>	#	‡	0.01	0.04	0.02	‡	0.04	0.01	0.08	0.06	0.01
<b>LEISTIME17 (Job nonmonetary benefits: importance of balancing work/leisure 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.77	9.67	9.28	8.84	6.00	16.85	10.55	8.16	15.51	13.83	10.38
Median percent relative bias across characteristics	9.24	8.68	4.85	6.78	4.36	13.50	7.03	6.32	12.36	11.45	8.60
Percentage of characteristics with significant bias	72.45	0.00	38.03	35.94	34.33	19.57	35.29	32.31	28.30	30.30	10.67
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.09	0.07	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.25	‡	0.34	0.52	0.65	0.46	0.36	0.82	9.35*	2.36	1.61
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	0.01	‡	‡	0.01	‡	0.02	0.02

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>LKOCCATHD (Expected job: Likelihood of holding job after highest attainment 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.93	‡	1.21	3.03	1.73	‡	2.48	1.21	6.72	1.64	2.27
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>LKOCCATHD14 (Expected job: likelihood of holding job after highest attainment 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.16	27.32	17.17	14.49	7.51	37.62	15.45	8.46	27.46	31.97	23.29
Median percent relative bias across characteristics	17.42	18.05	8.60	9.29	5.52	36.65	12.19	4.15	15.75	16.59	17.98
Percentage of characteristics with significant bias	76.53	21.21	47.22	36.92	33.33	20.83	39.13	17.65	14.04	16.18	24.00
Median effect size	0.18	0.40	0.10	0.13	0.06	0.37	0.09	0.06	0.15	0.16	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	4.02*	‡	4.97*	8.53*	2.61	20.91	2.87	3.92*	43.03*	23.30*	3.90*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>LOANLITA17 (Loan literacy: Govt. can report unpaid debt to credit bureaus 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.63	10.22	9.20	8.89	6.22	15.48	10.44	8.32	16.02	13.71	10.40
Median percent relative bias across characteristics	8.86	9.55	4.64	7.02	4.22	13.25	6.18	6.87	12.13	10.65	7.39
Percentage of characteristics with significant bias	73.47	4.55	39.44	34.38	34.33	6.52	35.29	32.31	24.07	25.76	12.00
Median effect size	0.09	0.16	0.05	0.08	0.06	0.17	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.75	‡	0.09	0.36	1.42	3.48	3.48*	1.09	7.89	7.29*	1.04
Effect size for difference <sup>2</sup>	0.01	‡	#	#	0.02	‡	0.04	0.01	0.08	0.07	0.01

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>LOANLITB17 (Loan literacy: Govt. can garnish wages for unpaid fed. loan debt 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.63	10.22	9.20	8.89	6.22	15.48	10.44	8.32	16.02	13.71	10.40
Median percent relative bias across characteristics	8.86	9.55	4.64	7.02	4.22	13.25	6.18	6.87	12.13	10.65	7.39
Percentage of characteristics with significant bias	73.47	4.55	39.44	34.38	34.33	6.52	35.29	32.31	24.07	25.76	12.00
Median effect size	0.09	0.16	0.05	0.08	0.06	0.17	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.93	‡	1.05	3.68	0.84	0.58	0.52	3.46*	1.84	6.05*	2.05
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.04	0.01	‡	0.01	0.03	0.02	0.06	0.02
<b>LOANLITC17 (Loan literacy: Govt. can retain tax refunds, Soc Sec for loan debt 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.63	10.22	9.20	8.89	6.22	15.48	10.44	8.32	16.02	13.71	10.40
Median percent relative bias across characteristics	8.86	9.55	4.64	7.02	4.22	13.25	6.18	6.87	12.13	10.65	7.39
Percentage of characteristics with significant bias	73.47	4.55	39.44	34.38	34.33	6.52	35.29	32.31	24.07	25.76	12.00
Median effect size	0.09	0.16	0.05	0.08	0.06	0.17	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.20	‡	0.71	1.54	0.87	0.13	1.84	1.08	2.18	4.21	3.77*
Effect size for difference <sup>2</sup>	#	‡	0.01	0.02	0.01	‡	0.02	0.01	0.02	0.04	0.04
<b>LOCALR17 (Housing when last enrolled 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	19.03	41.03	20.54	15.91	19.29	42.06	27.63	24.85	41.90	44.73	30.25
Median percent relative bias across characteristics	12.45	45.13	12.75	13.33	13.69	33.44	17.08	14.46	32.46	27.91	21.90
Percentage of characteristics with significant bias	54.08	4.76	43.06	22.22	34.78	24.44	24.64	14.71	16.67	26.15	22.67
Median effect size	0.13	0.75	0.10	0.17	0.17	0.45	0.22	0.22	0.30	0.28	0.21
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	3.05*	‡	2.00	9.31*	1.73	5.06	4.53	3.30	2.50	4.74	11.33
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>LOEXPWGE (Expected job: lowest annual salary expected 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.25	‡	0.22	0.40	0.25	4.34*	2.63	0.87	8.93*	0.05	0.45
Effect size for difference <sup>2</sup>	#	‡	#	#	#	0.04	0.03	0.01	0.10	#	#
<b>LOEXPWGE14 (Expected job: lowest annual salary expected 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.20	28.03	17.75	15.22	7.24	37.68	15.15	8.97	25.20	30.45	22.69
Median percent relative bias across characteristics	17.81	23.54	9.09	9.84	4.97	34.98	11.43	4.26	11.15	15.86	18.06
Percentage of characteristics with significant bias	76.53	18.18	44.44	34.85	31.88	20.83	40.58	14.71	14.04	19.12	21.33
Median effect size	0.18	0.37	0.10	0.13	0.06	0.38	0.10	0.06	0.15	0.15	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.38	89.28*	0.52	8.51*	4.22*	28.64*	2.10	4.27*	16.20*	26.24*	4.60
Effect size for difference <sup>2</sup>	#	1.08	#	0.10	0.05	0.24	0.02	0.05	0.29	0.33	0.03
<b>MENTH (Health: mental 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.11*	‡	2.05*	0.94	0.81	‡	5.47*	0.32	4.94*	0.82	2.55
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>MENTH17 (Health: mental 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.80	10.03	9.40	8.90	6.00	16.22	10.59	8.10	15.91	13.76	10.55
Median percent relative bias across characteristics	9.00	9.56	4.74	6.77	4.50	13.54	6.92	6.37	11.92	10.31	7.64
Percentage of characteristics with significant bias	71.43	4.55	39.44	34.38	34.33	8.70	38.24	32.31	26.42	30.30	13.33
Median effect size	0.09	0.18	0.05	0.08	0.06	0.20	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.96	‡	1.40	3.51	1.73	‡	0.79	1.28	3.58	4.71	4.47*
Effect size for difference <sup>2</sup>	0.01	‡	0.02	‡	‡	‡	‡	‡	‡	‡	0.05
<b>MILTYP17 (Military service type)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.46	9.98	8.85	8.88	5.97	16.27	10.54	8.12	15.62	11.81	10.05
Median percent relative bias across characteristics	8.58	9.88	4.80	6.88	4.36	13.30	6.89	6.27	12.63	10.00	6.56
Percentage of characteristics with significant bias	72.45	4.76	36.62	34.38	32.84	8.70	36.76	30.77	24.07	21.21	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.09	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.54*	‡	0.74*	0.54*	0.23*	0.73	0.10*	0.11*	0.23	2.78*	1.95*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>MILTYPE17B (Military type 2017B (for dependency))</b>											
Before imputation											
Mean percent relative bias across characteristics	12.39	8.63	9.26	9.25	6.01	17.39	10.94	8.62	13.34	12.47	9.92
Median percent relative bias across characteristics	9.53	5.18	5.25	6.92	4.56	14.94	7.03	6.58	10.89	10.50	7.03
Percentage of characteristics with significant bias	71.43	4.55	41.43	42.62	39.39	13.64	41.54	40.32	22.64	24.24	17.33
Median effect size	0.11	0.17	0.05	0.09	0.06	0.22	0.09	0.06	0.11	0.10	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.29*	‡	0.46*	0.31*	0.10*	0.37	0.04*	0.04*	0.33	2.32*	1.41*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>MISSH17 (Health: amount missed school/work in past 30 days 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.38	8.90	6.11	16.22	10.56	8.10	15.70	13.67	10.53
Median percent relative bias across characteristics	8.91	9.88	4.75	6.49	4.45	13.54	6.92	6.37	11.63	10.77	8.12
Percentage of characteristics with significant bias	72.45	4.76	39.44	37.50	34.33	8.70	36.76	32.31	25.93	27.27	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.21	‡	0.41	1.02	1.34	4.84*	0.15	0.33	1.31	1.41	0.46
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>MTGAMT17 (Monthly mortgage or rent amount: 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.94	8.96	9.03	9.57	6.29	16.11	10.72	8.90	16.10	14.25	10.31
Median percent relative bias across characteristics	8.80	8.60	4.54	7.15	4.47	12.64	7.10	6.16	11.84	11.48	6.04
Percentage of characteristics with significant bias	72.45	4.55	35.21	37.50	35.82	19.57	33.82	29.23	27.78	30.30	13.33
Median effect size	0.10	0.19	0.05	0.08	0.06	0.20	0.08	0.06	0.14	0.13	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.30	‡	0.93	1.34	1.34	16.03	0.31	1.03	5.01	8.09*	0.81
Effect size for difference <sup>2</sup>	#	‡	0.01	0.01	0.01	0.20	#	0.01	0.06	0.09	0.01
<b>ONOFFJ1Y3 (Job 1: job location year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.62	28.51	14.94	13.95	8.58	28.82	16.84	12.13	27.33	29.22	20.39
Median percent relative bias across characteristics	11.57	21.62	6.88	10.12	4.86	28.13	13.33	9.41	22.18	17.88	11.79
Percentage of characteristics with significant bias	66.33	16.67	40.28	32.31	32.86	11.11	34.78	25.00	9.26	15.15	16.00
Median effect size	0.14	0.32	0.08	0.13	0.10	0.28	0.11	0.09	0.22	0.16	0.11
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.09	‡	0.72	1.67	1.16	2.30	3.45	4.05	73.33*	9.63*	0.29
Effect size for difference <sup>2</sup>	#	‡	0.02	0.02	0.01	‡	0.03	0.04	0.78	0.16	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>ONOFFJ1Y6 (Job 1: job location year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	22.51	26.44	19.51	13.97	11.12	38.04	17.72	14.51	36.51	40.43	25.16
Median percent relative bias across characteristics	14.18	17.13	9.73	8.78	8.07	30.12	12.93	10.93	18.51	27.89	17.34
Percentage of characteristics with significant bias	69.39	0.00	38.89	30.77	30.00	18.18	37.68	23.88	22.22	27.27	17.33
Median effect size	0.15	0.47	0.11	0.13	0.11	0.37	0.13	0.11	0.27	0.30	0.16
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.04	‡	0.06	2.79	3.31	1.81	0.36	3.68	57.55*	67.45*	17.17*
Effect size for difference <sup>2</sup>	0.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>ONOFFJ2Y3 (Job 2: job location year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	27.95	‡	23.55	16.97	15.32	39.51	25.64	22.99	61.63	48.29	45.94
Median percent relative bias across characteristics	19.12	‡	12.01	12.36	11.41	28.81	16.65	18.37	29.58	34.91	26.73
Percentage of characteristics with significant bias	70.41	‡	33.33	25.40	29.85	16.28	26.47	25.76	10.20	28.57	18.67
Median effect size	0.22	‡	0.17	0.16	0.14	0.38	0.18	0.21	0.68	0.33	0.29
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.42	‡	0.19	0.54	0.41	‡	8.14	3.11	‡	0.11	0.79*
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	#	‡	0.08	0.03	‡	‡	‡
<b>ONOFFJ2Y6 (Job 2: job location year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	32.51	‡	34.68	24.86	17.32	‡	26.33	21.22	66.08	72.71	47.50
Median percent relative bias across characteristics	24.45	‡	19.96	17.10	12.53	‡	18.89	14.30	60.85	40.26	29.40
Percentage of characteristics with significant bias	61.22	‡	32.39	18.33	26.87	‡	22.73	14.29	31.58	37.50	21.33
Median effect size	0.24	‡	0.19	0.23	0.15	‡	0.19	0.17	0.57	0.47	0.30
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.15	‡	0.07	3.89	4.69	‡	5.39	1.35	8.45	14.82	21.05*
Effect size for difference <sup>2</sup>	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	0.30

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>ONOFFJ3Y3 (Job 3: job location year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	39.07	‡	36.38	28.62	24.39	72.10	27.66	44.74	144.34	70.19	90.94
Median percent relative bias across characteristics	32.32	‡	20.13	24.69	19.38	28.26	22.00	29.96	41.59	46.66	49.81
Percentage of characteristics with significant bias	57.73	‡	30.00	15.00	33.33	20.69	16.42	25.40	18.52	25.00	18.06
Median effect size	0.33	‡	0.27	0.30	0.24	0.68	0.20	0.39	0.50	0.60	0.65
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.65	‡	3.28	‡	2.83	‡	‡	2.28	‡	‡	2.45
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>ONOFFJ3Y6 (Job 3: job location year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	44.37	‡	45.21	43.90	32.17	‡	43.68	28.49	‡	139.15	69.42
Median percent relative bias across characteristics	34.11	‡	29.46	29.14	23.67	‡	27.11	16.19	‡	46.21	38.56
Percentage of characteristics with significant bias	50.54	‡	33.82	24.56	23.44	‡	16.95	8.33	‡	14.29	26.09
Median effect size	0.34	‡	0.36	0.38	0.28	‡	0.27	0.21	‡	0.69	0.41
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.26	‡	1.07	‡	2.23	‡	‡	‡	‡	‡	5.01
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>ONOFFJ4Y3 (Job 4: job location year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	46.58	‡	58.23	41.51	34.38	‡	44.29	46.45	119.61	105.21	107.08
Median percent relative bias across characteristics	38.05	‡	44.18	18.31	22.78	‡	33.91	35.00	40.50	48.11	65.17
Percentage of characteristics with significant bias	37.63	‡	24.62	2.00	16.39	‡	22.03	23.33	77.78	25.00	27.78
Median effect size	0.43	‡	0.43	0.36	0.30	‡	0.36	0.43	0.63	0.84	0.71
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.18	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>ONOFFJ4Y6 (Job 4: job location year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	66.96	‡	‡	‡	63.85	‡	‡	‡	‡	‡	233.27
Median percent relative bias across characteristics	65.91	‡	‡	‡	53.08	‡	‡	‡	‡	‡	56.50
Percentage of characteristics with significant bias	41.94	‡	‡	‡	26.42	‡	‡	‡	‡	‡	27.08
Median effect size	0.59	‡	‡	‡	0.57	‡	‡	‡	‡	‡	1.11
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	6.19	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>ONOFFJ5Y3 (Job 5: job location year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	59.07	‡	121.13	171.81	58.07	‡	82.92	116.92	‡	‡	116.98
Median percent relative bias across characteristics	42.90	‡	37.37	125.45	26.86	‡	42.40	54.14	‡	‡	58.86
Percentage of characteristics with significant bias	29.07	‡	9.09	100.00	6.25	‡	21.21	27.27	‡	‡	25.00
Median effect size	0.43	‡	0.64	1.12	0.40	‡	0.66	0.88	‡	‡	0.98
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>ONOFFJ5Y6 (Job 5: job location year 6)</b>											
Before imputation											
Mean percent relative bias across characteristics	92.37	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	58.80	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	25.35	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.61	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2- year	Public 4-year, non- doctorate -granting	Public 4-year, doctorate- granting	Private nonprofit less-than- 4-year	Private nonprofit 4- year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less-than- 2-year	Private for-profit 2-year	Private for-profit 4-year
<b>ONOFFJ6Y3 (Job 6: job location year 3)</b>											
Before imputation											
Mean percent relative bias across characteristics	102.87	‡	228.52	‡	225.67	‡	211.27	1283.45	‡	‡	564.59
Median percent relative bias across characteristics	73.98	‡	39.86	‡	88.04	‡	68.85	148.73	‡	‡	300.85
Percentage of characteristics with significant bias	42.03	‡	10.81	‡	38.46	‡	100.00	26.92	‡	‡	100.00
Median effect size	0.84	‡	0.85	‡	0.97	‡	0.83	1.43	‡	‡	1.73
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>PARAMT17 (Help from parents: total amount received 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.70	24.73	16.92	15.26	15.82	33.49	20.78	26.10	29.43	33.48	18.61
Median percent relative bias across characteristics	11.16	18.00	10.04	11.97	10.41	27.11	16.06	16.10	23.07	22.14	13.45
Percentage of characteristics with significant bias	48.98	5.26	41.67	30.30	38.57	19.05	32.39	31.43	17.31	29.23	13.33
Median effect size	0.12	0.46	0.09	0.12	0.15	0.32	0.17	0.21	0.28	0.26	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.06	‡	1.18	5.80	3.74	‡	12.01*	5.31	0.34	2.02	0.90
Effect size for difference <sup>2</sup>	0.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>PAREduc (Highest education of parents)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	12.09	8.29	10.22	6.00	12.68	11.43	7.85	13.08	11.29	10.68
Median percent relative bias across characteristics	8.00	12.94	5.24	8.70	4.50	9.72	7.25	4.35	9.93	8.05	7.29
Percentage of characteristics with significant bias	67.35	0.00	37.50	38.46	30.43	2.27	33.82	28.79	20.75	19.70	12.00
Median effect size	0.10	0.22	0.06	0.11	0.07	0.19	0.10	0.06	0.11	0.09	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.17*	‡	3.35*	3.50	2.17	‡	3.07	3.26	3.71	9.72*	4.56*
Effect size for difference <sup>2</sup>	0.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>PFAMNM17 (Dependent students: family size 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	38.42	65.02	33.74	17.60	19.97	103.66	29.54	33.23	121.82	158.80	103.28
Median percent relative bias across characteristics	25.18	53.63	21.85	9.82	15.38	65.86	22.33	22.69	62.26	67.07	59.75
Percentage of characteristics with significant bias	65.26	31.25	49.28	13.11	37.88	80.00	33.85	28.13	21.62	23.64	28.57
Median effect size	0.29	0.81	0.26	0.17	0.20	1.19	0.27	0.35	0.81	0.87	0.77
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.26	#	0.98	0.46	0.35	3.43	2.44	0.65	18.72	0.17	1.94
Effect size for difference <sup>2</sup>	0.01	#	0.03	0.01	0.01	0.13	0.07	0.02	0.56	0.01	0.05
<b>PHYSH (Health: physical 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.05*	‡	2.41*	1.45	0.22	‡	2.20	1.35	2.06	2.12	2.35
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>PHYSH17 (Health: physical 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.73	9.98	9.37	8.89	6.05	16.06	10.57	8.11	15.64	13.77	10.43
Median percent relative bias across characteristics	8.93	9.88	4.74	6.84	4.57	13.13	6.91	6.41	13.34	10.29	6.88
Percentage of characteristics with significant bias	72.45	4.76	39.44	34.38	32.84	6.52	38.24	32.31	24.07	30.30	12.00
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.13	0.11	0.05
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.90*	‡	1.75	6.30*	1.58	‡	1.19	0.19	7.34	6.15*	1.44
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	‡	‡	‡	‡	‡	‡	0.02

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>PINCOL17 (Dependent students: number family members in college 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	38.42	65.02	33.74	17.60	19.97	103.66	29.54	33.23	121.82	158.80	103.28
Median percent relative bias across characteristics	25.18	53.63	21.85	9.82	15.38	65.86	22.33	22.69	62.26	67.07	59.75
Percentage of characteristics with significant bias	65.26	31.25	49.28	13.11	37.88	80.00	33.85	28.13	21.62	23.64	28.57
Median effect size	0.29	0.81	0.26	0.17	0.20	1.19	0.27	0.35	0.81	0.87	0.77
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.30	#	0.62	1.37	0.79	2.40	2.91	0.23	19.03	5.36	1.85
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.03	0.02	0.07	0.06	0.01	0.39	0.14	0.04
<b>PMARIT17 (Parents' marital status: 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	38.42	65.02	33.74	17.60	19.97	103.66	29.54	33.23	121.82	158.80	103.28
Median percent relative bias across characteristics	25.18	53.63	21.85	9.82	15.38	65.86	22.33	22.69	62.26	67.07	59.75
Percentage of characteristics with significant bias	65.26	31.25	49.28	13.11	37.88	80.00	33.85	28.13	21.62	23.64	28.57
Median effect size	0.29	0.81	0.26	0.17	0.20	1.19	0.27	0.35	0.81	0.87	0.77
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.18	‡	1.16	‡	1.49	‡	‡	‡	‡	19.81	11.13
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>PRIVLN17 (Undergraduate private (alternative) loans: amount borrowed 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	41.18	‡	55.95	52.73	49.25	‡	41.07	63.30	‡	97.93	78.22
Median percent relative bias across characteristics	22.32	‡	28.06	42.96	40.27	‡	35.64	50.60	‡	42.90	34.91
Percentage of characteristics with significant bias	36.08	‡	25.71	25.42	26.98	‡	24.14	31.67	‡	25.00	16.44
Median effect size	0.28	‡	0.29	0.63	0.35	‡	0.36	0.67	‡	0.53	0.40
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.52	‡	2.52	1.21	1.96	‡	1.66	10.31	‡	#	6.95
Effect size for difference <sup>2</sup>	0.03	‡	0.03	0.01	0.02	‡	0.02	0.12	‡	#	0.09

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>PRLVL6Y (Attainment or level of last institution enrolled through 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.32	11.50	7.46	7.72	4.83	17.38	10.61	7.65	15.11	13.65	17.64
Median percent relative bias across characteristics	9.19	6.71	4.80	5.47	3.01	15.94	6.48	5.48	8.86	7.54	11.90
Percentage of characteristics with significant bias	77.55	15.00	40.00	36.67	31.82	15.56	43.55	29.03	18.52	26.15	18.67
Median effect size	0.08	0.14	0.04	0.08	0.05	0.23	0.07	0.05	0.12	0.11	0.11
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	11.16*	‡	4.04*	5.71*	‡	‡	‡	‡	80.46*	57.64*	30.58*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>PROUTF6Y (Retention and attainment at first institution 6-year total 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.22	19.75	7.04	7.57	5.01	21.10	11.08	7.92	22.01	15.36	24.15
Median percent relative bias across characteristics	9.75	11.98	4.63	4.70	2.96	15.85	7.16	5.77	15.37	8.85	19.60
Percentage of characteristics with significant bias	81.63	4.35	38.03	31.15	36.36	28.26	38.10	26.98	21.43	26.15	24.00
Median effect size	0.09	0.19	0.05	0.08	0.05	0.27	0.07	0.05	0.16	0.13	0.16
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	12.22*	‡	9.63*	12.51*	9.54*	18.94	14.74*	10.69*	79.61*	60.48*	30.89*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>REGSUPP14 (Regular monthly support 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.63	9.31	8.27	9.58	5.59	18.00	12.20	7.10	12.92	10.38	12.47
Median percent relative bias across characteristics	9.59	10.64	4.27	5.69	4.26	17.06	9.77	4.71	7.64	6.87	7.07
Percentage of characteristics with significant bias	76.53	0.00	35.21	39.06	32.84	18.18	42.65	21.88	16.67	22.73	16.00
Median effect size	0.11	0.15	0.05	0.09	0.06	0.25	0.09	0.05	0.11	0.08	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.67	‡	1.61	0.47	1.97*	2.18	0.49	1.77*	3.10	2.40	1.59
Effect size for difference <sup>2</sup>	0.01	‡	0.02	0.01	0.03	‡	0.01	0.03	0.04	0.03	0.02

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>REGSUPP17 (Regular monthly support 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.84	9.98	9.40	8.94	6.09	16.28	10.59	8.25	16.20	13.61	10.48
Median percent relative bias across characteristics	9.07	9.88	4.75	7.04	4.45	13.06	6.91	6.47	12.40	10.44	6.84
Percentage of characteristics with significant bias	72.45	4.76	38.03	34.38	34.33	15.22	38.24	32.31	26.42	27.27	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.75	‡	1.12	0.76	0.56	6.88*	0.34	1.11	5.44*	0.90	1.05
Effect size for difference <sup>2</sup>	0.01	‡	0.01	0.01	0.01	‡	‡	0.02	‡	0.01	0.01
<b>REMEV6Y (Remedial courses: ever taken through 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.34	8.79	8.19	7.08	5.30	16.47	9.64	7.86	14.22	13.92	10.93
Median percent relative bias across characteristics	7.79	5.98	4.24	5.08	3.50	14.65	6.18	6.10	12.55	10.31	7.39
Percentage of characteristics with significant bias	67.35	0.00	40.00	31.75	34.33	15.91	36.36	26.56	25.00	31.82	16.00
Median effect size	0.08	0.19	0.04	0.07	0.06	0.23	0.07	0.07	0.13	0.10	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	8.60*	‡	10.61*	7.42*	5.66*	13.94*	2.80*	2.95*	4.09*	11.94*	10.06*
Effect size for difference <sup>2</sup>	0.09	‡	0.11	‡	0.06	‡	‡	‡	‡	0.14	0.10
<b>S1ENRY1B (School 1 enrollment string Jan 12 thru Jun 12)</b>											
Before imputation											
Mean percent relative bias across characteristics	9.92	8.87	6.62	6.06	4.43	16.57	8.99	6.18	15.39	9.88	9.19
Median percent relative bias across characteristics	7.77	5.52	3.77	5.18	2.74	11.74	5.62	4.33	12.90	6.75	6.35
Percentage of characteristics with significant bias	72.45	15.79	37.14	36.21	33.33	16.28	40.00	26.67	9.43	20.00	20.00
Median effect size	0.08	0.11	0.03	0.07	0.05	0.21	0.07	0.04	0.11	0.08	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.68*	‡	‡	‡	‡	‡	‡	‡	0.19	1.58	2.24*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S1ENRY2A (School 1 enrollment string Jul 12 thru Dec 12)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.39	9.84	6.75	6.29	4.45	16.72	9.23	6.21	14.96	10.07	9.55
Median percent relative bias across characteristics	7.82	5.60	3.77	4.76	2.78	13.16	5.82	4.45	10.15	5.80	6.03
Percentage of characteristics with significant bias	77.55	20.00	40.00	37.29	33.33	18.18	43.33	28.33	10.91	18.46	18.67
Median effect size	0.08	0.11	0.03	0.06	0.05	0.24	0.06	0.05	0.13	0.09	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.55*	‡	‡	‡	‡	‡	‡	‡	‡	11.03*	8.54*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S1ENRY4A (School 1 enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.61	18.51	8.12	6.46	4.49	35.37	10.09	7.37	39.35	28.17	19.38
Median percent relative bias across characteristics	8.88	20.02	4.97	4.70	2.70	27.39	6.03	5.13	23.19	16.06	12.36
Percentage of characteristics with significant bias	81.63	17.39	41.43	35.59	36.36	10.87	40.32	30.65	12.50	13.85	22.67
Median effect size	0.10	0.23	0.05	0.06	0.05	0.41	0.07	0.05	0.25	0.21	0.15
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.78*	‡	2.16*	‡	‡	38.56*	‡	‡	62.23*	66.84*	19.62*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S1ENRY4B (School 1 enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.54	19.04	8.15	6.58	4.49	35.22	10.06	7.36	40.32	29.28	19.46
Median percent relative bias across characteristics	8.89	20.36	4.72	4.75	2.92	26.76	6.03	5.02	23.95	16.90	11.72
Percentage of characteristics with significant bias	82.65	17.39	41.43	35.59	33.33	13.04	40.32	30.65	12.50	13.85	24.00
Median effect size	0.10	0.23	0.05	0.07	0.05	0.41	0.07	0.05	0.26	0.21	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.39*	‡	2.01*	‡	‡	31.27*	‡	‡	58.71*	61.85*	18.18*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S1ENRY5A (School 1 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.45	17.80	8.18	6.53	4.52	33.82	10.05	7.37	40.65	29.60	19.50
Median percent relative bias across characteristics	8.78	16.01	4.53	4.63	2.69	26.13	6.04	5.13	22.99	17.13	12.96
Percentage of characteristics with significant bias	79.59	19.05	41.43	35.59	36.36	8.70	40.32	30.65	12.50	13.85	22.67
Median effect size	0.10	0.21	0.05	0.07	0.05	0.41	0.07	0.05	0.26	0.21	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.34	‡	0.69*	‡	‡	7.49	0.41	‡	14.02*	23.66*	8.27*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S1ENRY5B (School 1 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.43	17.80	8.07	6.53	4.54	33.82	10.02	7.37	41.65	29.57	19.18
Median percent relative bias across characteristics	8.65	16.01	4.68	4.71	2.64	26.13	6.04	5.13	23.06	17.46	12.30
Percentage of characteristics with significant bias	80.61	19.05	40.00	35.59	36.36	8.70	40.32	30.65	12.50	13.85	24.00
Median effect size	0.10	0.21	0.05	0.07	0.05	0.41	0.07	0.05	0.26	0.21	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.30*	‡	0.36	‡	‡	8.39	1.30	‡	6.51*	14.22*	6.70*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S1ENRY6A (School 1 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.14	17.40	8.08	6.43	4.53	33.82	10.02	7.37	35.79	29.46	19.20
Median percent relative bias across characteristics	8.15	18.19	4.77	4.39	2.73	26.13	6.04	5.13	22.44	17.80	11.61
Percentage of characteristics with significant bias	78.57	17.39	40.00	35.59	36.36	8.70	40.32	30.65	12.73	13.85	25.33
Median effect size	0.09	0.21	0.05	0.07	0.05	0.41	0.07	0.05	0.21	0.21	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.32	‡	0.59*	‡	‡	0.55	0.06	‡	4.58*	7.29*	4.27*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S1ENRY6B (School 1 enrollment string Jan 17 thru Jun 17)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.15	17.40	8.12	6.44	4.52	33.82	10.02	7.37	35.79	29.52	19.21
Median percent relative bias across characteristics	8.17	18.19	4.68	4.38	2.76	26.13	6.04	5.13	22.44	17.41	11.48
Percentage of characteristics with significant bias	78.57	17.39	40.00	35.59	36.36	8.70	40.32	30.65	12.73	13.85	25.33
Median effect size	0.09	0.21	0.05	0.07	0.05	0.41	0.07	0.05	0.21	0.21	0.14
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.38*	‡	0.68*	‡	‡	1.88	0.07	‡	3.89*	5.70*	3.43*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S2DEGTYPE (School 2: Degree type for degree 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.32	13.58	14.01	10.69	7.26	28.41	13.18	14.08	16.67	18.38	15.82
Median percent relative bias across characteristics	10.39	11.93	6.69	7.03	5.86	25.59	8.78	11.53	11.03	11.57	9.59
Percentage of characteristics with significant bias	65.31	11.76	42.86	27.87	34.85	20.45	38.71	45.16	11.54	23.08	13.33
Median effect size	0.11	0.18	0.07	0.10	0.08	0.34	0.10	0.12	0.11	0.13	0.09
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.11*	‡	1.95*	‡	4.25*	‡	‡	‡	7.33	16.97*	6.53*
Effect size for difference <sup>2</sup>	0.02	‡	‡	‡	‡	‡	‡	‡	‡	‡	0.07
<b>S2ENRY1A (School 2 enrollment string Jul 11 thru Dec 11)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.09	12.70	13.83	10.31	6.61	26.94	13.05	12.36	19.61	17.80	15.14
Median percent relative bias across characteristics	11.19	10.40	6.94	7.33	4.45	21.71	8.56	7.76	13.77	11.08	9.56
Percentage of characteristics with significant bias	70.41	11.76	41.43	37.93	34.85	9.30	45.00	40.00	21.15	33.85	14.67
Median effect size	0.13	0.18	0.07	0.11	0.07	0.29	0.10	0.10	0.16	0.15	0.09
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	25.74*	‡	‡	‡	‡	‡	‡	‡	‡	39.51*	18.11*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S2ENRY1B (School 2 enrollment string Jan 12 thru Jun 12)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.45	12.81	13.95	10.83	6.71	28.84	13.03	12.35	19.84	17.04	13.92
Median percent relative bias across characteristics	11.97	10.40	7.19	7.71	4.77	26.08	8.56	7.80	16.97	12.72	7.93
Percentage of characteristics with significant bias	70.41	17.65	41.43	38.98	34.85	9.09	43.33	40.00	15.09	16.92	14.67
Median effect size	0.13	0.18	0.07	0.11	0.07	0.31	0.11	0.10	0.14	0.12	0.09
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	17.42*	‡	‡	‡	‡	‡	‡	‡	‡	21.86*	22.38*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S2ENRY2A (School 2 enrollment string Jul 12 thru Dec 12)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.37	10.66	14.07	11.33	6.77	27.34	13.65	12.37	18.60	17.64	14.87
Median percent relative bias across characteristics	12.08	5.06	7.55	8.19	4.66	20.90	9.50	8.53	15.87	10.68	11.58
Percentage of characteristics with significant bias	73.47	12.50	43.66	33.90	33.33	25.58	44.26	42.62	15.38	21.54	17.33
Median effect size	0.14	0.19	0.07	0.10	0.06	0.28	0.11	0.10	0.16	0.13	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	4.21*	‡	1.65*	‡	‡	‡	‡	‡	10.32*	28.34*	12.14*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S2ENRY4A (School 2 enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.87	22.37	14.52	11.49	6.73	45.95	15.03	13.32	40.39	25.56	22.05
Median percent relative bias across characteristics	13.82	18.91	7.89	9.55	4.37	37.26	9.93	9.54	26.70	18.50	11.89
Percentage of characteristics with significant bias	67.35	10.00	45.07	31.15	31.82	36.96	46.77	40.98	15.09	16.92	14.67
Median effect size	0.14	0.29	0.08	0.11	0.07	0.56	0.12	0.11	0.42	0.22	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.77*	‡	1.11	‡	2.28*	5.80	‡	‡	5.34	11.09*	12.38*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S2ENRY4B (School 2 enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.86	22.37	14.50	11.40	6.72	45.99	15.02	13.32	39.71	25.55	21.50
Median percent relative bias across characteristics	13.52	18.91	8.19	9.02	4.28	38.43	9.94	9.17	27.36	18.57	10.55
Percentage of characteristics with significant bias	66.33	10.00	47.89	31.15	31.82	36.96	48.39	40.98	13.21	16.92	14.67
Median effect size	0.14	0.29	0.08	0.11	0.07	0.56	0.11	0.11	0.43	0.21	0.13
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.92	‡	0.55	0.40	1.70*	‡	0.33	‡	0.26	14.26*	4.27*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S2ENRY5A (School 2 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.73	22.37	14.45	11.41	6.71	45.38	14.97	13.39	37.49	24.93	21.45
Median percent relative bias across characteristics	13.96	18.91	7.60	9.49	4.58	37.87	9.90	8.61	26.64	17.70	11.50
Percentage of characteristics with significant bias	69.39	10.00	45.07	31.15	31.82	30.43	48.39	39.34	13.21	13.85	14.67
Median effect size	0.15	0.29	0.08	0.11	0.07	0.55	0.11	0.11	0.41	0.20	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.59*	‡	0.01	‡	0.25	5.00	0.20	‡	5.48	7.84	7.18*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S2ENRY5B (School 2 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.67	22.37	14.03	11.41	6.75	45.38	14.97	13.58	37.49	25.27	21.01
Median percent relative bias across characteristics	13.77	18.91	7.12	8.98	4.54	37.87	10.16	8.28	26.64	17.90	12.45
Percentage of characteristics with significant bias	68.37	10.00	41.43	31.15	31.82	30.43	48.39	40.98	13.21	15.38	13.33
Median effect size	0.15	0.29	0.07	0.11	0.07	0.55	0.11	0.11	0.41	0.19	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.82	‡	0.72	‡	0.18	4.65	#	0.04	9.77*	6.46	4.38*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S2ENRY6A (School 2 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.61	22.37	14.35	11.49	6.79	45.38	14.88	13.53	37.38	25.83	20.91
Median percent relative bias across characteristics	13.97	18.91	7.61	9.18	4.59	37.87	10.36	8.49	27.02	18.25	12.48
Percentage of characteristics with significant bias	66.33	10.00	44.29	31.15	31.82	30.43	48.39	40.98	11.54	16.92	13.33
Median effect size	0.15	0.29	0.07	0.11	0.07	0.55	0.11	0.11	0.43	0.19	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.98*	‡	0.28	‡	0.69	10.61	0.56	‡	10.69*	6.79	7.63*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S2ENRY6B (School 2 enrollment string Jan 17 thru Jun 17)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.64	22.37	14.35	11.39	6.78	45.38	14.82	13.46	38.98	25.68	20.73
Median percent relative bias across characteristics	13.72	18.91	7.53	9.82	4.32	37.87	10.29	8.40	29.93	18.09	12.69
Percentage of characteristics with significant bias	68.37	10.00	45.71	31.67	36.36	30.43	48.39	40.98	11.11	16.92	13.33
Median effect size	0.15	0.29	0.08	0.11	0.07	0.55	0.11	0.11	0.42	0.19	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.66	‡	0.19	0.86	0.26	8.17	0.68	0.02	8.29	7.07	5.58*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S3DEGTYPE (School 3: Degree type for degree 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	22.86	‡	24.84	21.68	14.25	33.05	18.79	30.45	25.81	27.00	21.80
Median percent relative bias across characteristics	16.11	‡	10.99	16.55	10.49	28.18	11.95	25.59	23.92	21.19	18.44
Percentage of characteristics with significant bias	65.31	‡	38.57	32.20	34.85	14.63	36.07	48.33	23.08	16.92	18.67
Median effect size	0.18	‡	0.16	0.20	0.12	0.42	0.15	0.28	0.26	0.15	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.01	‡	3.47	‡	‡	‡	‡	‡	‡	‡	6.54*
Effect size for difference <sup>2</sup>	0.01	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S3ENRY2A (School 3 enrollment string Jul 12 thru Dec 12)</b>											
Before imputation											
Mean percent relative bias across characteristics	23.86	‡	24.49	21.08	12.39	32.21	18.96	24.01	28.01	29.86	19.69
Median percent relative bias across characteristics	18.55	‡	9.98	15.22	9.58	24.54	12.82	22.21	26.74	21.04	14.12
Percentage of characteristics with significant bias	69.39	‡	40.00	37.29	36.36	12.20	43.33	45.00	26.92	20.31	16.00
Median effect size	0.21	‡	0.15	0.20	0.13	0.36	0.14	0.21	0.29	0.17	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	6.56*	‡	‡	‡	‡	‡	‡	‡	‡	‡	25.59*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S3ENRY4A (School enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.79	‡	25.05	22.38	12.83	37.82	19.06	22.75	28.88	33.90	24.19
Median percent relative bias across characteristics	18.85	‡	12.40	12.70	9.87	39.84	13.38	18.01	26.00	23.19	17.39
Percentage of characteristics with significant bias	69.39	‡	39.44	38.98	34.85	16.67	34.43	43.33	23.08	20.00	18.67
Median effect size	0.23	‡	0.14	0.21	0.12	0.38	0.13	0.19	0.28	0.19	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	3.25*	‡	4.61*	‡	‡	‡	‡	‡	‡	3.21	4.16
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S3ENRY4B (School enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.52	‡	25.30	20.44	12.84	37.82	18.91	22.75	28.01	33.93	23.43
Median percent relative bias across characteristics	18.23	‡	11.91	12.96	9.93	39.84	13.74	18.01	29.10	22.74	16.76
Percentage of characteristics with significant bias	68.37	‡	40.85	33.90	37.88	16.67	37.70	43.33	17.31	20.00	20.00
Median effect size	0.22	‡	0.15	0.19	0.12	0.38	0.13	0.19	0.29	0.19	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.27*	‡	3.42*	‡	‡	‡	‡	‡	‡	2.46	5.44*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S3ENRY5A (School 3 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.54	‡	25.41	20.44	12.89	34.82	18.97	22.77	26.33	33.45	23.32
Median percent relative bias across characteristics	18.67	‡	12.82	12.96	9.65	34.39	13.28	18.03	26.17	23.03	17.77
Percentage of characteristics with significant bias	68.37	‡	40.85	33.90	34.85	14.63	37.70	43.33	19.23	21.54	20.00
Median effect size	0.22	‡	0.15	0.19	0.12	0.36	0.13	0.19	0.28	0.19	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.52*	‡	2.69*	‡	‡	‡	‡	‡	‡	1.16	4.17
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S3ENRY5B (School 3 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.55	‡	25.35	20.46	12.86	34.82	18.65	22.78	29.05	33.18	23.02
Median percent relative bias across characteristics	18.67	‡	12.82	12.61	10.10	34.39	12.96	18.19	25.03	23.52	16.57
Percentage of characteristics with significant bias	68.37	‡	42.25	35.59	37.88	14.63	39.34	43.33	21.15	21.54	20.00
Median effect size	0.22	‡	0.15	0.19	0.12	0.36	0.13	0.19	0.29	0.18	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.56	‡	1.57	‡	‡	‡	‡	‡	‡	2.50	0.99
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S3ENRY6A (School 3 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.34	‡	24.65	20.48	12.86	34.68	18.65	22.85	27.29	32.40	22.69
Median percent relative bias across characteristics	18.49	‡	12.30	12.76	10.10	34.57	12.96	18.22	26.38	21.28	16.43
Percentage of characteristics with significant bias	68.37	‡	42.86	35.59	37.88	17.07	39.34	41.67	21.15	21.54	20.00
Median effect size	0.21	‡	0.15	0.19	0.12	0.35	0.13	0.19	0.29	0.18	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.73	‡	0.90	‡	‡	‡	‡	‡	‡	4.09	6.50*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S3ENRY6B (School 3 enrollment string Jan 17 thru Jun 17)</b>											
Before imputation											
Mean percent relative bias across characteristics	24.32	‡	24.68	20.99	13.14	34.68	18.77	22.65	28.09	32.39	22.65
Median percent relative bias across characteristics	18.63	‡	11.91	15.80	10.07	34.57	13.02	18.16	25.03	21.14	16.54
Percentage of characteristics with significant bias	69.39	‡	41.43	37.29	39.39	17.07	45.00	43.33	21.15	21.54	18.67
Median effect size	0.21	‡	0.15	0.20	0.13	0.35	0.13	0.18	0.29	0.18	0.12
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.07*	‡	1.42	‡	‡	‡	‡	‡	‡	4.14	2.80
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S4DEGTYPE (School 4: Degree type for degree 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	35.45	‡	41.06	38.20	27.70	‡	32.56	48.81	39.23	56.39	40.47
Median percent relative bias across characteristics	24.88	‡	19.45	26.71	22.63	‡	19.69	43.83	26.97	28.61	32.95
Percentage of characteristics with significant bias	54.08	‡	41.43	24.56	33.33	‡	21.67	38.33	11.76	25.00	22.67
Median effect size	0.24	‡	0.26	0.40	0.24	‡	0.22	0.48	0.42	0.29	0.26
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.26	‡	‡	‡	‡	‡	‡	‡	‡	‡	4.61
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S4ENRY4A (School 4 enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	36.54	‡	41.56	39.51	22.70	‡	28.30	43.32	35.27	56.30	38.84
Median percent relative bias across characteristics	27.08	‡	23.97	33.43	15.66	‡	18.48	35.63	32.35	42.26	27.45
Percentage of characteristics with significant bias	63.27	‡	41.43	24.56	25.76	‡	15.00	36.07	15.69	21.54	24.00
Median effect size	0.27	‡	0.29	0.37	0.18	‡	0.18	0.44	0.35	0.33	0.30
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.19*	‡	‡	‡	‡	‡	‡	‡	‡	‡	0.55
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S4ENRY4B (School 4 enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	35.74	‡	41.38	39.21	22.70	‡	28.30	43.67	33.71	56.18	35.40
Median percent relative bias across characteristics	25.58	‡	21.45	34.10	15.66	‡	18.48	36.12	29.51	42.75	21.53
Percentage of characteristics with significant bias	63.27	‡	44.29	24.56	25.76	‡	15.00	41.67	11.76	23.08	22.67
Median effect size	0.28	‡	0.29	0.37	0.18	‡	0.18	0.44	0.37	0.33	0.20
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.47	‡	‡	‡	‡	‡	‡	‡	‡	‡	4.96
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S4ENRY5A (School 4 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	34.78	‡	41.28	39.89	22.29	‡	27.95	43.61	33.03	57.79	36.23
Median percent relative bias across characteristics	25.26	‡	21.09	34.92	14.67	‡	17.16	36.69	30.31	40.34	25.13
Percentage of characteristics with significant bias	59.18	‡	42.86	26.32	25.76	‡	15.00	40.00	12.00	24.62	20.00
Median effect size	0.26	‡	0.28	0.40	0.17	‡	0.18	0.44	0.36	0.34	0.25
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.97	‡	‡	‡	‡	‡	‡	‡	‡	‡	3.82
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S4ENRY5B (School 4 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	35.21	‡	41.26	39.89	22.57	‡	27.95	43.68	34.77	58.53	37.48
Median percent relative bias across characteristics	25.51	‡	21.63	34.92	15.60	‡	17.16	36.13	28.76	42.61	30.28
Percentage of characteristics with significant bias	59.18	‡	42.86	26.32	25.76	‡	15.00	41.67	9.80	25.00	22.67
Median effect size	0.26	‡	0.28	0.40	0.18	‡	0.18	0.44	0.41	0.33	0.24
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.99	‡	‡	‡	‡	‡	‡	‡	‡	‡	2.27
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S4ENRY6A (School 4 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	35.30	‡	40.81	39.84	22.94	‡	27.95	43.67	36.00	58.46	38.51
Median percent relative bias across characteristics	26.33	‡	21.62	32.24	16.59	‡	17.16	36.04	29.82	42.86	31.67
Percentage of characteristics with significant bias	60.20	‡	41.43	26.32	25.76	‡	15.00	41.67	11.76	25.00	22.67
Median effect size	0.26	‡	0.27	0.41	0.18	‡	0.18	0.45	0.36	0.35	0.23
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.62*	‡	‡	‡	‡	‡	‡	‡	‡	‡	3.50
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S4ENRY6B (School 4 enrollment string Jan 17 thru Jun 17)</b>											
Before imputation											
Mean percent relative bias across characteristics	35.29	‡	41.02	39.89	22.97	‡	28.62	43.67	38.15	59.46	38.26
Median percent relative bias across characteristics	25.98	‡	21.75	34.92	16.42	‡	18.09	36.04	33.42	42.77	31.07
Percentage of characteristics with significant bias	59.18	‡	41.43	26.32	25.76	‡	15.00	41.67	12.00	28.13	22.67
Median effect size	0.25	‡	0.28	0.40	0.18	‡	0.19	0.45	0.40	0.33	0.22
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.04	‡	‡	‡	‡	‡	‡	‡	‡	‡	2.39
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S5DEGTYPE (School 5: Degree type for degree 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	45.90	‡	53.38	‡	45.83	‡	42.48	60.36	‡	61.28	47.12
Median percent relative bias across characteristics	27.58	‡	27.91	‡	25.35	‡	31.87	48.89	‡	44.69	31.57
Percentage of characteristics with significant bias	32.99	‡	28.99	‡	21.88	‡	13.79	31.67	‡	30.51	17.81
Median effect size	0.29	‡	0.40	‡	0.30	‡	0.30	0.57	‡	0.44	0.38
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S5ENRY4A (School 5 enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	45.74	‡	50.10	‡	41.38	‡	37.76	50.09	‡	57.24	48.23
Median percent relative bias across characteristics	26.01	‡	25.36	‡	24.46	‡	24.27	44.54	‡	45.10	31.45
Percentage of characteristics with significant bias	39.18	‡	26.47	‡	18.18	‡	10.34	31.67	‡	27.59	14.86
Median effect size	0.27	‡	0.43	‡	0.29	‡	0.27	0.51	‡	0.40	0.39
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.79*	‡	‡	‡	‡	‡	‡	‡	‡	‡	0.51
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S5ENRY4B (School 5 enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	45.89	‡	50.11	‡	41.38	‡	37.76	50.09	‡	57.53	49.34
Median percent relative bias across characteristics	27.36	‡	26.99	‡	24.46	‡	24.27	44.54	‡	42.63	32.54
Percentage of characteristics with significant bias	39.18	‡	26.47	‡	18.18	‡	10.34	31.67	‡	29.31	13.51
Median effect size	0.27	‡	0.43	‡	0.29	‡	0.27	0.51	‡	0.40	0.39
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.37	‡	‡	‡	‡	‡	‡	‡	‡	‡	4.01
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S5ENRY5A (School 5 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	45.14	‡	55.46	‡	41.38	‡	37.76	50.09	‡	57.01	49.00
Median percent relative bias across characteristics	26.87	‡	30.44	‡	24.46	‡	24.27	44.54	‡	41.66	31.59
Percentage of characteristics with significant bias	37.11	‡	27.54	‡	18.18	‡	10.34	31.67	‡	29.31	13.51
Median effect size	0.28	‡	0.41	‡	0.29	‡	0.27	0.51	‡	0.39	0.39
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.52	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S5ENRY5B (School 5 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	44.76	‡	54.10	‡	40.59	‡	37.76	50.09	‡	62.76	48.36
Median percent relative bias across characteristics	27.60	‡	30.45	‡	21.95	‡	24.27	44.54	‡	49.28	32.40
Percentage of characteristics with significant bias	38.14	‡	26.09	‡	19.70	‡	10.34	31.67	‡	30.51	16.22
Median effect size	0.27	‡	0.40	‡	0.28	‡	0.27	0.51	‡	0.41	0.39
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S5ENRY6A (School 5 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	45.53	‡	54.06	‡	40.59	‡	42.12	51.98	‡	62.46	51.33
Median percent relative bias across characteristics	28.10	‡	26.51	‡	21.95	‡	26.99	46.59	‡	50.04	37.06
Percentage of characteristics with significant bias	37.11	‡	27.54	‡	19.70	‡	22.81	38.33	‡	30.51	22.97
Median effect size	0.28	‡	0.40	‡	0.28	‡	0.29	0.52	‡	0.41	0.36
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S5ENRY6B (School5 enrollment string Jan 17 thru Jun 17)</b>											
Before imputation											
Mean percent relative bias across characteristics	46.08	‡	54.24	‡	41.39	‡	43.26	51.98	‡	62.46	51.34
Median percent relative bias across characteristics	29.08	‡	25.68	‡	25.22	‡	29.39	46.59	‡	50.04	34.65
Percentage of characteristics with significant bias	38.14	‡	27.54	‡	19.70	‡	26.32	38.33	‡	30.51	16.22
Median effect size	0.28	‡	0.40	‡	0.28	‡	0.30	0.52	‡	0.41	0.40
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S6ENRY4A (School 6 enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	68.09	‡	79.30	‡	‡	‡	‡	‡	‡	‡	64.20
Median percent relative bias across characteristics	28.56	‡	42.34	‡	‡	‡	‡	‡	‡	‡	42.18
Percentage of characteristics with significant bias	26.32	‡	27.69	‡	‡	‡	‡	‡	‡	‡	24.66
Median effect size	0.37	‡	0.87	‡	‡	‡	‡	‡	‡	‡	0.53
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S6ENRY4B (School 6 enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	67.71	‡	79.30	‡	‡	‡	‡	‡	‡	‡	63.91
Median percent relative bias across characteristics	27.98	‡	42.34	‡	‡	‡	‡	‡	‡	‡	42.43
Percentage of characteristics with significant bias	27.37	‡	27.69	‡	‡	‡	‡	‡	‡	‡	24.66
Median effect size	0.37	‡	0.87	‡	‡	‡	‡	‡	‡	‡	0.53
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S6ENRY5A (School 6 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	68.18	‡	80.34	‡	‡	‡	‡	‡	‡	‡	63.60
Median percent relative bias across characteristics	28.57	‡	41.42	‡	‡	‡	‡	‡	‡	‡	42.71
Percentage of characteristics with significant bias	26.32	‡	29.23	‡	‡	‡	‡	‡	‡	‡	24.66
Median effect size	0.37	‡	0.89	‡	‡	‡	‡	‡	‡	‡	0.52
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S6ENRY5B (School 6 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	68.23	‡	79.53	‡	‡	‡	‡	‡	‡	‡	63.39
Median percent relative bias across characteristics	30.26	‡	41.04	‡	‡	‡	‡	‡	‡	‡	42.23
Percentage of characteristics with significant bias	26.04	‡	28.79	‡	‡	‡	‡	‡	‡	‡	24.66
Median effect size	0.37	‡	0.90	‡	‡	‡	‡	‡	‡	‡	0.52
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S6ENRY6A (School 6 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	68.24	‡	79.53	‡	‡	‡	‡	‡	‡	‡	75.63
Median percent relative bias across characteristics	28.74	‡	41.04	‡	‡	‡	‡	‡	‡	‡	52.60
Percentage of characteristics with significant bias	29.17	‡	28.79	‡	‡	‡	‡	‡	‡	‡	27.40
Median effect size	0.37	‡	0.90	‡	‡	‡	‡	‡	‡	‡	0.52
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S7DEGTYPE (School 7: Degree type for degree 1)</b>											
Before imputation											
Mean percent relative bias across characteristics	84.80	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	58.11	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	38.82	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.72	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>S7ENRY4A (School 7 enrollment string Jul 14 thru Dec 14)</b>											
Before imputation											
Mean percent relative bias across characteristics	76.35	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	43.59	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	31.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.51	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S7ENRY4B (School 7 enrollment string Jan 15 thru Jun 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	76.35	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	43.59	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	31.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.51	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S7ENRY5A (School 7 enrollment string Jul 15 thru Dec 15)</b>											
Before imputation											
Mean percent relative bias across characteristics	76.22	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	43.72	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	31.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.52	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>S7ENRY5B (School 7 enrollment string Jan 16 thru Jun 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	75.78	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	43.06	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	31.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.52	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S7ENRY6A (School 7 enrollment string Jul 16 thru Dec 16)</b>											
Before imputation											
Mean percent relative bias across characteristics	75.78	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	43.06	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	31.03	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.52	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>S7ENRY6B (School 7 enrollment string Jan 17 thru Jun 17)</b>											
Before imputation											
Mean percent relative bias across characteristics	81.81	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median percent relative bias across characteristics	53.58	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Percentage of characteristics with significant bias	34.48	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Median effect size	0.66	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less- than- 2-year	Public 2-year	Public 4-year, non- doctorate- granting	Public 4-year, doctorate- granting	Private nonprofit less- than- 4-year	Private nonprofit 4-year, non- doctorate- granting	Private nonprofit 4-year, doctorate- granting	Private for-profit less- than- 2-year	Private for- profit 2-year	Private for- profit 4-year
<b>SEROLE17 (Jobs while enrolled: primarily student or employee through June 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	18.62	‡	20.33	17.97	16.56	24.70	24.86	28.22	32.07	26.88	23.94
Median percent relative bias across characteristics	13.08	‡	12.57	12.00	14.01	17.59	16.04	23.71	29.25	15.22	12.53
Percentage of characteristics with significant bias	52.04	‡	41.43	27.12	32.84	16.28	27.42	21.31	26.92	23.08	16.00
Median effect size	0.13	‡	0.11	0.14	0.16	0.33	0.21	0.24	0.29	0.20	0.15
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.35	‡	1.36	0.12	0.02	‡	1.34	0.71	19.17*	9.45*	1.46
Effect size for difference <sup>2</sup>	#	‡	0.02	‡	‡	‡	‡	‡	‡	0.10	0.01
<b>SINCOL17 (Independent students: number of family members in college 2016–17)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.50	15.19	23.44	23.90	22.08	20.92	26.41	27.59	30.23	29.28	21.30
Median percent relative bias across characteristics	11.43	11.82	14.56	16.66	18.30	15.26	17.07	21.41	25.61	18.56	13.95
Percentage of characteristics with significant bias	37.76	5.26	35.71	25.81	30.30	0.00	20.00	16.13	32.08	31.82	12.00
Median effect size	0.09	0.25	0.10	0.19	0.19	0.20	0.18	0.24	0.33	0.18	0.10
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.26	‡	0.08	0.45	0.36*	6.99	1.22	0.52	2.02*	1.74	0.79
Effect size for difference <sup>2</sup>	0.01	‡	#	0.02	0.02	0.23	0.04	0.02	0.08	0.06	0.03
<b>SMAR17 (Student's marital status 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.51	8.17	9.02	9.34	5.87	16.36	10.41	8.52	13.15	11.73	10.24
Median percent relative bias across characteristics	9.09	7.95	4.73	6.76	4.21	14.32	7.03	5.33	10.73	10.24	7.59
Percentage of characteristics with significant bias	70.41	4.76	40.00	40.98	37.88	13.95	43.08	37.70	18.87	19.70	18.67
Median effect size	0.11	0.13	0.04	0.08	0.06	0.22	0.09	0.06	0.11	0.08	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.97*	‡	0.76	0.54	0.73	‡	0.49	0.55	3.06	6.11*	5.62*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>SPNM16 (Not married to spouse in 2016)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.47	16.35	18.38	24.07	23.64	26.92	26.61	30.60	29.60	27.56	26.73
Median percent relative bias across characteristics	9.52	14.97	13.52	17.55	17.74	18.32	16.41	20.94	23.48	24.92	21.46
Percentage of characteristics with significant bias	36.73	30.00	24.29	14.52	27.27	4.55	27.69	29.03	30.19	22.73	32.00
Median effect size	0.11	0.33	0.11	0.21	0.21	0.39	0.22	0.27	0.23	0.20	0.19
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.76	‡	3.38	1.38	0.74	‡	‡	2.09*	2.00	4.69	1.26*
Effect size for difference <sup>2</sup>	0.04	‡	0.07	‡	‡	‡	‡	‡	‡	‡	‡
<b>SPSED17 (Spouse's education level 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	14.84	13.08	17.61	24.26	23.24	24.24	25.89	31.41	27.02	21.36	23.22
Median percent relative bias across characteristics	8.87	9.72	10.12	16.32	18.26	12.91	16.19	23.94	22.96	16.71	16.83
Percentage of characteristics with significant bias	36.73	0.00	27.14	18.03	27.27	6.98	27.69	25.81	28.30	21.21	28.00
Median effect size	0.10	0.28	0.10	0.22	0.20	0.38	0.22	0.27	0.18	0.13	0.17
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	1.72	‡	2.03	‡	‡	‡	‡	‡	‡	‡	1.70
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>STDYABR6Y (Ever studied abroad while attending first institution through June 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	37.72	‡	22.40	24.06	9.36	144.15	20.17	11.35	‡	133.77	45.53
Median percent relative bias across characteristics	28.06	‡	13.75	19.75	5.44	123.43	13.37	7.01	‡	51.29	35.43
Percentage of characteristics with significant bias	82.47	‡	29.58	57.38	37.88	29.17	46.97	20.31	‡	24.00	22.67
Median effect size	0.30	‡	0.14	0.22	0.08	1.40	0.11	0.08	‡	0.47	0.30
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	2.70*	‡	2.24	1.23	0.91	‡	0.87	1.05	‡	55.04*	3.67
Effect size for difference <sup>2</sup>	0.04	‡	0.04	‡	0.01	‡	0.01	0.01	‡	‡	0.05

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>STNUFI6Y (Stopouts number at first institution through 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	15.70	20.79	8.32	7.08	4.68	35.74	10.33	7.35	43.13	28.61	23.71
Median percent relative bias across characteristics	9.51	22.18	5.03	4.99	2.80	28.86	6.39	5.06	23.49	18.64	17.14
Percentage of characteristics with significant bias	82.65	16.00	45.71	36.67	36.36	13.04	36.51	29.03	8.93	13.85	24.00
Median effect size	0.10	0.25	0.06	0.08	0.05	0.42	0.07	0.05	0.28	0.24	0.17
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	12.31*	‡	4.95*	‡	‡	52.00*	16.62*	‡	95.04*	76.60*	41.18*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>STNUM6Y (Stopouts number anywhere through 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	17.41	28.17	7.69	7.71	4.94	34.31	11.47	8.11	52.10	27.62	29.10
Median percent relative bias across characteristics	10.51	26.66	4.84	4.93	3.30	23.56	7.72	5.96	29.11	15.43	19.88
Percentage of characteristics with significant bias	82.65	14.29	39.44	30.65	37.88	10.87	33.33	29.69	7.41	13.64	28.00
Median effect size	0.11	0.24	0.06	0.08	0.05	0.40	0.07	0.05	0.40	0.21	0.23
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	16.60*	‡	10.03*	4.35*	4.52*	51.82*	8.64*	3.52*	103.41*	72.11*	47.70*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>UNEMCP17 (Received unemployment benefits while unemployed)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.11	7.63	8.49	8.52	6.15	18.28	12.27	8.31	12.78	12.13	12.61
Median percent relative bias across characteristics	9.94	5.61	5.35	7.30	4.47	13.96	8.52	6.24	8.51	7.83	7.93
Percentage of characteristics with significant bias	72.45	0.00	35.71	29.69	29.85	13.04	39.71	32.31	13.46	16.67	14.67
Median effect size	0.10	0.16	0.05	0.08	0.06	0.23	0.08	0.07	0.12	0.11	0.08
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.14	‡	0.11	0.60	0.15*	6.64	0.88	0.03	0.81*	0.95*	1.16*
Effect size for difference <sup>2</sup>	#	‡	‡	‡	‡	‡	‡	‡	‡	‡	0.03

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>UNEMPSTRY4_2 (Unemployment: looking for work July 2014 through June 2015)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.49	6.90	8.28	7.99	6.16	18.78	11.74	8.52	12.45	10.58	12.05
Median percent relative bias across characteristics	9.92	5.16	5.33	6.14	4.81	15.11	8.29	6.41	8.88	5.83	6.64
Percentage of characteristics with significant bias	68.37	0.00	32.86	33.33	26.87	17.78	35.29	30.77	13.46	16.67	16.00
Median effect size	0.10	0.14	0.05	0.08	0.06	0.25	0.09	0.07	0.12	0.09	0.08
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	20.91*	‡	29.71*	21.20*	18.09*	‡	14.41*	22.16*	27.34*	26.46*	37.11*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>UNEMPSTRY5_2 (Unemployment: looking for work July 2015 through June 2016)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.33	6.52	7.75	8.19	6.01	18.19	11.31	7.99	12.90	10.92	12.40
Median percent relative bias across characteristics	10.38	4.96	4.71	6.50	4.54	15.07	7.62	6.15	9.25	6.26	7.31
Percentage of characteristics with significant bias	73.47	0.00	30.00	31.75	28.79	20.45	31.82	28.13	15.38	16.67	16.00
Median effect size	0.10	0.14	0.05	0.08	0.06	0.25	0.08	0.07	0.12	0.09	0.08
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	28.60*	‡	30.45*	38.35*	30.47*	‡	27.16*	29.19*	31.43*	28.86*	37.23*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
<b>UNEMPSTRY6_2 (Unemployment: looking for work July 2016 through June 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.50	6.54	7.24	8.46	5.60	18.04	11.49	7.49	13.83	10.30	12.81
Median percent relative bias across characteristics	10.23	4.93	4.11	7.16	3.62	14.76	6.96	5.56	10.01	5.43	7.85
Percentage of characteristics with significant bias	78.57	0.00	27.14	34.92	25.76	15.91	35.38	26.56	17.31	15.15	17.33
Median effect size	0.11	0.15	0.04	0.09	0.06	0.21	0.08	0.06	0.12	0.09	0.09
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	21.66*	‡	21.53*	41.89*	30.40*	‡	22.17*	24.88*	34.07*	31.30*	32.77*
Effect size for difference <sup>2</sup>	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

See notes at end of table.



**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>VOTE17 (Vote 2016: Voted in last presidential election)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.99	10.20	9.87	8.98	6.07	16.75	10.58	8.15	15.82	13.90	10.60
Median percent relative bias across characteristics	9.06	9.56	4.97	6.84	4.57	13.40	6.86	6.32	9.54	10.35	7.00
Percentage of characteristics with significant bias	74.49	4.55	37.50	37.50	31.34	15.22	35.29	32.31	24.07	24.24	12.00
Median effect size	0.09	0.18	0.05	0.08	0.06	0.21	0.08	0.07	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.61	‡	1.84	0.21	1.59	13.59	0.86	0.30	7.35	2.24	1.49
Effect size for difference <sup>2</sup>	0.01	‡	0.02	#	0.02	‡	0.01	#	0.07	0.02	0.01
<b>WDDEBT17 (Unexpected money: pay off some household debts 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.31	8.93	6.11	16.22	10.62	8.04	16.05	13.73	10.51
Median percent relative bias across characteristics	8.94	9.88	4.90	7.07	4.51	13.54	7.04	6.17	11.33	10.26	6.66
Percentage of characteristics with significant bias	72.45	4.76	38.03	34.38	34.33	8.70	36.76	31.82	28.30	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.19	‡	0.36	0.59	1.90	5.26	1.44	1.66	15.23*	3.69	1.83
Effect size for difference <sup>2</sup>	#	‡	#	0.01	0.02	‡	0.02	0.02	0.16	0.04	0.02
<b>WDDONAT17 (Unexpected money: donate it to family or charity 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.31	8.93	6.11	16.22	10.62	8.04	16.05	13.73	10.51
Median percent relative bias across characteristics	8.94	9.88	4.90	7.07	4.51	13.54	7.04	6.17	11.33	10.26	6.66
Percentage of characteristics with significant bias	72.45	4.76	38.03	34.38	34.33	8.70	36.76	31.82	28.30	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.32	‡	0.42	1.07	1.67	11.01*	1.16	0.18	0.37	3.00	0.04
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	0.02	‡	0.02	#	0.01	0.05	#

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>WDOH17 (Unexpected money: other 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.31	8.93	6.11	16.22	10.62	8.04	16.05	13.73	10.51
Median percent relative bias across characteristics	8.94	9.88	4.90	7.07	4.51	13.54	7.04	6.17	11.33	10.26	6.66
Percentage of characteristics with significant bias	72.45	4.76	38.03	34.38	34.33	8.70	36.76	31.82	28.30	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.21	‡	0.89	0.59	1.03	4.53*	0.26	0.34	0.51	3.66*	0.66
Effect size for difference <sup>2</sup>	#	‡	0.01	‡	0.02	‡	‡	‡	‡	0.06	0.01
<b>WDSAVE17 (Unexpected money: put it in savings or investments 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.31	8.93	6.11	16.22	10.62	8.04	16.05	13.73	10.51
Median percent relative bias across characteristics	8.94	9.88	4.90	7.07	4.51	13.54	7.04	6.17	11.33	10.26	6.66
Percentage of characteristics with significant bias	72.45	4.76	38.03	34.38	34.33	8.70	36.76	31.82	28.30	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.09	‡	0.75	1.25	1.36	8.50*	1.54	1.77	14.80*	4.57*	2.65
Effect size for difference <sup>2</sup>	#	‡	0.01	0.01	0.02	‡	0.02	0.02	0.15	0.05	0.03
<b>WDSPND17 (Unexpected money: spend it on something the household wants or needs 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.81	9.98	9.31	8.93	6.11	16.22	10.62	8.04	16.05	13.73	10.51
Median percent relative bias across characteristics	8.94	9.88	4.90	7.07	4.51	13.54	7.04	6.17	11.33	10.26	6.66
Percentage of characteristics with significant bias	72.45	4.76	38.03	34.38	34.33	8.70	36.76	31.82	28.30	28.79	13.33
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.08	0.06	0.13	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.12	‡	0.48	1.34	0.25	2.14	1.32	1.38	3.20	2.45	3.88*
Effect size for difference <sup>2</sup>	#	‡	0.01	0.01	#	‡	0.01	0.02	0.04	0.03	0.04

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>WRKTSKS (Job nonmonetary benefits: importance of making decisions 2012)</b>											
Before imputation											
Mean percent relative bias across characteristics	10.61	9.04	7.19	8.32	5.28	14.58	10.41	6.41	13.33	8.42	10.45
Median percent relative bias across characteristics	8.63	9.90	3.17	5.31	3.90	12.50	7.59	4.04	10.61	5.77	6.99
Percentage of characteristics with significant bias	73.47	0.00	32.39	36.67	31.82	15.91	38.81	25.40	19.23	18.18	17.33
Median effect size	0.09	0.18	0.04	0.08	0.05	0.22	0.08	0.05	0.11	0.06	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.33	‡	0.67	1.09	0.41	‡	2.69	0.85	1.15	0.79	2.33*
Effect size for difference <sup>2</sup>	0.01	‡	0.01	‡	‡	‡	‡	‡	‡	0.01	0.03
<b>WRKTSKS14 (Job nonmonetary benefits: importance of making decisions 2014)</b>											
Before imputation											
Mean percent relative bias across characteristics	12.69	9.20	8.26	9.54	5.49	17.83	12.15	7.96	12.80	10.22	12.61
Median percent relative bias across characteristics	9.61	10.27	4.37	6.01	3.89	14.43	9.65	5.12	9.14	6.33	7.20
Percentage of characteristics with significant bias	73.47	0.00	36.62	39.06	32.84	17.78	42.65	21.54	16.67	22.73	18.67
Median effect size	0.11	0.15	0.05	0.09	0.06	0.26	0.08	0.06	0.11	0.07	0.07
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.71	‡	1.95	5.43*	1.80	6.44	4.92*	1.17	5.09	1.41	0.95
Effect size for difference <sup>2</sup>	0.01	‡	0.02	0.07	0.02	‡	0.06	0.01	0.06	0.02	0.01

See notes at end of table.

**Table K-45. Summary of item nonresponse bias analysis for all students and by type of institution: 2017—Continued**

Variable	Overall	Public less-than-2-year	Public 2-year	Public 4-year, non-doctorate-granting	Public 4-year, doctorate-granting	Private nonprofit less-than-4-year	Private nonprofit 4-year, non-doctorate-granting	Private nonprofit 4-year, doctorate-granting	Private for-profit less-than-2-year	Private for-profit 2-year	Private for-profit 4-year
<b>WRKTSKS17 (Job nonmonetary benefits: importance of making decisions 2017)</b>											
Before imputation											
Mean percent relative bias across characteristics	11.75	9.67	9.27	8.87	6.05	16.85	11.00	8.11	16.20	13.64	10.41
Median percent relative bias across characteristics	9.26	8.68	4.83	6.90	4.37	13.50	7.82	6.32	13.47	11.28	8.30
Percentage of characteristics with significant bias	72.45	0.00	39.44	35.94	34.33	19.57	33.82	32.31	24.53	30.30	10.67
Median effect size	0.09	0.17	0.05	0.08	0.06	0.20	0.09	0.07	0.14	0.11	0.06
After imputation											
Difference between pre- and postimputation means <sup>1</sup>	0.13	‡	1.14	2.90	1.01	2.47	1.62	0.23	5.46	2.97	1.23
Effect size for difference <sup>2</sup>	#	‡	0.01	0.04	0.01	‡	0.02	#	‡	0.03	0.02

# Rounds to zero.

‡ Reporting standards not met (fewer than 30 unweighted nonrespondents).

\*  $p < 0.05$ . The difference between the pre- and postimputation means is significant at the 0.05 level. For categorical variables, at least one category difference is significant.<sup>1</sup> For categorical variables, this is the size-weighted average percentage difference across categories pre- and postimputation.<sup>2</sup> For categorical variables, the effect size is calculated as the square root of the sum over categories of the squared differences over weighted postimputation means, using the student analysis weight. For continuous variables it is calculated as the weighted difference over the postimputation standard deviation.

NOTE: Relative bias, significance, and effect size are calculated using the weighted differences between respondent and full-sample means. Relative bias is calculated as 100 times the ratio of estimated bias to the weighted full-sample mean. Effect size for categorical variables is calculated as the square root of the sum over categories of the squared differences over full-sample means. Variables and characteristics that did not meet reporting standards were excluded from calculation of summary statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17).