

NAEP 2009 NONRESPONSE BIAS ANALYSIS REPORT

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1. NONRESPONSE BIAS ANALYSIS IN THE 2009 NAEP

NCES statistical standards call for a nonresponse bias analysis to be conducted for a sample with a response rate below 85 percent. Weighted school response rates for 2009 NAEP indicate a need for school nonresponse bias analyses for private school samples for grades 4, 8, and 12, and for public school samples of the Bureau of Indian Education (BIE) for grade 8 and Illinois for grade 12. Based on the weighted response rates for mathematics, a student nonresponse bias analysis is necessary for the grade 8 public school student sample in Detroit and Washington DC TUDAs, and the grade 12 public (i.e. not private) school student sample overall and in specific states: Connecticut, Florida, Illinois, Iowa, Massachusetts, New Hampshire, New Jersey, South Dakota, and West Virginia. Response rates for schools and students are shown in tables 1 and 2, respectively.

Table 1. Weighted school response rates, before substitution

	Domain	Response Rate
Grade 4	Private	72.70
Grade 8	Private	72.05
	BIE (public)	79.84
Grade 12	Private	52.29
	Illinois (public)	84.50

Table 2. Weighted student response rates

	Domain (public)	Response Rate
Grade 8	Detroit (TUDA)	84.86
	District of Columbia (TUDA)	84.06
Grade 12	All Non-private	79.44
	Connecticut	75.52
	Florida	79.88
	Illinois	78.75
	Iowa	83.41
	Massachusetts	80.69
	New Hampshire	67.72
	New Jersey	78.02
	South Dakota	83.21
	West Virginia	81.59

The analyses conducted in this report consider only certain characteristics of schools and students. They do not directly consider the effects of the nonresponse on student achievement; the

primary focus of NAEP. Thus these analyses cannot be conclusive of either the existence or absence of nonresponse bias for student achievement (see Peytcheva and Groves, 2009).

2. SCHOOL NONRESPONSE BIAS ANALYSIS

The school analysis, required for private school samples in grades 4, 8, and 12, and for public school samples for the Bureau of Indian Education (BIE) in grade 8, and public school samples for Illinois in grade 12, was conducted in three parts.

1. The distribution of the responding original school sample was compared with that of the entire eligible original school sample. Schools were weighted by their school base weights and their enrollment, referred to as a size-adjusted weight. The original sample is the sample before substitution.
2. The distribution of the responding sample, including participating substitutes was compared to the full sample (but in this case, substitutes were included in place of those nonrespondents that they replaced). Again, the size-adjusted school base weights were used for both the full sample and the respondents.
3. The same sets of schools were compared as in the second analysis, but this time when analyzing the responding schools alone, school nonresponse adjustments were applied to the size adjusted weights.

The first part of the analysis indicates the potential for nonresponse bias that was introduced through school nonresponse. The second part of the analysis suggests the remaining potential for nonresponse bias after the mitigating effects of substitution have been accounted for. The third part indicates the potential for bias after accounting for the mitigating effects of both substitution and nonresponse weight adjustments. Both the second and third parts, however, may provide an overly optimistic scenario, since even though substitution and nonresponse adjustments may correct somewhat for deficiencies in the few characteristics examined here, there is no guarantee that they are equally as effective for other characteristics, and in particular for student achievement.

In each analysis, chi-square tests of association were conducted between school response status and each of the following five categorical variables:

- Census region;
- Reporting subgroup for private schools (Catholic/ Non-Catholic);
- Metro-centric locale;
- Urban-centric locale; and
- Estimated grade enrollment divided into three equally sized categories.

The chi-square tests were carried out using procedures that appropriately account for the complex sample design used in NAEP, and the weighting procedures. The Rao-Scott chi-square test (Rao and Scott, 1984) was computed using WesVar (Westat 2002), where this test is referred to as ‘RS3’.

In addition, mean values of race/ethnicity percentages and enrollment for responding and nonresponding schools were compared. Two measures of the mean size of enrollment in the respective grades were considered, one using the size adjusted school weight (mean size of school attended by an average student), and the other using the school weight without the size adjustment (mean estimated grade enrollment). Differences between the means for the respondents and full sample were tested using t-tests. These tests also took account of the complex sample design, as well as the fact that the respondents are a subset of the full sample (thus in that sense the first two sets of comparisons, using only school base weights, are equivalent to testing whether the mean for respondents is significantly different from the mean for nonrespondents).

The results of these analyses for grades 4, 8, and 12 private schools and for grade 8 public schools for BIE and grade 12 public school of Illinois are presented in the tables in appendix A, and summarized in tables 3, 4, 5, and 6, respectively. The BIE grade 8 sample consisted of a census of schools, and so all differences between the responding and original samples are statistically significant.

Table 3. Characteristics with p-values less than 0.05, grade 4 private schools

Analysis	Characteristics with p-values less than 0.05
Original sample	Private school reporting group, estimated grade enrollment, race/ethnicity
Sample with substitutes	Census region, private school reporting group, estimated grade enrollment, race/ethnicity,
Nonresponse adjusted	Race/ethnicity

Table 4. Characteristics with p-values less than 0.05, grade 8 private schools

Analysis	Characteristics with p-values less than 0.05
Original sample	Census region, private school reporting group, school size, race/ethnicity
Sample with substitutes	Census region, private school reporting group, school size
Nonresponse adjusted	School size, race/ethnicity

Table 5. Characteristics with p-values less than 0.05, grade 12 private schools

Analysis	Characteristics with p-values less than 0.05
Original sample	Private school reporting group
Sample with substitutes	None
Nonresponse adjusted	Census region, size of school attended by average student

Table 6. Characteristics with p-values less than 0.05, public schools, grade 12 for Illinois

Analysis	Characteristics with p-values less than 0.05
Original sample	Size of school attended by average student, estimated grade enrollment
Sample with substitutes	Metro-centric locale, urban-centric locale, school size, size of school attended by average student, estimated grade enrollment
Nonresponse adjusted	None

In general, nonresponse adjustments decreased the number of variables with significant differences. For grades 4, 8 and 12 private, substitution and nonresponse adjustments appear to have been at least partially effective in reducing the nonresponse bias, as the important variable “private school reporting group” changed to non-significant after substitution and nonresponse adjustments. However, the biases of some other variables were still significant after nonresponse adjustments. For grade 4 private, all results were non-significant after nonresponse adjustments with the exception of race. The result for race variables was improved as the largest absolute bias among all race variables changed from 2.5 to 1.8 and the largest relative bias changed from 19.4 percent to 13.1 percent. However, the result for “percentage of black, not hispanic” changed from non-significant to significant. For grade 8 private, after nonresponse adjustments, the results for school size and race were still significant. The absolute value of the largest absolute bias, for school size, stayed the same (3.2). The largest absolute bias among all race variables changed from 1.0 (non-significant) to 2.0 (significant). For grade 12 private, while “private school reporting group” became non-significant, the result for census region and “size of school attended by average student” became significant. “Size of school attended by average student” was barely significant with P-value of chi-square test equal to 0.04. But, for census region, the absolute bias (7.5) and the relative bias (23.9 percent) were both large. The large bias was related to the low response rate (52.29 percent) for grade 12 in private schools.

These analyses suggest that there remains a significant potential for nonresponse bias for grade 12 private schools.

For grade 12 public schools in Illinois, substitution and nonresponse adjustments appear to have been effective in reducing the nonresponse bias, as all significant results changed to non-significant after substitution and nonresponse adjustments.

3. STUDENT NONRESPONSE BIAS ANALYSIS

The analysis of student nonresponse bias was required for the grade 8 public school student samples in the Detroit and Washington DC TUDAs, and the grade 12 non-private school student sample overall and in specific states: Connecticut, Florida, Illinois, Iowa, Massachusetts, New Hampshire, New Jersey, South Dakota, and West Virginia. This was conducted in two parts:

1. The distribution of the responding student sample was compared with that of the entire eligible sample of students, using student base weights; and
2. The distribution of the responding student sample was compared to the entire eligible sample of students. This time, when analyzing the responding students alone, student nonresponse adjustments were applied to the weights.

The first part of the analysis indicates the potential for nonresponse bias that was introduced through student nonresponse. The second part of the analysis indicates the potential for bias after accounting for the effects of nonresponse weight adjustments. The second part, however, may provide an overly optimistic scenario, since even though nonresponse adjustments may correct somewhat for deficiencies in the few characteristics examined here, there is no guarantee that they are equally as effective for other characteristics, and in particular for student achievement.

The following student characteristics were used in the comparisons:

- Sex;
- Race/ethnicity;
- Relative age;
- Free or reduced price lunch eligibility;
- Student Disability (SD) status; and
- English Language Learner (ELL) status.

For these analyses, chi-square tests of the association between student response status and the particular variable under consideration were conducted. These tests were carried out using procedures that appropriately account for the complex sample design used in NAEP, and the weighting procedures (RS3).

The results of these analyses are presented in the tables in appendix B, and are summarized in table 7 and 8 below.

Table 7. Characteristics with p-values less than 0.05, domains of grade 8 public school students

Domain	Analysis	Characteristics with p-values less than 0.05
Detroit TUDA	Student base weights	Sex, relative age, free lunch eligibility, SD
	Nonresponse adjusted student weights	Free lunch eligibility, SD, ELL
Washington DC TUDA	Student base weights	Race, relative age, free lunch eligibility, ELL
	Nonresponse adjusted student weights	Race, relative age, ELL

Table 8. Characteristics with p-values less than 0.05, domains of grade 12 public school students

Domain	Analysis	Characteristics with p-values less than 0.05
All schools	Student base weights	Race, relative age, SD
	Nonresponse adjusted student weights	Relative age, SD, ELL
Connecticut	Student base weights	Relative age, SD
	Nonresponse adjusted student weights	Sex, SD
Florida	Student base weights	Sex, relative age, ELL
	Nonresponse adjusted student weights	Race, free lunch eligibility, SD, ELL
Illinois	Student base weights	SD
	Nonresponse adjusted student weights	None
Iowa	Student base weights	Free lunch eligibility
	Nonresponse adjusted student weights	Free lunch eligibility
Massachusetts	Student base weights	Race, relative age, SD
	Nonresponse adjusted student weights	None
New Hampshire	Student base weights	Relative age, free lunch eligibility, SD
	Nonresponse adjusted student weights	Free lunch eligibility
New Jersey	Student base weights	Race, free lunch eligibility, SD
	Nonresponse adjusted student weights	None
South Dakota	Student base weights	Race, relative age, free lunch eligibility, SD
	Nonresponse adjusted student weights	Free lunch eligibility
West Virginia	Student base weights	Relative age, free lunch eligibility, SD
	Nonresponse adjusted student weights	Free lunch eligibility

The sample sizes are large for student-level files, which makes the tests very sensitive. In general, the number of variables with significant differences decreased or stayed the same after nonresponse adjustments, with the exception of grade 12 public school students in Florida. Even when the test result was significant, the absolute value of the bias was reduced in most cases. After nonresponse adjustments, for all of the significant variables, the percentage difference was actually very small, 1.3 percent or less. For example, for the subdomain with the lowest response rate (67.72 percent), grade 12 public in New Hampshire, free lunch eligibility was significant for both sessions before and after nonresponse adjustments, but the bias was reduced from 1.0 to 0.7. The relative bias reduced from 8.1 percent to 5.5 percent. The significant result for relative age and SD status changed to non-significant after nonresponse adjustments.

In summary, based on the student characteristics available, there does not appear to be evidence of substantial bias resulting from student nonresponse

REFERENCES

- Peytcheva, E., and Groves, R.M. (2009). Using Variation in Response Rates of Demographic Subgroups as Evidence of Nonresponse Bias in Survey Estimates. *Journal of Official Statistics*, **25**, 193-201.
- Rao, J.N.K., and Scott, A.J. (1984). On Chi-Squared Tests for Multiway Contingency Tables with Cell Proportions Estimated from Survey Data. *Annals of Statistics*, **12**, 46-60.
- Westat (2002). WesVar 4.2 User's Guide. Rockville, MD: Westat, Inc

Appendix A

Table A-1. 2009 NAEP grade 4 original sample - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 442)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	21.64	18.43	-3.2	-0.148	0.079
Midwest	28.10	29.86	1.8	0.063	
South	31.31	31.78	0.5	0.015	
West	18.95	19.93	1.0	0.052	
Private school reporting subgroup					
Roman Catholic	47.65	57.71	10.1	0.211	0.000
Non-Catholic private	52.35	42.29	-10.1	-0.192	
Metro-centric locale					
Central city	42.06	43.39	1.3	0.032	0.434
Urban fringe/large city	42.97	42.95	0.0	0.000	
Small town/rural	14.97	13.66	-1.3	-0.088	
Urban-centric locale					
City	42.70	44.26	1.6	0.037	0.373
Suburban	38.29	37.82	-0.5	-0.012	
Town	7.34	7.85	0.5	0.069	
Rural	11.67	10.06	-1.6	-0.138	
Size					
Large (≥ 29)	55.26	55.21	0.0	-0.001	0.102
Medium (16-28)	26.19	28.16	2.0	0.075	
Small (≤ 15)	18.55	16.63	-1.9	-0.104	

NOTE: Size-adjusted school weights were used.

Table A-2. 2009 NAEP grade 4 original sample - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	43.25	40.64	-2.6	-0.060	0.431
Estimated grade enrollment	21.25	22.97	1.7	0.080	0.008
Race/ethnicity					
Percentage White, not Hispanic	77.93	75.40	-2.5	-0.032	0.001
Percentage Black, not Hispanic	8.47	9.18	0.7	0.084	0.123
Percentage Hispanic heritage	8.78	10.47	1.7	0.194	0.000
Percentage Asian/Pacific Islander	3.43	3.59	0.2	0.047	0.538
Percentage American Indian/Alaskan Native	1.40	1.36	0.0	-0.029	0.745

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-3. 2009 NAEP grade 8 original sample - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 449)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	21.64	17.52	-4.1	-0.190	0.014
Midwest	26.87	29.34	2.5	0.092	
South	32.09	34.68	2.6	0.081	
West	19.40	18.46	-0.9	-0.048	
Private school reporting subgroup					
Roman Catholic	49.64	59.78	10.1	0.204	0.000
Non-Catholic private	50.36	40.22	-10.1	-0.201	
Metro-centric locale					
Central city	41.44	39.61	-1.8	-0.044	0.270
Urban fringe/large city	45.34	47.90	2.6	0.056	
Small town/rural	13.22	12.49	-0.7	-0.055	
Urban-centric locale					
City	41.78	40.74	-1.0	-0.025	0.670
Suburban	41.06	41.93	0.9	0.021	
Town	6.69	7.34	0.6	0.097	
Rural	10.46	9.99	-0.5	-0.045	
Size					
Large (≥ 31)	57.33	55.83	-1.5	-0.026	0.015
Medium (18-30)	23.95	27.10	3.2	0.132	
Small (≤ 17)	18.72	17.07	-1.7	-0.088	

NOTE: Size-adjusted school weights were used.

Table A-4. 2009 NAEP grade 8 original sample - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	44.13	40.20	-3.9	-0.089	0.160
Estimated grade enrollment	23.32	24.65	1.3	0.057	0.071
Race/ethnicity					
Percentage White, not Hispanic	77.43	76.47	-1.0	-0.012	0.286
Percentage Black, not Hispanic	7.99	8.39	0.4	0.049	0.318
Percentage Hispanic heritage	9.38	9.67	0.3	0.031	0.646
Percentage Asian/Pacific Islander	3.40	3.34	-0.1	-0.018	0.762
Percentage American Indian/Alaskan Native	1.80	2.13	0.3	0.183	0.029

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-5. 2009 NAEP grade 12 original sample - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 257)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	31.47	32.35	0.9	0.028	0.393
Midwest	20.55	25.57	5.0	0.244	
South	26.18	22.09	-4.1	-0.156	
West	21.80	20.00	-1.8	-0.083	
Private school reporting subgroup					
Roman Catholic	51.92	61.39	9.5	0.182	0.003
Non-Catholic private	48.08	38.61	-9.5	-0.197	
Metro-centric locale					
Central city	44.16	47.44	3.3	0.074	0.218
Urban fringe/large city	42.17	36.69	-5.5	-0.130	
Small town/rural	13.67	15.87	2.2	0.161	
Urban-centric locale					
City	45.88	47.56	1.7	0.037	0.308
Suburban	38.62	33.66	-5.0	-0.128	
Town	3.76	4.61	0.9	0.226	
Rural	11.74	14.16	2.4	0.206	
Size					
Large (≥ 98)	55.33	52.07	-3.3	-0.059	0.434
Medium (23-97)	32.70	36.78	4.1	0.125	
Small (≤ 22)	11.97	11.15	-0.8	-0.069	

NOTE: Size-adjusted school weights were used.

Table A-6. 2009 NAEP grade 12 original sample - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	140.65	136.37	-4.3	-0.030	0.753
Estimated grade enrollment	41.52	40.77	-0.8	-0.018	0.817
Race/ethnicity					
Percentage White, not Hispanic	71.29	68.77	-2.5	-0.035	0.228
Percentage Black, not Hispanic	10.05	12.49	2.4	0.243	0.071
Percentage Hispanic heritage	11.22	12.49	1.3	0.113	0.508
Percentage Asian/Pacific Islander	4.68	2.89	-1.8	-0.382	0.178
Percentage American Indian/Alaskan Native	2.77	3.37	0.6	0.217	0.554

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-7. 2009 NAEP grade 4 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 442)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	21.64	18.81	-2.8	-0.131	0.007
Midwest	28.10	29.48	1.4	0.049	
South	31.31	31.59	0.3	0.009	
West	18.95	20.12	1.2	0.062	
Private school reporting subgroup					
Roman Catholic	47.65	53.00	5.4	0.112	0.000
Non-Catholic private	52.35	47.00	-5.4	-0.102	
Metro-centric locale					
Central city	42.06	42.25	0.2	0.005	0.217
Urban fringe/large city	42.97	44.13	1.2	0.027	
Small town/rural	14.97	13.61	-1.4	-0.091	
Urban-centric locale					
City	42.70	43.44	0.7	0.017	0.529
Suburban	38.29	38.72	0.4	0.011	
Town	7.34	7.26	-0.1	-0.011	
Rural	11.67	10.57	-1.1	-0.094	
Size					
Large (≥ 29)	55.26	54.97	-0.3	-0.005	0.123
Medium (16-28)	26.19	27.46	1.3	0.048	
Small (≤ 15)	18.55	17.58	-1.0	-0.052	

NOTE: Size-adjusted school weights were used.

Table A-8. 2009 NAEP grade 4 sample with substitutes - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	43.25	40.04	-3.2	-0.074	0.298
Estimated grade enrollment	21.25	22.51	1.3	0.059	0.004
Race/ethnicity					
Percentage White, not Hispanic	77.93	76.08	-1.9	-0.024	0.001
Percentage Black, not Hispanic	8.47	9.10	0.6	0.074	0.078
Percentage Hispanic heritage	8.78	9.85	1.1	0.122	0.000
Percentage Asian/Pacific Islander	3.43	3.56	0.1	0.038	0.551
Percentage American Indian/Alaskan Native	1.40	1.40	0.0	0.007	0.956

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-9. 2009 NAEP grade 8 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 449)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	21.64	17.62	-4.0	-0.186	0.001
Midwest	26.87	29.75	2.9	0.107	
South	32.09	33.71	1.6	0.050	
West	19.40	18.93	-0.5	-0.024	
Private school reporting subgroup					
Roman Catholic	49.64	56.40	6.8	0.136	0.000
Non-Catholic private	50.36	43.60	-6.8	-0.134	
Metro-centric locale					
Central city	41.44	40.14	-1.3	-0.031	0.533
Urban fringe/large city	45.34	47.04	1.7	0.037	
Small town/rural	13.22	12.82	-0.4	-0.030	
Urban-centric locale					
City	41.78	40.83	-1.0	-0.023	0.444
Suburban	41.06	40.70	-0.4	-0.009	
Town	6.69	7.02	0.3	0.049	
Rural	10.46	11.45	1.0	0.095	
Size					
Large (≥ 31)	57.33	55.63	-1.7	-0.030	0.008
Medium (18-30)	23.95	26.29	2.3	0.098	
Small (≤ 17)	18.72	18.08	-0.6	-0.034	

NOTE: Size-adjusted school weights were used.

Table A-10. 2009 NAEP grade 8 sample with substitutes - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full Sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	44.13	39.82	-4.3	-0.098	0.110
Estimated grade enrollment	23.32	24.16	0.8	0.036	0.152
Race/ethnicity					
Percentage White, not Hispanic	77.43	76.02	-1.4	-0.018	0.083
Percentage Black, not Hispanic	7.99	8.59	0.6	0.074	0.093
Percentage Hispanic heritage	9.38	9.47	0.1	0.010	0.862
Percentage Asian/Pacific Islander	3.40	3.43	0.0	0.012	0.865
Percentage American Indian/Alaskan Native	1.80	2.49	0.7	0.383	0.168

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-11. 2009 NAEP grade 12 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 257)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	31.47	30.29	-1.2	-0.037	0.301
Midwest	20.55	25.56	5.0	0.244	
South	26.18	22.09	-4.1	-0.156	
West	21.80	22.05	0.3	0.011	
Private school reporting subgroup					
Roman Catholic	51.92	56.90	5.0	0.096	0.090
Non-Catholic private	48.08	43.10	-5.0	-0.104	
Metro-centric locale					
Central city	44.16	45.78	1.6	0.037	0.665
Urban fringe/large city	42.17	39.56	-2.6	-0.062	
Small town/rural	13.67	14.66	1.0	0.072	
Urban-centric locale					
City	45.88	47.11	1.2	0.027	0.777
Suburban	38.62	36.17	-2.5	-0.063	
Town	3.76	4.49	0.7	0.194	
Rural	11.74	12.23	0.5	0.042	
Size					
Large (≥ 98)	55.33	52.39	-2.9	-0.053	0.253
Medium (23-97)	32.70	36.42	3.7	0.114	
Small (≤ 22)	11.97	11.19	-0.8	-0.065	

NOTE: Size-adjusted school weights were used.

Table A-12. 2009 NAEP Grade 12 sample with substitutes - Weighted mean values of various characteristics for full sample and responding schools - All Private Schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	140.65	135.66	-5.0	-0.035	0.445
Estimated grade enrollment	41.52	42.26	0.7	0.018	0.766
Race/ethnicity					
Percentage White, not Hispanic	71.29	72.05	0.8	0.011	0.719
Percentage Black, not Hispanic	10.05	10.93	0.9	0.088	0.295
Percentage Hispanic heritage	11.22	10.94	-0.3	-0.025	0.860
Percentage Asian/Pacific Islander	4.68	2.87	-1.8	-0.387	0.163
Percentage American Indian/Alaskan Native	2.77	3.21	0.4	0.159	0.482

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-13. 2009 NAEP grade 4 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 442)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	21.64	21.38	-0.3	-0.012	0.341
Midwest	28.10	27.88	-0.2	-0.008	
South	31.31	31.33	0.0	0.001	
West	18.95	19.40	0.4	0.024	
Private school reporting subgroup					
Roman Catholic	47.65	47.81	0.2	0.003	0.619
Non-Catholic private	52.35	52.19	-0.2	-0.003	
Metro-centric locale					
Central city	42.06	41.90	-0.2	-0.004	0.663
Urban fringe/large city	42.97	43.63	0.7	0.015	
Small town/rural	14.97	14.47	-0.5	-0.033	
Urban-centric locale					
City	42.70	42.95	0.3	0.006	0.760
Suburban	38.29	38.25	0.0	-0.001	
Town	7.34	7.10	-0.2	-0.033	
Rural	11.67	11.70	0.0	0.003	
Size					
Large (≥ 29)	55.26	53.47	-1.8	-0.032	0.170
Medium (16-28)	26.19	27.66	1.5	0.056	
Small (≤ 15)	18.55	18.88	0.3	0.018	

NOTE: Size-adjusted school weights were used.

Table A-14. 2009 NAEP Grade 4 nonresponse-adjusted sample - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	43.25	39.89	-3.4	-0.078	0.289
Estimated grade enrollment	21.25	21.83	0.6	0.027	0.237
Race/ethnicity					
Percentage White, not Hispanic	77.93	76.10	-1.8	-0.023	0.002
Percentage Black, not Hispanic	8.47	9.58	1.1	0.131	0.013
Percentage Hispanic heritage	8.78	9.39	0.6	0.069	0.029
Percentage Asian/Pacific Islander	3.43	3.55	0.1	0.038	0.615
Percentage American Indian/Alaskan Native	1.40	1.38	0.0	-0.014	0.879

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-15. 2009 NAEP grade 8 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 449)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	21.64	21.62	0.0	-0.001	0.272
Midwest	26.87	26.95	0.1	0.003	
South	32.09	31.75	-0.3	-0.011	
West	19.40	19.68	0.3	0.014	
Private school reporting subgroup					
Roman Catholic	49.64	49.62	0.0	0.000	0.935
Non-Catholic private	50.36	50.38	0.0	0.000	
Metro-centric locale					
Central city	41.44	39.85	-1.6	-0.038	0.205
Urban fringe/large city	45.34	47.52	2.2	0.048	
Small town/rural	13.22	12.63	-0.6	-0.045	
Urban-centric locale					
City	41.78	40.49	-1.3	-0.031	0.121
Suburban	41.06	42.10	1.0	0.025	
Town	6.69	6.26	-0.4	-0.064	
Rural	10.46	11.14	0.7	0.065	
Size					
Large (≥ 31)	57.33	54.18	-3.2	-0.055	0.027
Medium (18-30)	23.95	25.99	2.0	0.085	
Small (≤ 17)	18.72	19.83	1.1	0.059	

NOTE: Size-adjusted school weights were used.

Table A-16. 2009 NAEP grade 8 nonresponse-adjusted sample - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	44.13	38.98	-5.2	-0.117	0.063
Estimated grade enrollment	23.32	23.20	-0.1	-0.005	0.855
Race/ethnicity					
Percentage White, not Hispanic	77.43	75.45	-2.0	-0.025	0.013
Percentage Black, not Hispanic	7.99	9.41	1.4	0.176	0.002
Percentage Hispanic heritage	9.38	9.05	-0.3	-0.034	0.533
Percentage Asian/Pacific Islander	3.40	3.57	0.2	0.053	0.432
Percentage American Indian/Alaskan Native	1.80	2.51	0.7	0.389	0.161

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-17. 2009 NAEP grade 12 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - all private schools (sample size = 257)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast	31.47	39.00	7.5	0.239	0.040
Midwest	20.55	21.56	1.0	0.049	
South	26.18	21.61	-4.6	-0.175	
West	21.80	17.83	-4.0	-0.182	
Private school reporting subgroup					
Roman Catholic	51.92	53.95	2.0	0.039	0.524
Non-Catholic private	48.08	46.05	-2.0	-0.042	
Metro-centric locale					
Central city	44.16	45.67	1.5	0.034	0.854
Urban fringe/large city	42.17	40.89	-1.3	-0.030	
Small town/rural	13.67	13.44	-0.2	-0.017	
Urban-centric locale					
City	45.88	47.19	1.3	0.029	0.934
Suburban	38.62	37.72	-0.9	-0.023	
Town	3.76	3.83	0.1	0.019	
Rural	11.74	11.25	-0.5	-0.042	
Size					
Large (≥ 98)	55.33	50.12	-5.2	-0.094	0.197
Medium (23-97)	32.70	37.45	4.8	0.145	
Small (≤ 22)	11.97	12.43	0.5	0.038	

NOTE: Size-adjusted school weights were used.

Table A-18. 2009 NAEP grade 12 nonresponse-adjusted sample - weighted mean values of various characteristics for full sample and responding schools - all private schools

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	140.65	128.57	-12.1	-0.086	0.044
Estimated grade enrollment	41.52	39.63	-1.9	-0.046	0.604
Race/ethnicity					
Percentage White, not Hispanic	71.29	72.03	0.7	0.010	0.776
Percentage Black, not Hispanic	10.05	11.65	1.6	0.159	0.140
Percentage Hispanic heritage	11.22	10.55	-0.7	-0.060	0.698
Percentage Asian/Pacific Islander	4.68	2.92	-1.8	-0.374	0.178
Percentage American Indian/Alaskan Native	2.77	2.85	0.1	0.029	0.869

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-19. 2009 NAEP grade 8 original sample - weighted percentages of full sample and responding schools by various subgroups - public schools for Bureau of Indian Education (BIE) (sample size =111)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast/South	11.45	9.08	-2.4	-0.207	0.000
Midwest	26.44	31.60	5.2	0.195	
West	62.10	59.31	-2.8	-0.045	
Metro-centric locale					
Non-rural	27.74	26.46	-1.3	-0.046	0.000
Rural MSA	11.67	9.27	-2.4	-0.206	
Rural non-MSA	60.59	64.27	3.7	0.061	
Urban-centric locale					
Non-rural	10.12	12.23	2.1	0.208	0.000
Rural fringe	12.78	10.52	-2.3	-0.177	
Rural, distant	21.73	18.21	-3.5	-0.162	
Rural, remote	55.36	59.05	3.7	0.067	
Size					
Large (≥ 31)	59.35	58.48	-0.9	-0.015	0.000
Medium (18-30)	27.41	28.12	0.7	0.026	
Small (≤ 17)	13.24	13.40	0.2	0.012	

NOTE: Size-adjusted school weights were used.

Table A-20. 2009 NAEP grade 8 original sample - weighted mean values of various characteristics for full sample and responding schools - public schools for Bureau of Indian Education (BIE)

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	47.06	42.93	-4.1	-0.088	N/A
Estimated grade enrollment	29.81	28.72	-1.1	-0.037	N/A

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-21. 2009 NAEP grade 8 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - public schools for Bureau of Indian Education (BIE) (sample size =111)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast/South	11.45	9.08	-2.4	-0.207	0.000
Midwest	26.44	31.60	5.2	0.195	
West	62.10	59.31	-2.8	-0.045	
Metro-centric locale					
Non-rural	27.74	26.46	-1.3	-0.046	0.000
Rural MSA	11.67	9.27	-2.4	-0.206	
Rural non-MSA	60.59	64.27	3.7	0.061	
Urban-centric locale					
Non-rural	10.12	12.23	2.1	0.208	0.000
Rural fringe	12.78	10.52	-2.3	-0.177	
Rural, distant	21.73	18.21	-3.5	-0.162	
Rural, remote	55.36	59.05	3.7	0.067	
Size					
Large (≥ 31)	59.35	58.48	-0.9	-0.015	0.000
Medium (18-30)	27.41	28.12	0.7	0.026	
Small (≤ 17)	13.24	13.40	0.2	0.012	

NOTE: Size-adjusted school weights were used.

Table A-22. 2009 NAEP grade 8 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - public schools for Bureau of Indian Education (BIE)

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	47.06	42.93	-4.1	-0.088	N/A
Estimated grade enrollment	29.81	28.72	-1.1	-0.037	N/A

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-23. 2009 NAEP grade 8 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - public schools for Bureau of Indian Education (BIE) (sample size = 111)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Census region					
Northeast/South	11.45	9.07	-2.4	-0.208	0.000
Midwest	26.44	31.61	5.2	0.196	
West	62.10	59.32	-2.8	-0.045	
Metro-centric locale					
Non-rural	27.74	26.46	-1.3	-0.046	0.000
Rural MSA	11.67	9.24	-2.4	-0.208	
Rural non-MSA	60.59	64.30	3.7	0.061	
Urban-centric locale					
Non-rural	10.12	12.23	2.1	0.208	0.000
Rural fringe	12.78	10.50	-2.3	-0.178	
Rural, distant	21.73	18.21	-3.5	-0.162	
Rural, remote	55.36	59.06	3.7	0.067	
Size					
Large (≥ 31)	59.35	58.65	-0.7	-0.012	0.000
Medium (18-30)	27.41	28.11	0.7	0.026	
Small (≤ 17)	13.24	13.24	0.0	0.000	

NOTE: Size-adjusted school weights were used.

Table A-24. 2009 NAEP grade 8 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - public schools for Bureau of Indian Education (BIE)

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	47.06	43.01	-4.1	-0.086	N/A
Estimated grade enrollment	29.81	28.81	-1.0	-0.034	N/A

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-25. 2009 NAEP grade 12 original sample - weighted percentages of full sample and responding schools by various subgroups - public schools in Illinois (sample size =88)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Metro-centric locale					
Central city	24.32	25.73	1.4	0.058	0.225
Urban fringe/large city	55.62	52.07	-3.6	-0.064	
Small town/rural	20.05	22.20	2.2	0.107	
Urban-centric locale					
City	25.62	27.26	1.6	0.064	0.145
Suburban	50.37	45.85	-4.5	-0.090	
Town	11.59	13.72	2.1	0.184	
Rural	12.42	13.17	0.8	0.060	
Size					
Large (≥ 253)	73.62	70.31	-3.3	-0.045	0.098
Medium (64-252)	20.17	22.34	2.2	0.108	
Small (≤ 63)	6.21	7.35	1.1	0.184	

NOTE: Size-adjusted school weights were used.

Table A-26. 2009 NAEP grade 12 original sample - weighted mean values of various characteristics for full sample and responding schools - public schools in Illinois

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	429.77	377.14	-52.6	-0.122	0.005
Estimated grade enrollment	216.62	194.61	-22.0	-0.102	0.002
Race/ethnicity					
Percentage White, not Hispanic	65.90	65.37	-0.5	-0.01	0.664
Percentage Black, not Hispanic	15.34	15.88	0.5	0.03	0.493
Percentage Hispanic heritage	14.40	14.80	0.4	0.03	0.620
Percentage Asian/Pacific Islander	4.13	3.73	-0.4	-0.10	0.195
Percentage American Indian/Alaskan Native	0.23	0.22	0.0	0.00	0.761

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-27. 2009 NAEP grade 12 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - public schools in Illinois (sample size = 88)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Metro-centric locale					
Central city	24.32	26.08	1.8	0.072	0.030
Urban fringe/large city	55.62	52.47	-3.2	-0.057	
Small town/rural	20.05	21.45	1.4	0.070	
Urban-centric locale					
City	25.62	27.46	1.8	0.072	0.029
Suburban	50.37	46.85	-3.5	-0.070	
Town	11.59	12.40	0.8	0.070	
Rural	12.42	13.29	0.9	0.070	
Size					
Large (≥ 253)	73.62	71.78	-1.8	-0.025	0.042
Medium (64-252)	20.17	21.58	1.4	0.070	
Small (≤ 63)	6.21	6.64	0.4	0.069	

NOTE: Size-adjusted school weights were used.

Table A-28. 2009 NAEP grade 12 sample with substitutes - weighted percentages of full sample and responding schools by various subgroups - public schools in Illinois

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	429.77	401.73	-28.0	-0.065	0.040
Estimated grade enrollment	216.62	206.06	-10.6	-0.049	0.027
Race/ethnicity					
Percentage White, not Hispanic	65.90	66.83	0.9	0.01	0.329
Percentage Black, not Hispanic	15.34	15.10	-0.2	-0.02	0.693
Percentage Hispanic heritage	14.40	13.91	-0.5	-0.03	0.486
Percentage Asian/Pacific Islander	4.13	3.94	-0.2	-0.05	0.570
Percentage American Indian/Alaskan Native	0.23	0.22	0.0	-0.04	0.551

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Table A-29. 2009 NAEP grade12 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - public schools in Illinois (sample size = 88)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Metro-centric locale					
Central city	24.32	24.40	0.1	0.003	0.599
Urban fringe/large city	55.62	55.53	-0.1	-0.002	
Small town/rural	20.05	20.07	0.0	0.001	
Urban-centric locale					
City	25.62	25.69	0.1	0.003	0.579
Suburban	50.37	50.27	-0.1	-0.002	
Town	11.59	11.60	0.0	0.001	
Rural	12.42	12.43	0.0	0.001	
Size					
Large (≥ 253)	73.62	73.31	-0.3	-0.004	0.424
Medium (64-252)	20.17	20.48	0.3	0.015	
Small (≤ 63)	6.21	6.22	0.0	0.002	

NOTE: Size-adjusted school weights were used.

Table A-30. 2009 NAEP grade 12 nonresponse-adjusted sample - weighted percentages of full sample and responding schools by various subgroups - public schools in Illinois

	Full sample mean	Respondent mean	Bias	Relative bias	T-test p-value
Size of school attended by average student	429.77	408.45	-21.3	-0.050	0.062
Estimated grade enrollment	216.62	213.34	-3.3	-0.015	0.070
Race/ethnicity					
Percentage White, not Hispanic	65.90	66.65	0.8	0.01	0.127
Percentage Black, not Hispanic	15.34	14.98	-0.4	-0.02	0.468
Percentage Hispanic heritage	14.40	14.13	-0.3	-0.02	0.669
Percentage Asian/Pacific Islander	4.13	4.01	-0.1	-0.03	0.736
Percentage American Indian/Alaskan Native	0.23	0.22	0.0	0.00	0.700

NOTE: For the mean of school size attended by average student and the race/ethnicity percents, size-adjusted school weights were used. For the mean of enrollment, school weights were used.

Appendix B

Table B-1. 2009 NAEP Grade 8 - weighted percentages of full sample and responding students by various subgroups - Public School Students in Detroit TUDA (sample size = 3,470)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.76	49.49	-1.3	-0.025	0.001
Female	49.24	50.51	1.3	0.026	
Race					
White, not Hispanic	2.32	2.40	0.1	0.034	0.228
Black, not Hispanic	89.91	89.41	-0.5	-0.006	
Hispanic heritage	7.01	7.37	0.4	0.051	
Other	0.76	0.82	0.1	0.079	
Relative age					
Old (Born in 9/94 or earlier)	23.76	21.50	-2.3	-0.095	0.000
Not old (Born in 10/94 or later)	76.24	78.50	2.3	0.030	
Free lunch eligibility					
Student not eligible	29.11	30.44	1.3	0.046	0.001
Free or reduced lunch	70.41	69.22	-1.2	-0.017	
Missing	0.48	0.34	-0.1	-0.292	
SD					
Yes	13.75	12.82	-0.9	-0.068	0.001
No	86.25	87.18	0.9	0.011	
ELL					
Yes	5.55	6.04	0.5	0.088	0.090
No	94.45	93.96	-0.5	-0.005	

Table B-2. 2009 NAEP nonresponse-adjusted public grade 8 - weighted percentages of full sample and responding students by various subgroups - public school students in Detroit TUDA (sample size = 3,470)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.76	50.63	-0.1	-0.003	0.380
Female	49.24	49.37	0.1	0.003	
Race					
White, not Hispanic	2.32	2.39	0.1	0.030	0.426
Black, not Hispanic	89.91	89.64	-0.3	-0.003	
Hispanic heritage	7.01	7.18	0.2	0.024	
Other	0.76	0.79	0.0	0.039	
Relative age					
Old (Born in 9/94 or earlier)	23.76	23.57	-0.2	-0.008	0.206
Not old (Born in 10/94 or later)	76.24	76.43	0.2	0.002	
Free lunch eligibility					
Student not eligible	29.11	29.94	0.8	0.029	0.024
Free or reduced lunch	70.41	69.70	-0.7	-0.010	
Missing	0.48	0.36	-0.1	-0.250	
SD					
Yes	13.75	13.39	-0.4	-0.026	0.008
No	86.25	86.61	0.4	0.004	
ELL					
Yes	5.55	5.90	0.4	0.063	0.020
No	94.45	94.10	-0.4	-0.004	

Table B-3. 2009 NAEP grade 8 - weighted percentages of full sample and responding students by various subgroups - public school students in Washington DC TUDA (sample size = 2,106)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.00	48.24	-0.8	-0.016	0.071
Female	51.00	51.76	0.8	0.015	
Race					
White, not Hispanic	4.46	4.91	0.5	0.101	0.000
Black, not Hispanic	83.71	82.41	-1.3	-0.016	
Hispanic heritage	9.78	10.39	0.6	0.062	
Asian/Pacific Islander	2.04	2.29	0.3	0.123	
Relative age					
Old (Born in 9/94 or earlier)	26.54	23.28	-3.3	-0.123	0.000
Not old (Born in 10/94 or later)	73.46	76.72	3.3	0.044	
Free lunch eligibility					
Student not eligible/missing	25.36	26.69	1.3	0.052	0.000
Free or reduced lunch	74.64	73.31	-1.3	-0.018	
SD					
Yes	9.73	9.38	-0.4	-0.036	0.156
No	90.27	90.62	0.4	0.004	
ELL					
Yes	3.99	4.52	0.5	0.133	0.000
No	96.01	95.48	-0.5	-0.006	

Table B-4. 2009 NAEP nonresponse-adjusted grade 8 - weighted percentages of full sample and responding students by various subgroups - public school students in Washington DC TUDA (sample size = 2,106)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.00	48.94	-0.1	-0.001	0.845
Female	51.00	51.06	0.1	0.001	
Race					
White, not Hispanic	4.46	4.73	0.3	0.061	0.016
Black, not Hispanic	83.71	83.16	-0.5	-0.007	
Hispanic heritage	9.78	9.95	0.2	0.017	
Asian/Pacific Islander	2.04	2.16	0.1	0.059	
Relative age					
Old (Born in 9/94 or earlier)	26.54	25.72	-0.8	-0.031	0.001
Not old (Born in 10/94 or later)	73.46	74.28	0.8	0.011	
Free lunch eligibility					
Student not eligible/missing	25.36	25.86	0.5	0.020	0.115
Free or reduced lunch	74.64	74.14	-0.5	-0.007	
SD					
Yes	9.73	9.67	-0.1	-0.006	0.681
No	90.27	90.33	0.1	0.001	
ELL					
Yes	3.99	4.33	0.3	0.085	0.001
No	96.01	95.67	-0.3	-0.004	

Table B-5. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - all public school students (sample size = 131,424)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.15	49.09	-0.1	-0.001	0.647
Female	50.85	50.91	0.1	0.001	
Race					
White, not Hispanic	59.52	59.67	0.1	0.003	0.024
Black, not Hispanic	15.38	15.31	-0.1	-0.005	
Hispanic heritage	17.57	17.21	-0.4	-0.020	
Asian/Pacific Islander	6.08	6.40	0.3	0.053	
American Indian/Alaskan Native	0.76	0.74	0.0	-0.026	
Other	0.68	0.68	0.0	0.000	
Relative age					
Old (Born in 9/90 or earlier)	18.40	17.89	-0.5	-0.028	0.000
Not old (Born in 10/90 or later)	81.60	82.11	0.5	0.006	
Free lunch eligibility					
Student not eligible	68.35	68.58	0.2	0.003	0.274
Free or reduced lunch	29.99	29.90	-0.1	-0.003	
Missing	1.66	1.52	-0.1	-0.084	
SD					
Yes	7.99	7.51	-0.5	-0.060	0.000
No	92.01	92.49	0.5	0.005	
ELL					
Yes	2.82	2.86	0.0	0.014	0.441
No	97.18	97.14	0.0	0.000	

Table B-6. 2009 NAEP nonresponse-adjusted grade 12 - weighted percentages of full sample and responding students by various subgroups - all public school students (sample size = 131,424)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.15	49.18	0.0	0.001	0.391
Female	50.85	50.82	0.0	-0.001	
Race					
White, not Hispanic	59.52	59.40	-0.1	-0.002	0.062
Black, not Hispanic	15.38	15.38	0.0	0.000	
Hispanic heritage	17.57	17.53	0.0	-0.002	
Asian/Pacific Islander	6.08	6.26	0.2	0.030	
American Indian/Alaskan Native	0.76	0.73	0.0	-0.039	
Other	0.68	0.69	0.0	0.015	
Relative age					
Old (Born in 9/90 or earlier)	18.40	18.34	-0.1	-0.003	0.038
Not old (Born in 10/90 or later)	81.60	81.66	0.1	0.001	
Free lunch eligibility					
Student not eligible	68.35	68.44	0.1	0.001	0.468
Free or reduced lunch	29.99	29.99	0.0	0.000	
Missing	1.66	1.57	-0.1	-0.054	
SD					
Yes	7.99	7.85	-0.1	-0.018	0.000
No	92.01	92.15	0.1	0.002	
ELL					
Yes	2.82	2.96	0.1	0.050	0.000
No	97.18	97.04	-0.1	-0.001	

Table B-7. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Connecticut (sample size = 7,539)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.83	49.97	0.1	0.003	0.744
Female	50.17	50.03	-0.1	-0.003	
Race					
White, not Hispanic	70.85	72.03	1.2	0.017	0.104
Black, not Hispanic	12.99	12.08	-0.9	-0.070	
Hispanic heritage	12.90	12.40	-0.5	-0.039	
Other	3.26	3.49	0.2	0.071	
Relative age					
Old (Born in 9/90 or earlier)	12.68	11.75	-0.9	-0.073	0.002
Not old (Born in 10/90 or later)	87.32	88.25	0.9	0.011	
Free lunch eligibility					
Student not eligible\missing	79.13	80.60	1.5	0.019	0.052
Free or reduced lunch	20.87	19.40	-1.5	-0.070	
SD					
Yes	8.81	8.06	-0.8	-0.085	0.003
No	91.19	91.94	0.8	0.008	
ELL					
Yes	1.45	1.48	0.0	0.021	0.839
No	98.55	98.52	0.0	0.000	

Table B-8. 2009 NAEP nonresponse-adjusted grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Connecticut (sample size = 7,539)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.83	50.21	0.4	0.008	0.035
Female	50.17	49.79	-0.4	-0.008	
Race					
White, not Hispanic	70.85	70.99	0.1	0.002	0.401
Black, not Hispanic	12.99	12.83	-0.2	-0.012	
Hispanic heritage	12.90	12.78	-0.1	-0.009	
Other	3.26	3.41	0.2	0.046	
Relative age					
Old (Born in 9/90 or earlier)	12.68	12.54	-0.1	-0.011	0.169
Not old (Born in 10/90 or later)	87.32	87.46	0.1	0.002	
Free lunch eligibility					
Student not eligible\missing	79.13	80.01	0.9	0.011	0.127
Free or reduced lunch	20.87	19.99	-0.9	-0.042	
SD					
Yes	8.81	8.63	-0.2	-0.020	0.024
No	91.19	91.37	0.2	0.002	
ELL					
Yes	1.45	1.58	0.1	0.090	0.251
No	98.55	98.42	-0.1	-0.001	

Table B-9. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Florida (sample size = 9,000)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	48.09	48.89	0.8	0.017	0.004
Female	51.91	51.11	-0.8	-0.015	
Race					
White, not Hispanic	51.07	50.34	-0.7	-0.014	0.124
Black, not Hispanic	20.04	19.68	-0.4	-0.018	
Hispanic heritage	23.53	24.23	0.7	0.030	
Asian/Pacific Islander	2.91	3.22	0.3	0.107	
AmericanIndian/Alaskan Native	0.31	0.35	0.0	0.129	
Other	2.13	2.18	0.1	0.023	
Relative age					
Old (Born in 9/90 or earlier)	21.40	20.69	-0.7	-0.033	0.004
Not old (Born in 10/90 or later)	78.60	79.31	0.7	0.009	
Free lunch eligibility					
Student not eligible	66.64	66.09	-0.5	-0.008	0.070
Free or reduced lunch	33.13	33.74	0.6	0.018	
Missing	0.23	0.17	-0.1	-0.261	
SD					
Yes	8.60	8.48	-0.1	-0.014	0.578
No	91.40	91.52	0.1	0.001	
ELL					
Yes	3.06	3.31	0.3	0.082	0.006
No	96.94	96.69	-0.3	-0.003	

Table B-10. 2009 NAEP nonresponse-adjusted public grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Florida (sample size = 9,000)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	48.09	48.14	0.0	0.001	0.547
Female	51.91	51.86	0.0	-0.001	
Race					
White, not Hispanic	51.07	50.65	-0.4	-0.008	0.014
Black, not Hispanic	20.04	20.08	0.0	0.002	
Hispanic heritage	23.53	23.62	0.1	0.004	
Asian/Pacific Islander	2.91	3.15	0.2	0.082	
American Indian/Alaskan					
Native	0.31	0.35	0.0	0.129	
Other	2.13	2.15	0.0	0.009	
Relative age					
Old (Born in 9/90 or earlier)	21.40	21.31	-0.1	-0.004	0.255
Not old (Born in 10/90 or later)	78.60	78.69	0.1	0.001	
Free lunch eligibility					
Student not eligible	66.64	66.18	-0.5	-0.007	0.038
Free or reduced lunch	33.13	33.66	0.5	0.016	
Missing	0.23	0.16	-0.1	-0.304	
SD					
Yes	8.60	8.41	-0.2	-0.022	0.015
No	91.40	91.59	0.2	0.002	
ELL					
Yes	3.06	3.28	0.2	0.072	0.007
No	96.94	96.72	-0.2	-0.002	

Table B-11. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Illinois (sample size = 7,472)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.34	48.98	-0.4	-0.007	0.257
Female	50.66	51.02	0.4	0.007	
Race					
White, not Hispanic	63.64	63.52	-0.1	-0.002	0.259
Black, not Hispanic	15.77	15.15	-0.6	-0.039	
Hispanic heritage	14.46	14.98	0.5	0.036	
Asian/Pacific Islander	4.45	4.60	0.1	0.034	
American Indian/Alaskan Native	0.18	0.22	0.0	0.222	
Other	1.50	1.54	0.0	0.027	
Relative age					
Old (Born in 9/90 or earlier)	18.37	18.14	-0.2	-0.013	0.459
Not old (Born in 10/90 or later)	81.63	81.86	0.2	0.003	
Free lunch eligibility					
Student not eligible\missing	73.25	72.79	-0.5	-0.006	0.383
Free or reduced lunch	26.75	27.21	0.5	0.017	
SD					
Yes	8.46	7.95	-0.5	-0.060	0.012
No	91.54	92.05	0.5	0.006	
ELL					
Yes	1.49	1.50	0.0	0.007	0.854
No	98.51	98.50	0.0	0.000	

Table B-12. 2009 NAEP nonresponse-adjusted grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Illinois (sample size = 7,472)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.34	49.42	0.1	0.002	0.440
Female	50.66	50.58	-0.1	-0.002	
Race					
White, not Hispanic	63.64	63.51	-0.1	-0.002	0.644
Black, not Hispanic	15.77	15.68	-0.1	-0.006	
Hispanic heritage	14.46	14.52	0.1	0.004	
Asian/Pacific Islander	4.45	4.53	0.1	0.018	
American Indian/Alaskan Native	0.18	0.21	0.0	0.167	
Other	1.50	1.55	0.1	0.033	
Relative age					
Old (Born in 9/90 or earlier)	18.37	18.38	0.0	0.001	0.910
Not old (Born in 10/90 or later)	81.63	81.62	0.0	0.000	
Free lunch eligibility					
Student not eligible\missing	73.25	73.18	-0.1	-0.001	0.803
Free or reduced lunch	26.75	26.82	0.1	0.003	
SD					
Yes	8.46	8.34	-0.1	-0.014	0.190
No	91.54	91.66	0.1	0.001	
ELL					
Yes	1.49	1.60	0.1	0.074	0.187
No	98.51	98.40	-0.1	-0.001	

Table B-13. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Iowa (sample size = 6,443)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	51.15	51.35	0.2	0.004	0.531
Female	48.85	48.65	-0.2	-0.004	
Race					
White, not Hispanic	89.88	90.56	0.7	0.008	0.066
Black, not Hispanic	3.75	3.31	-0.4	-0.117	
Hispanic heritage	3.85	3.58	-0.3	-0.070	
Asian/Pacific Islander	2.10	2.21	0.1	0.052	
American Indian/Alaskan Native	0.43	0.35	-0.1	-0.186	
Relative age					
Old (Born in 9/90 or earlier)	23.43	23.03	-0.4	-0.017	0.186
Not old (Born in 10/90 or later)	76.57	76.97	0.4	0.005	
Free lunch eligibility					
Student not eligible/missing	80.45	81.35	0.9	0.011	0.000
Free or reduced lunch	19.55	18.65	-0.9	-0.046	
SD					
Yes	8.43	8.33	-0.1	-0.012	0.531
No	91.57	91.67	0.1	0.001	
ELL					
Yes	1.03	0.90	-0.1	-0.126	0.160
No	98.97	99.10	0.1	0.001	

Table B-14. 2009 NAEP nonresponse-adjusted grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Iowa (sample size = 6,443)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	51.15	51.37	0.2	0.004	0.097
Female	48.85	48.63	-0.2	-0.005	
Race					
White, not Hispanic	89.88	89.97	0.1	0.001	0.301
Black, not Hispanic	3.75	3.68	-0.1	-0.019	
Hispanic heritage	3.85	3.65	-0.2	-0.052	
Asian/Pacific Islander	2.10	2.32	0.2	0.105	
American Indian/Alaskan Native	0.43	0.38	-0.1	-0.116	
Relative age					
Old (Born in 9/90 or earlier)	23.43	23.36	-0.1	-0.003	0.510
Not old (Born in 10/90 or later)	76.57	76.64	0.1	0.001	
Free lunch eligibility					
Student not eligible/missing	80.45	80.97	0.5	0.006	0.024
Free or reduced lunch	19.55	19.03	-0.5	-0.027	
SD					
Yes	8.43	8.48	0.1	0.006	0.543
No	91.57	91.52	0.0	-0.001	
ELL					
Yes	1.03	0.99	0.0	-0.039	0.554
No	98.97	99.01	0.0	0.000	

Table B-15. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Massachusetts (sample size = 7,676)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.35	49.81	-0.5	-0.011	0.097
Female	49.65	50.19	0.5	0.011	
Race					
White, not Hispanic	77.73	78.65	0.9	0.012	0.033
Black, not Hispanic	7.82	7.19	-0.6	-0.081	
Hispanic heritage	8.15	7.52	-0.6	-0.077	
Asian/Pacific Islander	5.06	5.47	0.4	0.081	
American Indian/Alaskan Native	0.24	0.25	0.0	0.042	
Other	1.00	0.92	-0.1	-0.080	
Relative age					
Old (Born in 9/90 or earlier)	16.90	16.10	-0.8	-0.047	0.008
Not old (Born in 10/90 or later)	83.10	83.90	0.8	0.010	
Free lunch eligibility					
Student not eligible	79.37	80.03	0.7	0.008	0.098
Free or reduced lunch	20.33	19.65	-0.7	-0.033	
Missing	0.29	0.32	0.0	0.103	
SD					
Yes	10.85	9.65	-1.2	-0.111	0.000
No	89.15	90.35	1.2	0.013	
ELL					
Yes	1.55	1.56	0.0	0.006	0.907
No	98.45	98.44	0.0	0.000	

Table B-16. 2009 NAEP nonresponse-adjusted grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in Massachusetts (sample size = 7,676)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.35	50.49	0.1	0.003	0.229
Female	49.65	49.51	-0.1	-0.003	
Race					
White, not Hispanic	77.73	78.04	0.3	0.004	0.139
Black, not Hispanic	7.82	7.52	-0.3	-0.038	
Hispanic heritage	8.15	8.07	-0.1	-0.010	
Asian/Pacific Islander	5.06	5.20	0.1	0.028	
American Indian/Alaskan Native	0.24	0.26	0.0	0.083	
Other	1.00	0.92	-0.1	-0.080	
Relative age					
Old (Born in 9/90 or earlier)	16.90	16.77	-0.1	-0.008	0.222
Not old (Born in 10/90 or later)	83.10	83.23	0.1	0.002	
Free lunch eligibility					
Student not eligible	79.37	79.62	0.3	0.003	0.324
Free or reduced lunch	20.33	20.06	-0.3	-0.013	
Missing	0.29	0.32	0.0	0.103	
SD					
Yes	10.85	10.78	-0.1	-0.006	0.260
No	89.15	89.22	0.1	0.001	
ELL					
Yes	1.55	1.61	0.1	0.039	0.401
No	98.45	98.39	-0.1	-0.001	

Table B-17. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in New Hampshire (sample size = 6,335)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.01	50.15	0.1	0.003	0.776
Female	49.99	49.85	-0.1	-0.003	
Race					
White, not Hispanic	94.55	94.26	-0.3	-0.003	0.142
Black, not Hispanic	1.15	1.16	0.0	0.009	
Hispanic heritage	2.34	2.35	0.0	0.004	
Other	1.96	2.24	0.3	0.143	
Relative age					
Old (Born in 9/90 or earlier)	18.29	16.22	-2.1	-0.113	0.000
Not old (Born in 10/90 or later)	81.71	83.78	2.1	0.025	
Free lunch eligibility					
Student not eligible	87.35	88.38	1.0	0.012	0.002
Free or reduced lunch	12.65	11.62	-1.0	-0.081	
SD					
Yes	13.87	11.68	-2.2	-0.158	0.000
No	86.13	88.32	2.2	0.025	
ELL					
Yes	0.53	0.53	0.0	0.000	0.958
No	99.47	99.47	0.0	0.000	

Table B-18. 2009 NAEP nonresponse-adjusted grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in New Hampshire (sample size = 6,335)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.01	50.35	0.3	0.007	0.139
Female	49.99	49.65	-0.3	-0.007	
Race					
White, not Hispanic	94.55	94.26	-0.3	-0.003	0.347
Black, not Hispanic	1.15	1.18	0.0	0.026	
Hispanic heritage	2.34	2.40	0.1	0.026	
Other	1.96	2.16	0.2	0.102	
Relative age					
Old (Born in 9/90 or earlier)	18.29	18.00	-0.3	-0.016	0.074
Not old (Born in 10/90 or later)	81.71	82.00	0.3	0.004	
Free lunch eligibility					
Student not eligible	87.35	88.05	0.7	0.008	0.037
Free or reduced lunch	12.65	11.95	-0.7	-0.055	
SD					
Yes	13.87	13.78	-0.1	-0.006	0.254
No	86.13	86.22	0.1	0.001	
ELL					
Yes	0.53	0.59	0.1	0.113	0.395
No	99.47	99.41	-0.1	-0.001	

Table B-19. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in New Jersey (sample size = 8,457)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.12	48.84	-0.3	-0.006	0.326
Female	50.88	51.16	0.3	0.006	
Race					
White, not Hispanic	58.11	56.45	-1.7	-0.029	0.001
Black, not Hispanic	17.19	17.72	0.5	0.031	
Hispanic heritage	15.79	16.17	0.4	0.024	
Other	8.91	9.67	0.8	0.085	
Relative age					
Old (Born in 9/90 or earlier)	14.31	14.00	-0.3	-0.022	0.196
Not old (Born in 10/90 or later)	85.69	86.00	0.3	0.004	
Free lunch eligibility					
Student not eligible	79.36	78.47	-0.9	-0.011	0.044
Free or reduced lunch	19.32	20.18	0.9	0.045	
Missing	1.32	1.35	0.0	0.023	
SD					
Yes	11.67	10.62	-1.1	-0.090	0.000
No	88.33	89.38	1.1	0.012	
ELL					
Yes	1.24	1.33	0.1	0.073	0.208
No	98.76	98.67	-0.1	-0.001	

Table B-20. 2009 NAEP nonresponse-adjusted public grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in New Jersey (sample size = 8,457)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.12	49.20	0.1	0.002	0.464
Female	50.88	50.80	-0.1	-0.002	
Race					
White, not Hispanic	58.11	57.75	-0.4	-0.006	0.143
Black, not Hispanic	17.19	17.34	0.1	0.009	
Hispanic heritage	15.79	15.88	0.1	0.006	
Other	8.91	9.03	0.1	0.013	
Relative age					
Old (Born in 9/90 or earlier)	14.31	14.37	0.1	0.004	0.448
Not old (Born in 10/90 or later)	85.69	85.63	-0.1	-0.001	
Free lunch eligibility					
Student not eligible	79.36	79.03	-0.3	-0.004	0.319
Free or reduced lunch	19.32	19.72	0.4	0.021	
Missing	1.32	1.25	-0.1	-0.053	
SD					
Yes	11.67	11.58	-0.1	-0.008	0.252
No	88.33	88.42	0.1	0.001	
ELL					
Yes	1.24	1.34	0.1	0.081	0.178
No	98.76	98.66	-0.1	-0.001	

Table B-21. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in South Dakota (sample size = 6,464)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.89	51.35	0.5	0.009	0.196
Female	49.11	48.65	-0.5	-0.009	
Race					
White, not Hispanic	89.04	89.89	0.8	0.010	0.023
Black, not Hispanic	1.64	1.43	-0.2	-0.128	
Hispanic heritage	1.73	1.66	-0.1	-0.040	
Asian/Pacific Islander	1.37	1.39	0.0	0.015	
American Indian/Alaskan Native	6.22	5.63	-0.6	-0.095	
Relative age					
Old (Born in 9/90 or earlier)	30.16	29.30	-0.9	-0.029	0.004
Not old (Born in 10/90 or later)	69.84	70.70	0.9	0.012	
Free lunch eligibility					
Student not eligible	82.07	82.79	0.7	0.009	0.000
Free or reduced lunch	16.59	16.32	-0.3	-0.016	
Missing	1.34	0.89	-0.5	-0.336	
SD					
Yes	6.52	6.09	-0.4	-0.066	0.006
No	93.48	93.91	0.4	0.005	
ELL					
Yes	0.80	0.76	0.0	-0.050	0.518
No	99.20	99.24	0.0	0.000	

Table B-22. 2009 NAEP nonresponse-adjusted Grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in South Dakota (sample size = 6,464)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	50.89	50.97	0.1	0.002	0.375
Female	49.11	49.03	-0.1	-0.002	
Race					
White, not Hispanic	89.04	89.05	0.0	0.000	0.495
Black, not Hispanic	1.64	1.67	0.0	0.018	
Hispanic heritage	1.73	1.83	0.1	0.058	
Asian/Pacific Islander	1.37	1.42	0.0	0.036	
American Indian/Alaskan Native	6.22	6.03	-0.2	-0.031	
Relative age					
Old (Born in 9/90 or earlier)	30.16	30.19	0.0	0.001	0.678
Not old (Born in 10/90 or later)	69.84	69.81	0.0	0.000	
Free lunch eligibility					
Student not eligible	82.07	82.73	0.7	0.008	0.000
Free or reduced lunch	16.59	16.25	-0.3	-0.020	
Missing	1.34	1.02	-0.3	-0.239	
SD					
Yes	6.52	6.43	-0.1	-0.014	0.199
No	93.48	93.57	0.1	0.001	
ELL					
Yes	0.80	0.89	0.1	0.113	0.222
No	99.20	99.11	-0.1	-0.001	

Table B-23. 2009 NAEP grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in West Virginia (sample size = 7,468)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.58	49.68	0.1	0.002	0.715
Female	50.42	50.32	-0.1	-0.002	
Race					
White, not Hispanic	94.18	94.06	-0.1	-0.001	0.370
Black, not Hispanic	4.08	4.12	0.0	0.010	
Hispanic heritage	0.86	0.86	0.0	0.000	
Other	0.88	0.96	0.1	0.091	
Relative age					
Old (Born in 9/90 or earlier)	23.30	21.96	-1.3	-0.058	0.000
Not old (Born in 10/90 or later)	76.70	78.04	1.3	0.017	
Free lunch eligibility					
Student not eligible	61.24	62.54	1.3	0.021	0.000
Free or reduced lunch	38.76	37.46	-1.3	-0.034	
SD					
Yes	12.61	11.57	-1.0	-0.082	0.000
No	87.39	88.43	1.0	0.012	
ELL					
Yes	0.49	0.51	0.0	0.041	0.549
No	99.51	99.49	0.0	0.000	

Table B-24. 2009 NAEP nonresponse-adjusted public grade 12 - weighted percentages of full sample and responding students by various subgroups - public school students in West Virginia (sample size = 7,468)

	Full sample weighted percentage	Respondent weighted percentage	Bias	Relative bias	Chi-square p-value
Sex					
Male	49.58	49.50	-0.1	-0.002	0.516
Female	50.42	50.50	0.1	0.002	
Race					
White, not Hispanic	94.18	94.03	-0.2	-0.002	0.052
Black, not Hispanic	4.08	4.14	0.1	0.015	
Hispanic heritage	0.86	0.84	0.0	-0.023	
Other	0.88	0.99	0.1	0.125	
Relative age					
Old (Born in 9/90 or earlier)	23.30	23.15	-0.2	-0.006	0.132
Not old (Born in 10/90 or later)	76.70	76.85	0.1	0.002	
Free lunch eligibility					
Student not eligible	61.24	62.56	1.3	0.022	0.000
Free or reduced lunch	38.76	37.44	-1.3	-0.034	
SD					
Yes	12.61	12.51	-0.1	-0.008	0.050
No	87.39	87.49	0.1	0.001	
ELL					
Yes	0.49	0.58	0.1	0.184	0.087
No	99.51	99.42	-0.1	-0.001	