

## 2021 NAEP School & Teacher Questionnaire Special Study (STQ) Technical Paper

This document describes the technical aspects necessary to implement the 2021 NAEP School & Teacher Questionnaire Special Study (STQ). After a brief introduction on the STQ study background, technical information is provided for the

- sample design,
- data collection,
- weighting procedure, and
- participation rates.

### Background

The 2021 NAEP School and Teacher Questionnaire Special Study (STQ) was conducted online to collect contextual information from school administrators and teachers on student learning opportunities and experiences during a time of widespread school closures, remote instruction, and hybrid in-person/remote instruction. All 53 states/jurisdictions (composed of the 50 states, District of Columbia, Puerto Rico, and Department of Defense Educational Activity [DoDEA] schools) and 27 Tribal Urban District Assessment (TUDA) districts were invited to take part in the study, which was conducted from March to April 2021. Participation in the study was voluntary. Thirty-three states/jurisdictions and seven large urban districts agreed to participate. Although the 2021 NAEP assessments originally scheduled for January to March 2021 were postponed due to the impact of the COVID-19 pandemic on school operations, the National Center for Education Statistics (NCES) leveraged the program's existing infrastructure to supplement the NAEP School Questionnaires and NAEP Teacher Questionnaires with questions addressing aspects of the pandemic's effects on students and educators. The purpose of this special study was to provide insights into how teaching was conducted and supported across states/jurisdictions and large urban districts during the 2020–21 school year and when schools were closed due to the pandemic during the 2019–20 school year. The supplemental questionnaires focused on collecting contextual information—including types of instructional models, teacher training and preparation, and the availability of student digital access for distance learning—to help provide a more complete understanding of students' educational experiences.

### Sample Design

While the study was administered online to school administrators and teachers, the standard procedures for sampling were used as would be for a NAEP assessment of students. As such, each school that participated in the STQ study and each teacher represents a portion of the larger population of interest.

The sample design used for the 2021 STQ study involved two stages: the first stage of selection involved the sampling of schools, and the second stage of selection involved the selection of teachers within sampled eligible schools.

The school samples were originally selected when NCES was still planning to conduct 2021 NAEP operational student assessments. When the student assessments were postponed, a decision was made to repurpose the school samples for the STQ study. The samples at grades 4 and 8 for the 2021 STQ study were designed to be representative of the grade 4 and 8 student populations, which include students in public, private, Bureau of Indian Education (BIE), and Department of Defense Education Activity (DoDEA) schools, as well as schools in Puerto Rico. Representative samples were drawn for state-level reporting, including the District of Columbia, for 27 Trial Urban District Assessment (TUDA) districts in public schools at grades 4 and 8, and for the original purpose of national-level reporting in private schools at grades 4 and 8. The TUDA districts are listed below:

- Albuquerque,
- Atlanta,
- Austin,
- Baltimore City,
- Boston,
- Charlotte-Mecklenburg,
- Chicago,
- Clark County (NV),
- Cleveland,
- Dallas,
- Denver,
- Detroit,
- District of Columbia Public Schools (DCPS),
- Duval County (FL),
- Fort Worth,
- Fresno,
- Guilford County (NC),
- Hillsborough County (FL),
- Houston,
- Jefferson County (KY),
- Los Angeles,
- Miami-Dade,
- Milwaukee,
- New York City,
- Philadelphia,
- San Diego, and
- Shelby County (TN).

The number of sampled public schools for each state/jurisdiction or TUDA district and the number of sampled private schools for the nation were determined by the target assessed student sample size that would have been drawn if an operational student assessment had been feasible. At both grades, the overall target assessed student sample size in public schools in each state/jurisdiction, with the exception of Puerto Rico, was 1,750 (875 for each subject, mathematics and reading). For Puerto Rico, the target assessed student sample size was 3,000 at both grades. For the six large TUDA districts (New York, Los Angeles, Chicago, Miami-Dade, Clark County, and Houston) the target assessed student sample

size was three-quarters the size of the states/jurisdictions: 1,312 (656 per subject) at both grades. For each of the remaining TUDA districts, the target assessed student sample size was two-thirds the size of the states/jurisdictions: 1,166 (583 per subject) at both grades. At both grades, the planned overall target assessed student sample size in private schools was 4,700 (2,350 per subject) nationally. The numbers of sampled schools designed to achieve these targets are provided in Table 1.

**Table 1.** Target assessed student sample size and number of sampled schools at grades 4 and 8, by school type and level of jurisdictions: 2021

School Type	Target Assessed Students Per Grade	Sampled Schools <sup>1</sup>	
		Grade 4	Grade 8
Public	94,000	2,845	2,720
State	1,750	41 – 69	39 – 63
Large TUDA districts	1,312	31 – 35	25 – 32
Small TUDA districts	1,166	28 – 35	16 – 36
Puerto Rico	3,000	150	150
Private	4,700	395	385

<sup>1</sup> The numbers of sampled schools in this table for states and TUDA districts are presented in terms of ranges, since the sample sizes vary by states and TUDA districts.

NOTE: TUDA = Trial Urban District Assessment.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2021 School and Teacher Questionnaire Study.

### School Sampling Frames

The primary sampling frames for the 2021 public school samples were developed from the Common Core of Data (CCD) file corresponding to the 2018–19 school year. The CCD file is the Department of Education’s primary database of public elementary and secondary schools in the United States, including U.S. territories. It includes all regular public, state-operated public, Bureau of Indian Education (BIE), and Department of Defense Education Activity (DoDEA) schools open during the 2018–19 school year.

The primary sampling frames for the 2021 private school samples were developed from the Private School Universe Survey (PSS) corresponding to the 2017–18 school year. The PSS file is the Department of Education’s primary database of elementary and secondary private schools in the 50 states and the District of Columbia, and it is based on a survey conducted by the U.S. Census Bureau during the 2017–18 school year. Nonrespondents to the PSS were also included in the primary sampling frames. Since these schools did not respond to the PSS, their private school affiliations are unknown unless they could be determined through research efforts established by NAEP.

A secondary set of sampling frames was also created for these samples to account for public schools that were newly opened or became newly eligible between the 2018–19 and 2020–21 school years and for private schools between the 2017–18 and 2020–21 school years. These frames contain brand-new and newly-eligible schools.

Both sets of sampling frames excluded ungraded schools, vocational schools with no enrollment,<sup>1</sup> special education-only schools, prison and hospital schools, home school entities, virtual or online schools, adult and evening schools, and juvenile correctional institutions.

### School Sample Selection

The first-stage samples of schools were selected with probability proportional to a measure of size based on the estimated grade-specific student enrollment in the schools.

Prior to sample selection, the schools on the frames were stratified. The purpose of school stratification is to ensure the representativeness of the school samples in terms of important school-level characteristics, such as geography, urbanicity, and race/ethnicity classification. NAEP school sampling utilizes two types of stratification: explicit and implicit.

Explicit stratification partitions the sampling frame into mutually exclusive groupings called strata. The systematic samples selected from these strata are independent, meaning that each sample is selected with its own unique random start. Implicit stratification involves sorting the sampling frame, as opposed to grouping the frame. For NAEP, schools are sorted in serpentine fashion by key school characteristics within sampling strata and sampled systematically using this ordering. This type of stratification ensures the representativeness of the school samples with respect to the key school characteristics.

Explicit stratification for the public school samples was by jurisdiction: 50 states, DC, DoDEA, BIE, Puerto Rico, and TUDA districts; and for private school samples was by private school type: Catholic, non-Catholic, and unknown affiliation.

The implicit school stratification variables for the public school sample included urbanicity, race/ethnicity classification, achievement score or median income, magnet school indicator, and estimated grade enrollment. Within each explicit stratum, the private schools were hierarchically sorted by census division, urbanicity, race/ethnicity classification, and estimated grade enrollment.

### Teacher Sample Selection

The second stage of selection involved the sampling of teachers within the sampled schools. Every fourth- and eighth-grade teacher in a sampled school whom the school identified as teaching mathematics or reading was selected for the sample. All teachers at grade 4 received both reading and mathematics questionnaire items. At grade 8, there were two separate questionnaires, one for mathematics and one for reading. Each questionnaire had a common core of items as well as subject-specific components. A teacher who taught both mathematics and reading to grade 8 students was asked to complete both grade 8 questionnaires. Otherwise, the teacher was asked to complete the questionnaire relevant to the subject they taught. The number of total teachers surveyed is provided in Table 2.

**Table 2.** Number of sampled teachers at grades 4 and 8, by school type: 2021

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<sup>1</sup> Vocational schools with no enrollment serve students who split their time between the school and their home school.

School Type	Grade 4	Grade 8		
		Reading	Math	Both
Public	7,020	4,410	4,430	600
Private	110	70	70	20

Note: Numbers are rounded to nearest ten. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2021 School and Teacher Questionnaire Study.

## Data Collection

STQ was conducted from March 29 to April 30, 2021, using the same schools that had been originally sampled for the NAEP 2021 assessments.

NAEP routinely asks each participating school to complete a NAEP School Questionnaire and for all its eligible teachers to complete a NAEP Teacher Questionnaire. The number of NAEP Teacher Questionnaires to be completed depends in part on the number of grades and number of NAEP subjects to be assessed in the school.

A NAEP School Questionnaire is normally completed by the principal (or other school administrator). It is used to gather information about each school's administration, policies, curriculum, staffing, and student services. For STQ, the NAEP School Questionnaire collected additional information on the following COVID-19 related topics, focused on the 2019–20 and 2020–21 school years:

### Resources for learning and instruction

- Preparations for distance learning (school-wide and teacher-focused)
- Support for learning
- Teacher and staff requirements for communication and contact
- Percentage of students in distance learning

### Technology use and access

- Provision of digital devices and internet access

### Organization of instruction

- Administrator mobility
- Modifications to the previous and current school years and instruction

A NAEP Teacher Questionnaire is completed by each teacher responsible for the NAEP subjects being assessed. It is used to gather information about teacher training, experience, and instructional practices. For STQ, the NAEP Teacher Questionnaire collected additional information on the following COVID-19 related topics, focused on the 2020–21 school year:

### Organization of instruction

- Teacher mobility

- Remedial measures
- Instructional support
- Grading policies and practices
- Class structure

#### Self-efficacy

- Instruction for distance learning

#### Teacher preparation

- Preparation for distance learning
- Professional development

For STQ, each school was asked to complete a NAEP School Questionnaire and to encourage all eligible teachers to complete a NAEP Teacher Questionnaire. Eligible teachers must have either been teaching fourth- or eighth-grade mathematics and/or reading and have been designated as the primary reporter of students' grades. Team teachers, teacher's aides, or assistants who did not report official grades were not eligible to complete the questionnaire.

STQ data were predominantly collected online using the *MyNAEP for Schools* (MyNAEP) website. (Hardcopy questionnaires were provided upon request.) MyNAEP regularly provides participating schools with a convenient, secure way to prepare for NAEP assessments and serves as each school's primary resource and action center throughout the assessment process. Each school's principal (or designee, known as the School Coordinator) uses the site for a range of tasks, including for managing the completion of questionnaires by school staff. These authorized users accessed MyNAEP to assign, email, monitor completion of online questionnaires, and send reminders as necessary.

The NAEP field staff who administer student assessments regularly support School Coordinators in their efforts to identify questionnaire respondents and monitor completion. This role was enhanced for STQ, with approximately 100 field staff trained to work in conjunction with School Coordinators to maximize questionnaire response rates during the four-week data collection period.

NAEP State Coordinators, NAEP TUDA Coordinators, or other local district personnel notified schools about STQ, secured their cooperation in the study, and entered School Coordinator contact information in MyNAEP. After confirming each school's cooperating status and the School Coordinator's contact information, field staff conducted a special study introduction call. During the call, field staff discussed the purpose of STQ and provided an overview of entering respondent information in MyNAEP, noting that the School Coordinator could choose to enter information directly into MyNAEP or request field staff assistance.

After respondent names and email addresses were entered, field staff ensured that emails were sent to respondents. Respondents received three separate emails. The first email provided a welcome and overview of the study and a link used to confirm the recipient's email address. The second email

contained a link to the questionnaire, and the third email provided the password used to access the questionnaire.

Field staff processed any requests for a hardcopy questionnaire. Hard copy questionnaires were mailed directly to recipients and included prepaid-postage return envelopes. Respondents were responsible for returning the completed questionnaire using the return envelope provided.

Each respondent received a weekly, autogenerated reminder email to complete the questionnaire. Field staff regularly monitored questionnaire completion and sent weekly reminder emails to the School Coordinator to encourage follow-up with pending respondents. Field staff also scheduled check-in calls with School Coordinators as needed and double checked that the welcome emails had been sent to all identified respondents.

### Weighting Procedure

The goal of NAEP 2021 STQ weighting is to provide accurate and approximately unbiased estimates of schools' and teachers' questionnaire responses at grades 4 and 8 in participating jurisdictions for public schools and for national private schools. Because 20 states out of 53 states/jurisdictions declined to participate in this study, including two large states (New York and Florida), and because some participating states did not meet the percentage criteria for reportable results (e.g., California, Iowa, and South Carolina at grade 4), the resulting aggregate of participating states/jurisdictions is not representative of the nation. Obtaining and reporting accurate and unbiased estimates of school and teacher questionnaire results at the national level is not possible; therefore, national results are not reported for this study.

The school and teacher questionnaire weights were computed independently. The procedures used to calculate each weight had three major components: base weights, adjustment for nonresponse, and weight trimming. The first component was the provision of a base weight, which is the inverse of the overall selection probability of each selected unit. Base weights were needed to account for the varying probabilities of selection among schools and teachers in a given STQ sample.

The second component of the weighting process consisted of adjustments for nonresponse. Nonresponse can occur at the school or teacher level. In either case, sampled schools or teachers that could have participated according to the sampling scheme did not. Their results were not reflected by the use of base weights, and therefore nonresponse adjustments are made in an effort to represent the full school or teacher population by adjusting the weights of the actual responding sample.

The third major component of the weighting is the application of weight trimming. Unlike the previous two components, this step is not directed primarily at minimizing the bias of survey estimates, but rather at reducing their variance. Trimming consists of reducing the weights for each school or teacher whose weight, as a result of the calculation of base weights and the application of nonresponse adjustments, makes an unduly large relative contribution to the total weighted data set.

The full-sample school or teacher weight is the product of these three major components. Below is a summary of the weight calculations for the school and teacher samples.

### School Questionnaire Weights

The full-sample school questionnaire weight was the product of the following three weighting components.

1. School base weights

School base weights reflect the probability of selection of the school into the sample. For schools sampled from the CCD-based public school frames or the PSS-based private school frames, this probability was derived directly from the school sampling process. For schools sampled from the new school frames, the school base weight included an additional component, namely the probability of selection of a school district for the new school procedure.

2. School nonresponse adjustments

The school base weight was adjusted for the nonparticipation at the school level. These weighting adjustments seek to reduce the potential for bias from such nonparticipation by increasing the weights for similar schools that did participate. For public school samples, school nonresponse classes were formed using the characteristics selected for stratifying schools prior to drawing the sample. For private schools, nonresponse classes were formed by school affiliation, region of the country, and type of location.

Nonresponse adjustments were derived by calculating the ratio of the sum of the weighted enrollment of the eligible sampled schools to the sum of these same quantities for participating schools. This ratio was calculated within each nonresponse adjustment class, and this factor was applied to the weight of all responding schools within that class.

3. School trimming adjustments

Weight trimming is an adjustment procedure that involves detecting and reducing extremely large weights. Unusually large weights are likely to produce large sampling variances on statistics of interest, especially when the large weights are associated with sample cases reflective of rare or atypical characteristics. Unexpectedly large school weights can occur for schools selected from the NAEP new-school sampling frame, and, under certain limited circumstances, for private schools. The final school questionnaire weights reflected the trimming of those extremely large weights at the school level. These weighting adjustments seek to reduce variances of survey estimates. Only one school among the 2021 STQ school samples required its school weight to be trimmed.

### Teacher Questionnaire Weights

The full-sample teacher questionnaire weight was the product of the following five weighting components.

1. Teacher base weights

Teacher base weights reflect the probability of selection of the teacher into the sample. It incorporates the school probability of selection as well as the teacher probability of selection



within a sampled school. Since every mathematics and reading teacher was included in the teacher sample, that is, the within school teacher probability of selection is equal to one, the base weight for every teacher in a school is equal to their school's base weight.

## 2. School nonresponse adjustments

The school nonresponse adjustment for the teacher questionnaire weight was not the same as the school nonresponse adjustment for the school questionnaire weight described in the previous section. Although it is similar in that it used the same characteristics to form school nonresponse cells and the same formula to compute the nonresponse adjustment factor, it used a different definition of school participation. Participating schools for the teacher weighting process are schools that had at least one teacher that completed a teacher questionnaire. Nonparticipating schools are schools where not a single mathematics or reading teacher participated. As shown in the response rate section, more schools participated in the teacher questionnaire study than participated in the school questionnaire study.

## 3. Teacher nonresponse adjustments

The teacher nonresponse adjustment factor was applied to responding teachers, to compensate for those who were sampled but did not participate. Teacher nonresponse classes were exactly the same as the nonresponse classes used for the school nonresponse adjustments. This was mainly because there was very limited teacher-level data available to form nonresponse classes. By using the school nonresponse classes, at the very least, the teachers in the nonresponse cells are from similar schools.

## 4. School trimming adjustments

The school-level weight trimming adjustments used for the teacher weights were the exact same ones used for the school weight. As mentioned, only one school among the 2021 STQ school samples required its school weight to be trimmed.

## 5. Teacher trimming adjustments

Similarly as for school weights, teacher weights were examined to ensure that no single teacher contributed unduly to district-, state-, or national-level estimates. There were no participating teachers that required their weight to be trimmed at the teacher level.

### [Computation of Replicate Weights](#)

In addition to the final full-sample weight, a set of 62 replicate weights was produced for each school and teacher. Replicate weights are used to calculate sampling variances of survey estimates using the jackknife repeated replication method (specifically the paired jackknife). The methods used to derive these weights aim at reflecting the features of the sample design so that when the jackknife variance estimation procedure is implemented, approximately unbiased estimates of sampling variance are obtained.

In addition, the various weighting procedures were repeated on each set of replicate weights to appropriately reflect the impact of the weighting adjustments on the sampling variance of a survey estimate. A finite population correction (fpc) factor was incorporated into the replication scheme so that it could be reflected in the variance estimates for the schools and teachers. The procedures used to produce replicate weights for schools and teachers in 2021 were similar to the procedures used to produce replicate weights for schools and students in the NAEP 2019 and other recent assessments and are based on the same principles that NAEP has used since 1984 for estimating sampling variance.

### Participation Rates

For the participating jurisdictions in the 2021 STQ, response rates were calculated at each of the school and teacher levels. Schools could participate in either the school questionnaire (SQ) study or the teacher questionnaire (TQ) study or both; therefore, school-level response rates were calculated for both the SQ and TQ studies. Nonresponding schools to both the SQ and the TQ study were schools that did not agree to participate in the SQ study. Among the schools that did not participate in the SQ study, schools that provided teacher lists were considered responding schools for the TQ study.

### Response Rate Calculation

School response rates for a particular grade were calculated as the ratio of the sum of school base weights for participating schools multiplied by the school grade enrollment (the numerator) to the sum of school base weights for eligible schools multiplied by the school grade enrollment (the denominator).

$$RR_{SCH} = 100 \times \frac{\sum_{\text{participating schools}} SCH\_BWT0 \times GRDENR}{\sum_{\text{eligible schools}} SCH\_BWT0 \times GRDENR}$$

Teacher response rates for a particular grade were calculated as the ratio of the sum of teacher base weights for participating teachers to the sum of teacher base weights for eligible teachers.

$$RR_{TCH} = 100 \times \frac{\sum_{\text{participating teachers}} TCH\_BWT0}{\sum_{\text{eligible teachers}} TCH\_BWT0}$$

### Participating Jurisdictions

Among the 53 states/jurisdictions (the 50 states, District of Columbia, Puerto Rico, and Department of Defense Educational Activity [DoDEA] schools), 33 participated, and only seven of the 27 TUDA districts participated. The TUDA districts that participated in the study were:

- Albuquerque,
- Austin,
- Baltimore City,
- Charlotte-Mecklenburg,
- Chicago,
- Duval County (FL), and

- Fort Worth.

The 33 states/jurisdictions that participated in the study were:

- |                 |                  |                  |
|-----------------|------------------|------------------|
| • Alabama       | • Iowa           | • Ohio           |
| • Alaska        | • Kansas         | • Pennsylvania   |
| • Arizona       | • Kentucky       | • Puerto Rico    |
| • Arkansas      | • Louisiana      | • Rhode Island   |
| • California    | • Maine          | • South Carolina |
| • Connecticut   | • Maryland       | • South Dakota   |
| • DoDEA Schools | • Mississippi    | • Tennessee      |
| • Georgia       | • Missouri       | • Texas          |
| • Idaho         | • New Jersey     | • Utah           |
| • Illinois      | • North Carolina | • Virginia       |
| • Indiana       | • North Dakota   | • Wyoming        |

NCES statistical standards call for a nonresponse bias analysis to be conducted for a jurisdiction with a response rate below 85 percent at any stage of sampling.

For the school questionnaire (SQ), 12 states/jurisdictions and three TUDA districts at grade 4 failed to meet the 85 percent response rate standard, while 13 states/jurisdictions and six TUDA districts at grade 8 failed to meet the 85 percent response rate standard.

For the teacher questionnaire (TQ) at grade 4, seven states and no TUDA districts failed to meet the 85 percent response rate standard at the school level, while three states and three TUDA districts failed to meet the 85 percent standard at the teacher level. At grade 8, eight states and one TUDA district failed to meet the response rate standard at the school level, and five states and three TUDA districts failed to meet it at the teacher level.

State and district results were reportable for school survey questions when the participation rate for sampled schools was 70 percent or higher. Additionally, state and district results were reportable for teacher survey questions when the percentage of schools that agreed to let their teachers be contacted to complete the questionnaire and the percentage of teachers in the participating schools that responded to the questionnaire were both 70 percent or higher. Based on these criteria, school responses were reportable for 29 states/jurisdictions and six large urban districts at grade 4, and for 27 states/jurisdictions and five large urban districts at grade 8. Teacher responses were reportable for 30 states/jurisdictions and six large urban districts at grade 4, and for 30 states/jurisdictions and five large urban districts at grade 8. School and teacher responses for private schools did not meet the response rate standard, so they are not included in the report.

Tables 3 and 4 show the response rates for the SQ and TQ. It includes the number of schools in the STQ sample, weighted SQ school, TQ school, and TQ teacher response rates at grades 4 and 8 for public

schools by participating jurisdictions and private schools by type of private schools. Response rates that fail to meet the NCES standard of 85 percent are displayed in bold font.

**Table 3.** School sample sizes, weighted school questionnaire (SQ) school response rates, and weighted teacher questionnaire (TQ) school and teacher response rates for public schools in participating jurisdictions, by grade: 2021

Jurisdiction	Grade 4				Grade 8			
	Number of schools in sample	Weighted response rates (%)			Number of schools in sample	Weighted response rates (%)		
		SQ	TQ			SQ	TQ	
		School	School	Teacher		School	School	Teacher
<b>State</b>								
Alabama	40	86.66	100.00	91.23	50	88.71	100.00	<b>78.55</b>
Alaska	70	96.57	100.00	95.42	70	98.82	100.00	90.93
Arizona	50	94.93	97.15	96.67	60	97.53	97.53	97.22
Arkansas	40	97.82	100.00	97.58	50	95.07	100.00	94.19
California	40	<b>64.42</b>	<b>64.42</b>	93.39	40	<b>72.63</b>	<b>77.25</b>	91.10
Connecticut	40	97.76	100.00	96.70	40	92.73	100.00	92.57
Georgia	40	91.21	97.40	98.79	40	90.62	95.43	95.67
Idaho	50	92.65	92.65	100.00	50	92.39	92.39	87.39
Illinois	70	<b>76.22</b>	<b>80.24</b>	93.43	70	<b>74.45</b>	<b>81.28</b>	93.37
Indiana	40	<b>78.16</b>	94.51	<b>77.85</b>	40	<b>79.06</b>	<b>84.97</b>	<b>83.11</b>
Iowa	50	<b>32.80</b>	<b>32.80</b>	100.00	40	<b>31.89</b>	<b>31.89</b>	98.98
Kansas	50	92.88	97.49	90.73	50	<b>81.34</b>	93.68	89.80
Kentucky	40	93.44	100.00	92.87	50	88.97	97.65	86.93
Louisiana	40	<b>72.43</b>	90.53	86.36	50	<b>71.34</b>	87.71	90.52
Maine	60	95.33	100.00	92.77	50	93.61	97.24	92.00
Maryland	70	94.89	100.00	97.87	70	88.24	100.00	93.19
Mississippi	40	95.18	100.00	98.04	40	92.60	97.45	88.22
Missouri	50	100.00	100.00	100.00	50	95.82	97.92	99.29
New Jersey	40	<b>81.86</b>	87.35	94.09	40	89.80	92.15	95.05
North Carolina	70	94.78	97.51	99.05	70	91.17	100.00	93.21
North Dakota	60	90.03	96.83	89.29	50	<b>62.03</b>	<b>77.65</b>	<b>80.13</b>
Ohio	40	89.05	91.95	98.41	40	95.52	97.33	97.13
Pennsylvania	40	<b>79.01</b>	<b>81.78</b>	94.47	40	<b>83.51</b>	85.98	99.17
Rhode Island	40	95.00	100.00	95.78	40	97.23	100.00	92.05
South Carolina	40	<b>67.67</b>	<b>69.12</b>	94.16	40	<b>48.27</b>	<b>60.24</b>	93.67
South Dakota	60	99.47	100.00	98.48	60	100.00	100.00	99.82
Tennessee	40	<b>66.10</b>	<b>79.67</b>	<b>77.61</b>	40	<b>48.67</b>	<b>71.00</b>	<b>65.93</b>
Texas	100	<b>76.80</b>	96.91	<b>84.75</b>	90	<b>67.28</b>	92.26	<b>74.15</b>
Utah	40	100.00	100.00	98.87	40	100.00	100.00	99.33
Virginia	40	<b>75.56</b>	<b>80.49</b>	91.56	40	<b>66.27</b>	<b>72.76</b>	91.66
Wyoming	50	96.84	100.00	95.49	40	90.82	96.25	93.81
<b>Other jurisdiction</b>								
DoDEA	100	98.87	100.00	96.09	70	99.48	100.00	98.36
Puerto Rico	150	<b>84.09</b>	99.34	88.34	150	<b>82.89</b>	96.50	88.31
<b>TUDA district</b>								
Albuquerque	30	93.59	100.00	93.88	30	100.00	100.00	99.08
Austin	30	<b>74.58</b>	92.74	<b>75.53</b>	20	<b>42.05</b>	86.40	<b>69.75</b>
Baltimore City	30	<b>74.31</b>	100.00	85.08	30	<b>82.45</b>	100.00	90.02
Charlotte	30	93.01	96.24	95.75	30	<b>83.09</b>	100.00	<b>83.13</b>
Chicago	30	85.26	92.05	<b>82.52</b>	40	<b>78.60</b>	<b>82.08</b>	93.71

Duval County, FL	30	97.29	100.00	93.95	30	<b>75.14</b>	100.00	95.70
Fort Worth	30	<b>69.00</b>	100.00	<b>26.55</b>	20	<b>53.23</b>	100.00	<b>28.41</b>

NOTE: Counts are rounded to the nearest 10. Percentages are based on unrounded counts. Response rates in **bold** are those that fell below the NCES standard of 85 percent threshold and thus require a nonresponse bias analysis. States and TUDA districts not listed declined to participate.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2021 School and Teacher Questionnaire Study.

**Table 4.** School sample sizes, weighted school questionnaire (SQ) school response rates, and weighted teacher questionnaire (TQ) school and teacher response rates for private schools, by grade and type of private school: 2021

Private schools	Grade 4				Grade 8			
	Number of schools in sample	Weighted response rates (%)			Number of schools in sample	Weighted response rates (%)		
		SQ		TQ		SQ		TQ
		School	School	Teacher		School	School	Teacher
National Private	400	<b>12.73</b>	<b>25.54</b>	<b>49.29</b>	390	<b>14.80</b>	<b>23.67</b>	<b>44.47</b>
Catholic	120	<b>27.63</b>	<b>49.04</b>	<b>59.21</b>	110	<b>25.98</b>	<b>35.03</b>	<b>48.38</b>
Non-Catholic Private	280	<b>2.60</b>	<b>9.56</b>	<b>28.15</b>	280	<b>6.07</b>	<b>14.79</b>	<b>38.69</b>

NOTE: Counts are rounded to the nearest 10. Percentages are based on unrounded counts. Response rates in **bold** are those that fell below the NCES standard of 85 percent threshold and thus require a nonresponse bias analysis.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2021 School and Teacher Questionnaire Study.

### [Nonresponse Bias Analysis Results](#)

As mentioned above, NCES statistical standards call for a nonresponse bias analysis to be conducted on a sample with a response rate below 85 percent at any stage of sampling. For a typical NAEP student assessment, relatively few domains fail to meet this standard. However, for the STQ surveys a large number of domains failed to meet the 85 percent response rate threshold especially at the school level. Thirty-six (36) domains across the two grades had weighted school response rates that fell below 85 percent and hence required a school nonresponse bias analysis. At the teacher-level, 16 domains across the two grades failed to achieve the 85 percent response rate threshold. The procedures and results from these analyses are summarized briefly below.

#### 1. School-level Nonresponse Bias Analyses

The school-level analysis was conducted in two parts for each of the 36 domains that failed to meet the NCES response rate standard. The first part of the analysis looked for potential nonresponse bias that was introduced through school nonresponse. The second part examined the remaining potential for nonresponse bias after accounting for the mitigating effects of nonresponse weight adjustments.

For NAEP samples that involve substitution, the nonresponse bias analysis includes a third part that evaluates the effectiveness of substitution in reducing bias. For 2021, the STQ samples did not involve substitution, so this third part of the analyses was not conducted.

The characteristics examined were Census region, private school reporting group (Catholic/non-Catholic), urban-centric locale, school grade size category, race/ethnicity percentages, and enrollment size. In general, nonresponse adjustments decreased the number of variables with significant differences.

The nonresponse adjustments appear to have been very effective in reducing the nonresponse bias for specific characteristics in some domains, for instance Catholic/Non-Catholic for the private school samples. However, the biases of some other variables were still significant, or newly significant, after the nonresponse adjustments. For instance, at grade 8 for the Virginia public school sample, significant bias for size of school attended by average student, estimated grade enrollment, and percentage Asian still remained after the nonresponse adjustment. The estimated bias for percentage Asian increased (from 0.3 to 2.0), which could be due to the limited ability to adjust all characteristics simultaneously. The results suggest that, even after making nonresponse adjustments, there is possibly significant nonresponse bias in the school results in some domains.

## 2. Teacher-level Nonresponse Bias Analyses

The student-level analysis was conducted in two parts for each of the 16 domains that failed to meet the 85 percent response rate standard. The first part of the analysis examined the potential for nonresponse bias that was introduced through teacher nonresponse. The second part examined the potential for bias after accounting for the effects of nonresponse weighting 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.

The school-level nonresponse comparison characteristics were also used for the teacher level since there were no teacher-level characteristics available, except two teacher-level identifiers: whether teaches math and whether teaches reading.

In summary, most domains (public and private) do not show substantial potential for nonresponse bias. For the few that did, the most likely cause was a low teacher-level response rate. Fort Worth, TX TUDA at grade 8 is a prime example. This domain had six significant differences remaining after the nonresponse adjustment. Its weighted teacher response rate was only 28.4 percent.