

Private School Universe Survey (PSS)

Website: <https://nces.ed.gov/surveys/pss/>

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1. OVERVIEW

In recognition of the importance of private education, the National Center for Education Statistics (NCES) has made the collection of data on private elementary and secondary schools a priority. In 1988, NCES introduced a proposal to develop a private school data collection system that would improve on the irregular collection of private school information dating back to 1890. Since 1989, the U.S. Census Bureau has conducted the biennial Private School Universe Survey (PSS) for NCES. The PSS collects information comparable to that collected on public schools in the Common Core of Data (CCD) (see CCD chapter). PSS data are complemented by the more in-depth information collected in the private school sample surveys that were part of the Schools and Staffing Survey (SASS) (see SASS chapter). The last SASS data collection took place during the 2011–12 school year and was replaced with the National Teacher and Principal Survey (NTPS) in 2015–16. The NTPS did not include private schools as of the 2015–16 data collection, but private schools were included in the 2017–18 NTPS. The most recent PSS data collection took place during the 2017–18 school year, and the next PSS data collection will take place during the 2019–20 school year.

Purpose

To (1) generate biennial data on the total number of private schools, teachers, and students; and (2) build an accurate and complete universe of private schools to serve as a sampling frame for NCES sample surveys.

Components

The PSS consists of a single survey that is completed by administrative personnel in private schools. An early estimates survey designed to allow early reporting of key statistics was discontinued after the 1992–93 school year.

Private School Universe Survey. This survey collects data on private elementary, secondary, and combined schools, including enrollment by grade, race/ethnicity and sex, number of high school graduates from the previous year, number of teachers, program emphasis, school religious orientation or affiliation, association membership, existence and type of kindergarten program, number of days in the school year and length of the school day, and whether the school has a library media center.

Periodicity

Biennial. The next PSS will be administered in 2019–20 and every two years thereafter. Earlier surveys were conducted in 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, 2003–04, 2005–06, 2007–08, 2009–10, 2011–12, 2013–14, 2015–16, and 2017–18.

Data Availability

Public-use data for the PSS through the 2015–16 school year are available at <https://nces.ed.gov/surveys/pss/pssdata.asp>. Information on how to obtain restricted-use PSS data can be found at <https://nces.ed.gov/pubsearch/licenses.asp>.

BIENNIAL SURVEY OF THE UNIVERSE OF PRIVATE SCHOOLS

PSS collected:

- Student enrollment
- Student characteristics
- Teaching staff
- High school graduates
- School religious orientation or affiliation
- Existence and type of kindergarten program

2. USES OF DATA

The PSS produces private school data similar to that produced for public schools in the CCD. Profiles of private education providers can be developed from PSS data to address a variety of policy- and research-relevant issues, including the growth of religiously affiliated schools, the number of private high school graduates, the number of days in the school year, and the number of private school students and teachers.

3. KEY CONCEPTS

Some key concepts related to the PSS are described below.

Private school. A school that is not supported primarily by public funds. It must provide classroom instruction for one or more of grades K–12 (or comparable ungraded levels) and have one or more teachers. Organizations or institutions that provide support for home schooling but do not offer classroom instruction for students are not included. Private schools are assigned to one of three major categories and, within each major category, to one of three subcategories:

- *Catholic:* parochial, diocesan, private;
- *Other religious:* affiliated with a conservative Christian school association, affiliated with a national denomination, unaffiliated; and
- *Nonsectarian:* regular program emphasis, special program emphasis, special education.

Schools with kindergarten, but no grade higher than kindergarten, are referred to as kindergarten-terminal (k-terminal) schools; these schools were first included in the 1995–96 PSS. Schools meeting the pre-1995 definition of a private school (i.e., including any of grades 1–12) are referred to as traditional schools.

Elementary school. A school with one or more of grades K–6 and no grade higher than grade 8. For example, schools with grades PK–K, K–6, 1–3, or 6–8 are classified as elementary schools.

Secondary school. A school with one or more of grades 7–12 and no grade lower than grade 7. For example, schools with grades 9–12, 7–8, 10–12, or 7–9 are classified as secondary schools.

Combined school. A school with one or more of grades K–6 and one or more of grades 9–12. For example, schools with grades K–12, 6–12, 6–9, or 1–12 are classified as combined schools. Schools in which all students are ungraded (i.e., not classified by standard grade levels) are also classified as combined schools.

Teacher. Includes any full-time or part-time school staff member who teaches one or more regularly scheduled classes in any of grades K–12 (or comparable ungraded levels). Short-term substitute teachers, student teachers, and teacher aides are not included.

4. SURVEY DESIGN

Target Population

The target population for PSS is all schools in the United States that meet the NCES definition of private schools (i.e., not supported primarily by public funds, providing classroom instruction for one or more of grades kindergarten through 12 or comparable grade levels, and having one or more teachers). The PSS universe consists of a diverse population of schools. It includes both schools with a religious orientation (e.g., Catholic, Lutheran, or Jewish) and nonsectarian schools, with programs ranging from regular to special emphasis and special education.

Sample Design

NCES uses a dual-frame approach for building its private school universe. The primary source of the PSS universe is a *list frame* containing most private schools in the country. The list frame is supplemented by an *area frame*, which contains additional schools identified during a search of randomly selected geographic areas around the country. The two frames are used together to estimate the population of private schools in the United States.

List frame. In an effort to ensure a complete population list of all private elementary and secondary schools in the United States, NCES updates the list frame every two years in preparation for the next PSS administration. The list frame was initially developed for the 1989–90 survey. The list is updated periodically by matching it with lists provided by nationwide private school associations, state departments of education, and other national private school guides and sources.

The basis of the current survey’s list frame is the previous PSS. In order to expand coverage to include private schools founded since the previous survey, NCES requests lists of schools from the 50 states and the District of Columbia in advance of each survey administration. Requests are made to state education departments, as well as to other departments, such as state departments of health or recreation. NCES also collects membership lists from about 30 private school associations and religious denominations. Schools on the state and association lists are compared to the base list, and any school not matching a school on the base list is added to the universe list.

The list-building component is the primary means for improving coverage of private schools. The basis for the 2017–18 PSS list frame was the 25,224 private schools

from the 2015–16 PSS list frame and the certainty portion of the area frame. In order to provide coverage of private schools founded since 2015 and to improve coverage of private schools existing in 2017, NCES received and processed membership lists from 29 private school associations and religious denominations. The departments of education from 50 states and the District of Columbia provided lists of private schools. Additional private schools that contacted NCES to be included in the PSS were added as list frame cases. Schools on private school association membership lists and the state lists were compared to the base list, and any school that did not match a school on the base list was added to the universe list. A total of 40,563 schools were included in the 2017–18 list frame.

Area frame. The list frame is supplemented by an area frame, which contains additional private schools identified during a search of telephone books and other sources in randomly selected geographic areas around the country. The area frame search is conducted by the Census Bureau. Each area’s list is created from a set of predetermined sources within that area and then matched against the updated list frame universe to identify schools missing from the updated list frame.

The United States is divided into 2,062 primary sampling units (PSUs), each consisting of a single county, independent city, or cluster of geographically contiguous areas. The eight PSUs with private school enrollment in the 2010 census populations greater than 1.7 million were selected with certainty for the private school survey. In addition to these certainty PSUs, the area frame consists of a sample of PSUs selected independently from the previous PSS sample. A minimum of two PSUs are allocated to each of the 16 strata, which are defined by (1) four Census regions (Northeast, Midwest, South, or West); (2) metro/nonmetro status (two levels); and (3) whether the PSU’s percentage of private school enrollment exceeds the median percentage of private enrollment of the other PSUs in the census region/metro status strata (two levels). Within a stratum, the sample PSUs are selected with probability proportional to the square root of the Census 2000 PSU private school enrollment.

A total of 124 distinct PSUs (160 counties) were in the 2017–18 PSS area frame sample. Within each of these PSUs, the Census Bureau attempted to find all eligible private schools. A block-by-block listing of all private schools in a sample of PSUs was not attempted. Rather, National Processing Center staff created the frame by using such sources as online yellow pages (yp.com), local Catholic dioceses, local education agencies, and local government offices. The Census Bureau also obtained a list of eligible private schools for area frame sample PSUs from the InfoUSA database (see <http://www.infousa.com/>).

Once the area search lists were constructed, they were matched with the NCES private school universe list. Schools that did match the universe list were deleted from the area frame. A total of 2,821 schools were added to the universe from the area frame in 2017–18.

Due to differences in methodology and definitions, the results of the 1993–94 and subsequent area search frames are not strictly comparable to the results of earlier years. Prior to 1993, an initial eligibility screening was performed by telephone for area frame schools before the questionnaire was mailed out. Ineligible schools were declared out of scope at that time, and eligible schools were either interviewed by telephone or sent a questionnaire. In the 1993–94 PSS, screener questions were added to the survey instrument to determine eligibility. Ineligible schools were not eliminated until the questionnaires were returned.

Data Collection and Processing

The U.S. Census Bureau is the collection agent for PSS. The 2017–18 PSS data were collected between October 2017 and August 2018. The 2017–18 PSS data are for the 2017–18 school year except the high school graduate data, which are for the 2016–17 school year.

Reference dates. The official reference date for reporting PSS information is October 1.

Data collection. The data collection for the 2017–18 PSS coincided with the data collection phase of the private school component of the 2017–18 National Teacher and Principal Survey (NTPS). After the NTPS data collection, PSS records were created for the private schools responding to NTPS from the NTPS data and were merged into the PSS. For the non-NTPS cases the List Frame followed two data collection tracks: non-Amish and non-Mennonite schools that were offered an internet response option and schools that do not use internet or telephones (primarily Amish and Mennonite schools) that never receive any reference to an internet response option. The 2017–18 PSS data collection began on October 2, 2017, with the internet instrument deployment, and the mailout of a letter to non-Amish and non-Mennonite schools describing how to respond to the 2017–18 PSS online with a User ID and password. For Amish and Mennonite schools, this first mailing included information about the PSS and their first paper questionnaire with a return envelope, there was no internet insert letter.

On October 16th, the second mail out occurred. Here, non-Amish and non-Mennonite schools received a paper questionnaire and Amish and Mennonite schools received their second paper questionnaire. Reminder postcards were mailed out to nonresponding Amish and Mennonite schools on October 30, 2017, and to nonresponding non-Amish and non-Mennonite schools on November 13, 2017.

Because Amish and Mennonite schools do not often possess telephones, a field nonresponse follow-up effort targeting these schools ran from January 8 to February 23, 2018. Follow-up of nonresponding non-Amish and non-Mennonite schools was conducted first by computer-assisted telephone interviewing (CATI) February 5 to March 16, 2018. Both nonresponding list frame and nonresponding area frame cases were included in this CATI operation. Finally, from April 9 through May 23, 2018, a field nonresponse follow-up operation was conducted for cases that did not respond during the CATI operation, targeting all list frame and area frame nonresponse cases. The online option was kept open throughout data collection. Data collection for the 2017–18 PSS ended on August 17, 2018.

Editing. The 2015–16 PSS data were captured using a combination of manual data keying and imaging technology, using the Integrated Computer Assisted Data Entry (iCADE) system. The questionnaires were disassembled and each duplex page was scanned. Clerical staff reviewed and resolved data issues due to system errors such as the inability to read a barcode, inability to recognize a page corner point, or checkbox ambiguities (e.g., marks outside checkbox, scratch outs, random marks on a page). Each imaged response was presented to a keying operator and all fields except the checkboxes were keyed from image (KFI). The checkboxes were captured using Optical Mark Recognition (OMR). All non-blank data fields were 100 percent KFI verified.

For data collected during the telephone follow-up phase, preliminary quality assurance and editing checks take place at the time of the interview. The data collection instrument is designed to alert interviewers to inconsistencies reported by the respondent so that any necessary corrections can be made at this time. Data from the CATI facilities are transmitted to Census headquarters for further processing where they undergo extensive editing, including:

- Pre-edits by Census Bureau staff to correct unacceptable entries using information reported in other questionnaire items or information from other sources;
- Consistency edits to compare data in different fields for consistency;
- Blanking edits to verify that skip patterns on the questionnaire were followed; and
- Logic edits used to fill the items with missing values using previous collection data and to correct some inconsistencies between students by race and total enrollment using the ratio adjustment.

Estimation Methods

Weighting adjusts the number of schools in the area frame sample up to fully represent the number of schools missing from the list frame, and adjusts the survey data from both the area and list components for school nonresponse. Imputation is used to compensate for item nonresponse.

Weighting. PSS data from the area frame component are weighted to reflect the sampling rates (probability of selection) in the PSUs. Survey data from both the list- and area-frame components are adjusted for school nonresponse. This represents a departure from procedures used in the 1989–90 survey, which adjusted for total nonresponse (i.e., school nonresponse) and for partial nonresponse associated with four specific PSS data elements. Since 1991, only one weight has been required, due to a complex imputation process used to compensate for item nonresponse. When estimates are produced for schools and other data elements, the same PSS school weight should be used. A brief description of the components comprising the PSS weight follows:

W_i , the PSS weight for all data items for the i^{th} school, is

$$W_i = BW_i \times NR_c$$

where BW_i is the **base weight**, or the inverse of the selection probability for school i ($BW_i = 1$ for all list frame schools; BW_i = the inverse of the PSU probability of selection for area frame schools), and

NR_c is the **nonresponse adjustment factor**, or weighted ratio of the sum of the in-scope schools to the sum of the in-scope responding schools in cell c , using BW_i as the weight.

The cells used to compute the nonresponse adjustment are defined differently for list-frame and area-frame schools. In the 2015–16 PSS, for schools in the list frame, the cells were defined by affiliation, locale type, grade level, Census region, and enrollment. The nonresponse adjustment cells for area-frame schools were defined by three-level typology (Catholic, Other religious, Nonsectarian), and grade level.

If the number of schools in a cell was fewer than 15 or the nonresponse adjustment factor was greater than 1.5, then that cell was collapsed into a similar cell. The cells for traditional schools from the list frame were collapsed within enrollment category, locale type, grade level, and Census region. Cells for k-terminal schools from the list frame were collapsed within enrollment category, locale type, Census region (if applicable), and affiliation. Cells for traditional schools from the area frame were collapsed within grade level and then within three-level typology. Cells for k-terminal schools from the area frame were collapsed within three-level typology.

Imputation. Since the 1991–92 PSS, imputation has been used to compensate for item nonresponse in records classified as interviews (i.e., required items are completed). All items that are missing data after the editing process are imputed. The first survey, the 1989–90 PSS, used weighting adjustments for both interviews and noninterviews.

After the edit and final interview status processing are complete, if there are missing values within some records classified as interviews, values are first imputed to the missing data using donor imputation. In donor imputation, values are created by extracting data from the record for a sample case with similar characteristics, using a hot-deck imputation methodology.

After donor imputation, for records that still have missing values for some items, entries are clerically imputed during analyst imputation. Staff reviews the data record, sample file record, and the questionnaire and identify a value consistent with the information from those sources. This procedure is used when: (1) no suitable donor is found, (2) the computer method produces an imputed entry that is unacceptable, and (3) the nature of the item requires an actual review of the data rather than a computer-generated value.

Recent Changes

Several changes to the questionnaire have been introduced in the previous PSS cycles. In the 1993–94 PSS, three major revisions were made. First, a new design was implemented to facilitate respondent reporting by clearly indicating skip patterns through the use of arrows as well as words and by minimizing the number of questions asked on each page. Second, content on kindergarten programs was expanded to collect the type of kindergarten program in addition to the kindergarten student and teacher counts requested in earlier surveys. Third, data on the racial/ethnic makeup of the school's student body were collected for the first time.

Modifications made to the 1995–96 PSS included adding nursery and prekindergarten, transitional kindergarten, and transitional first-grade enrollment counts to the enrollment item. Questions on the length of the school day and number of days per week for kindergarten, transitional kindergarten, and transitional first grade were also added. "Early childhood program/day care center" was added as a category for type of school. The 1993–94 PSS questionnaire items concerning types of prekindergarten programs and the number of prekindergarten teachers were deleted.

In the 1997–98 PSS, the following items were added to the survey instrument: (1) whether or not the school is coeducational (if yes, the number of male students; if no, whether the school is all female or all male); and (2)

whether or not the school has a library or library media center.

There were few changes in the 1999–2000 PSS. One religious affiliation—Church of God in Christ—was added, and several associations were added: Association of Christian Teachers and Schools, National Coalition of Girls' Schools, and state or regional independent school associations. The item that previously collected data on the number of graduates that applied to 2-year or 4-year colleges was changed to collect data on the percentage of graduates who went on to attend three types of schools: 2-year colleges, 4-year colleges, and technical or other specialized schools. There also was a minor change in the definition of community type. Beginning with the 1999–2000 PSS, schools that were "rural within a Metropolitan Statistical Area" were included in the "Rural/small town" community type, while prior to the 1999–2000 PSS they were included in the "Urban fringe/large town" community type.

The 2001–02 PSS questionnaire content was relatively unchanged from the 1999–2000. One question was added to item 2 (the screener item)—"Is the school named on the front of this questionnaire located in the United States?" This question was added to facilitate the exclusion of schools from the PSS that were located outside of the United States, but had been added during the list building or area search because the school had an office with an address in the United States.

Additionally, in order to test the feasibility and benefits of collecting PSS data over the Internet, the 2001–02 PSS included an Internet response option test. The final response rate for Internet submissions was 15.4 percent for schools that received the option (5.1 percent of all schools).

Changes made to the 2003–04 PSS were minor and involved frame creation methodology, data collection procedures, and weighting procedures. For example, whereas in the 2001–02 PSS, the base weight for area frame schools was equal to the inverse of the probability of selecting the PSU in which the school resided, in the 2003–04 PSS, the base weight for area frame schools also contained a nonunitary subsampling factor for schools named solely in non-Roman Catholic religious institution lists.

Caution, however, should be used in comparing 2003–04 PSS community type estimates to those of previous years. Although the definition of community type remained unchanged, the 2003–04 PSS community types are based on the Consolidated Statistical Area/Core-Based Statistical Area rather than on the Standard Metropolitan Statistical Area/Metropolitan Statistical Area, which was used prior to the 2003–04 PSS. Also, community type is based on

2000 census data; prior to the 2003–04 PSS, community type was based on 1990 census information.

There were few changes in the 2005–06 PSS. One religious affiliation—Church of the Nazarene—was added. Also, the 2005–06 PSS used the new 12-level urban-centric locale codes, rather than the 8-level locale codes based on the Core-Based Statistical Area.

There was one change in the 2007–08 PSS. In 2005–06, non-Roman Catholic religious institutions were contacted during the area-frame operation while in 2007–08 they were not.

There were some changes to the 2009–10 PSS from the 2007–08 PSS. In 2007–08, because PSS coincided with the data collection phase of the private school component of the 2007–08 SASS, the private schools selected for SASS were excluded from the PSS, and the schools selected for SASS received a SASS private school questionnaire only, while the remaining private schools were sent a PSS questionnaire. The PSS questionnaire used the same wording as the SASS questionnaire, but contained only a subset of the SASS questionnaire items. After data collection, the data for the SASS cases were merged into the PSS universe. In 2009–10, PSS data collection did not coincide with the SASS, and questionnaire was sent to all private schools. Additionally, in 2007–08, telephone follow-up was conducted from one Census Bureau CATI facility, while in 2009–10, telephone follow-up was conducted from two Census Bureau CATI facilities. The 2007–08 PSS did not offer the online version of the questionnaire, but for the 2009–10 PSS, respondents were given the option during the mailout period and telephone follow-up of completing the questionnaire online instead of completing the paper questionnaire.

There was also one change in PSS frame creation methodology between 2007–08 and 2009–10. In 2007–08, half of the noncertainty PSUs in the area frame were selected independently from the 2005–06 area frame PSUs and half overlapped with the 2005–06 area frame. This overlapping was not done for 2009–10 since it was determined the overlapping did not serve to reduce the variance of change estimates appreciably. Therefore, in the 2009–10 survey, all 116 noncertainty PSUs were sampled independently from the 2007–08 survey PSUs.

While the 2009–10 questionnaire content was relatively unchanged from that of 2007–08, there were some changes to race categories and four associations were deleted from the private school association list. There were no changes to the questionnaires in 2011–12, 2013–14, and 2015–16.

Changes made to the 2015–16 PSS involved frame creation methodology and data collection procedures. Before the 2015–16 data collection, the Area Search Frame

(ASF) creation was performed by the field staff. Field offices would research the PSU's that fell in their regions. In the 2015–16 PSS, this effort was centralized at the National Processing Center (NPC) as a clerical operation. All activities were the same except for the fact that physical yellow page phone books were replaced with online yellow page resources, primarily yp.com. Changes in 2015–16 also included conducting a branding experiment and including endorsements from religious or educational affiliations in the letters mailed to schools.

Future Plans

The PSS will continue as a biennial survey.

5. DATA QUALITY AND COMPARABILITY

Sampling Error

Only the area frame contributes to the standard error in the PSS. The list frame component of the standard error is always 0. Estimates of standard errors are computed using half-sample replication.

Because the area frame sample of PSUs is small (124 out of a total of 2,062 eligible PSUs), there is a potential for unstable estimates of standard errors. This is particularly true when the domain of interest is small and there may not be enough information to compute a standard error. Stabilizing the standard error estimate given the level of detail of the PSS estimates would require a much larger PSU sample. The current area frame is designed to produce regional estimates.

Nonsampling Error

Coverage error. Undercoverage in the list and area frames is one possible source of nonsampling error. Because the PSS uses a dual-frame approach, it is possible to estimate the coverage or completeness of the PSS. A capture-recapture methodology is used to estimate the number of private schools in the United States and to estimate the coverage of private schools. In the 2003–04 PSS, the conservative coverage rate for traditional private schools was 96 percent; for k-terminal private schools, it was 85 percent. In the 2005–06 PSS, the overall coverage rate was 98 percent. In the 2007–08 PSS, the conservative coverage rate for traditional private schools was 96 percent; for k-terminal private schools, it was 93 percent. In the 2009–10 PSS, the conservative coverage rate for traditional private schools was 95.8 percent; for k-terminal private schools, it was 85.5 percent. In the 2011–12 PSS, the conservative coverage rate for traditional private schools was 98.8 percent; for k-terminal private schools, it was 98.2 percent. In the 2013–14 PSS, the conservative coverage rate for traditional private schools was 96.3 percent; for k-terminal private schools, it was 89.5 percent. In the 2015–16 PSS, the conservative coverage rate for traditional private

schools was 89.1 percent; for k-terminal private schools, it was 76.5 percent.

A study comparing the quality of PSS frame coverage to that of the commercial Quality Education Data database of schools is discussed in Lee, Burke, and Rust (2000).

Nonresponse error. There are two types of nonresponse error: unit nonresponse and item nonresponse.

Unit nonresponse. In the 2017–18, 2015–16, 2013–14, 2011–12, 2009–10, 2007–08, and 2005–06 PSS, the survey data from the area frame component were weighted to reflect the sampling rates (probability of selection) of the PSUs. Survey data from both the list and area frame components were adjusted for school nonresponse. For 2017–18 there were 22,895 completed interviews and 5,217 noninterviews. After weighting the area frame component, there were 24,873 interviews and 7,588 noninterviews, resulting in a response rate of 76.6 percent. For 2015–16 there were 22,428 completed interviews and 7,207 noninterviews. After weighting the area frame component, there were 23,938 interviews, resulting in a response rate of 69.2 percent. For 2013–14 there were 24,566 completed interviews and 5,073 noninterviews. After weighting the area frame component, there were 27,110 interviews, resulting in a response rate of 80.6 percent. In 2011–12 there were 26,983 completed interviews and 2,312 noninterviews. After weighting the area frame component, there were 28,345 interviews, resulting in a response rate of 91.8 percent. In the 2009–10 PSS, there were 28,217 interviews and 1,856 noninterviews. After weighting the area frame component, there were 31,221 interviews and 2,148 noninterviews, resulting in a response rate of 93.6 percent. In the 2007–08 PSS, there were 28,450 interviews and 2,527 cases that were noninterviews. After weighting the area frame component, these became 30,748 interviews and 2,992 noninterviews—the weighted response rate was 91 percent. In the 2005–06 PSS, there were 29,784 interviews and 1,867 cases that were noninterviews. After weighting the area frame component, these became 32,865 interviews and 2,159 noninterviews—the weighted response rate was 94 percent. In the 2003–04 PSS, of the 41,184 schools included (both traditional and k-terminal), some 9,336 cases were considered out-of-scope (that is, not eligible for the PSS). A total of 30,071 private schools completed a PSS interview, while 1,777 schools refused to participate, resulting in an overall unweighted response rate of 94 percent. When the area-frame schools were weighted by the inverse of the probability of selection, the weighted response rate was 94 percent as well. In the 2001–02 PSS, the weighted response rate for traditional schools was 95 percent (96 percent unweighted); for k-terminal schools, the response rates were 97 and 96 percent, respectively. In 1999–2000, both the weighted and unweighted response

rates were 93 percent for traditional schools; they were 99 and 98 percent, respectively, for k-terminal schools.

Item nonresponse. Weighted item-level response rates in the 2015–16 PSS were generally high, ranging from 89 to 100 percent. Because the weighted item response rates were all greater than 85 percent, no item-level bias analyses were performed. Weighted item-level response rates in the 2011–12 PSS were generally high, ranging from 96 to 100 percent. Because the weighted item response rates were all greater than 95 percent, no item-level bias analyses were performed. In the 2009–10 PSS, all of the weighted response rates were greater than 85 percent. In the 2007–08 PSS, all of the weighted response rates were greater than 85 percent. The weighted item response rates for all but one variable—the percentage of graduates who went to 2-year colleges—were greater than 85 percent in 2005–06. In the 2003–04 PSS, all of the weighted response rates were greater than 85 percent. In the 2001–02 PSS, for traditional schools, all but three items had weighted response rates greater than 90 percent. The three lower rates (ranging from 77.5 percent to 86.3 percent) pertained to the percentage of graduates who went to 4-year colleges, 2-year colleges, and technical or other specialized schools. Values for items with missing data are imputed to compensate for item nonresponse.

Measurement error. NCES seeks to minimize measurement error by developing survey content in consultation with representatives of private school associations, reviewing the questionnaire and instructions extensively before distribution, requiring that the data that are not scanned are 100 percent key-verified, and processing the survey data through a comprehensive series of edits to verify accuracy and consistency.

Intersurvey Consistency in NCES Private School Surveys

The PSS and the private school component of Schools and Staffing Survey (SASS) were fielded in the same school year for the first time in 1993–94. Even though these two surveys measured some of the same variables (schools, teachers, and students), the 1993–94 results were not in agreement due to sampling and other errors. PSS results are likely to be the more accurate since the PSS served as the sampling frame for the SASS private school component (a sample of around 3,000 schools). Special methodological studies of these two surveys have been done, including comparisons among statistical and computational procedures aimed at achieving consistency between the estimates of private schools, private school teachers, and private school students in the 1993–94 PSS and in the 1993–94 SASS—see Scheuren and Li (1995, 1996). The last SASS data collection took place during the 2011–12 school year and has been replaced with the National Teacher and Principal Survey (NTPS). The 2015–

16 NTPS sample did not include private schools. Private schools were included in the 2017–18 NTPS.

Data Comparability

While changes to survey design and content generally result in improved data quality, they also impact the comparability of data over time. Recent changes to the PSS and to the comparability of PSS data (both within the PSS itself and with other data sources) are discussed below.

Design change. Changes in the survey design of the 1995–96 PSS resulted in an increased number of private schools in the survey population. First, seven new association lists were obtained, adding 512 new schools to the list frame. In previous years, the area frame was relied upon to include these schools. Second, the area search results were not strictly comparable to those in previous years due to procedural differences. The 1995–96 PSS was the first survey to verify the control of schools marked as public in the screener item. Final determination of school control was based on a review of the school’s name and other identifying information. As a result, several schools that had been marked as public (but which were obviously private) were added back into the PSS. They were counted as interviews if the required data were provided or as noninterviews if the required data were missing. Third, the eligibility criteria for the PSS were changed to no longer require schools to have 160 days in the school year or to conduct classes for at least 4 hours per day. Fourth, the PSS definition of a school was expanded to include programs where kindergarten is the highest grade (k-terminal schools). Additional lists of programs that might have a kindergarten were requested from nontraditional sources, and the area search was expanded to search for programs with a kindergarten. Some schools meeting the traditional PSS definition of a school (any of grades 1–12 or comparable ungraded levels) were discovered in these lists. When added to the PSS, these schools also increased the estimates of traditional schools.

Note that even when the population of schools is about the same from one survey to the next, it may represent a different set of schools. For example, the number of schools was around 27,000 in both 1997–98 and 1999–2000, although about 1,700 schools were added to the PSS universe in 1999–2000. This suggests that a nearly equal number of schools dropped out of the universe between 1997–98 and 1999–2000. Comparisons of the 1999–2000 PSS private school estimates with those from the 2001–02 PSS, however, show an overall increase in the number of private schools between 1999–2000 and 2001–02 (to about 29,000).

Questionnaire changes. Several modifications have been made to the format and content of the PSS questionnaire

since 1991–92. A number of items were added (including race/ethnicity of students), and some items were deleted or modified.

Comparisons within the PSS. The estimated number of schools in 2015–16 was not statistically different from that of 2013–14. The estimated number of private school students and full-time equivalent (FTE) teachers increased between 2013–14 and 2015–16. The estimated number of schools and students in 2013–14 was not statistically different from that of 2011–12. The estimated number of private FTE teachers increased between 2011–12 and 2013–14. The estimated number of schools in 2011–12 was not statistically different from that of 2009–10. The estimated number of students and FTE teachers decreased between 2009–10 and 2011–12. The estimated number of schools in 2009–10 was not statistically different from that of 2007–08. The estimated number of private school students and FTE teachers decreased between 2007–08 and 2009–10 (by 372,332 students and 18,852 teachers). The estimated number of schools decreased between 2005–06 and 2007–08 (by 1,314 schools). The estimated number of private school students and FTE teachers in 2007–08 were not statistically different from those of 2005–06. The estimated number of private schools and students decreased between the 2001–02 and 2003–04 PSS data collections (by 889 schools and 218,741 students). The estimated number of FTE teachers in 2003–04 was not statistically different from that in 2001–02. Comparisons of the 2001–02 PSS estimates with those from previous PSS data collections show increases in the number of private schools, students, and teachers between 1999–2000 and 2001–02. Comparisons of the 1999–2000 PSS estimates with those from previous surveys show no significant change in the estimated number of private schools; however, they do indicate an increase in the estimated number of private school teachers and students.

Comparisons with the Current Population Survey. A comparison of the PSS estimate of K–12 students enrolled in all private schools (traditional and k-terminal) with the household survey estimate from the 2015 October Supplement of the Current Population Survey (CPS) (U.S. Census Bureau 2016) shows that the PSS estimate of 4,903,596 does significantly differ from the CPS estimate of the number of private school students in grades K–12 in October 2015 of 4,700,000. For 2013, a comparison showed that the PSS estimate of 4,576,410 does significantly differ from the CPS estimate of the number of private school students in grades K–12 in October 2013 of 4,500,000. For 2011–12, the comparison showed that the PSS estimate of 4,494,845 differs significantly from the CPS estimate of 4,400,000. For 2009–10, the comparison showed that the PSS estimate of 4,700,119 does significantly differ from the CPS estimate of 4,500,000 private school students in grades K–12 in October 2009. In

2007–08, the CPS estimate showed that the PSS estimate of 5,072,451 did significantly differ from the CPS estimate of the number of private school students in grades kindergarten through 12 in October 2007 of 4,817,000. A comparison of the 2003–04 PSS estimate of K–12 students enrolled in all private schools (traditional and k-terminal) with the household survey estimate from the 2003 October Supplement to the CPS showed that the PSS estimate of 5,212,992 students was not statistically different from the CPS estimate of 5,259,000 students. A comparison of the 2001–02 PSS estimate of K–12 students enrolled in all private schools (traditional and k-terminal) with the household survey estimate from the October 2001 CPS shows that the PSS estimate of 5,439,925 is higher than the CPS estimate of 5,164,000; the 95 percent confidence interval of the PSS estimate ranges from 5,383,898 to 5,495,952 students, while that of the CPS estimate ranges from 4,956,000 to 5,372,000 students. In the 1995–96 school year, the PSS and CPS estimates did not differ significantly; in 1997–98, the PSS estimate was higher than the CPS estimate; and, in 1999–2000, the PSS estimate was lower than the CPS estimate. Comparisons between CPS and PSS enrollment estimates for earlier years are not as informative since, prior to 1995–96, the PSS estimates did not include the kindergarten enrollment from k-terminal schools, whereas the CPS has always included it.

Comparisons with National Catholic Educational Association data. Comparisons of the PSS estimates for Catholic schools, students, and full-time equivalent (FTE) teachers (traditional schools) with NCEA 2016 data for the 2015–16 school year show differences in the FTE teacher counts (151,101 versus 143,186) between the two data sources. Comparisons of the PSS estimates for Catholic schools, students, and full-time equivalent (FTE) teachers (traditional schools) with NCEA 2014 data for the 2013–14 school year show differences in the FTE teacher counts (154,316 versus 138,992) between the two data sources.

For the 2011–12 school year, comparisons of the PSS estimate for Catholic schools, students, and full-time equivalent (FTE) teachers with the National Catholic Educational Association (NCEA) 2011 data for the 2011–12 school year show differences in the FTE teacher counts (138,071 versus 151,395) between PSS and NCEA, respectively. The survey methodologies used by NCES and NCEA are different; while NCES surveys private schools directly, NCEA surveys archdiocesan and diocesan offices of education and some state Catholic conferences. The NCEA and PSS computations of FTEs differ in the weight assigned to part-time teachers, thus the FTE teacher counts are not strictly comparable between PSS and NCEA. For the 2009–10 school year, comparisons of the PSS estimates for Catholic schools, students, and FTE teachers with the NCEA 2010 data show differences in the

student (1,969,079 versus 2,009,641) and FTE teacher counts (154,316 versus 142,620). For the 2007–08 school year, comparisons of the PSS estimates for Catholic schools, students, and FTE teachers with the NCEA 2008 data show differences in the school (7,507 versus 7,378), student (2,156,173 versus 2,270,913) and FTE teacher counts (146,627 versus 160,075) between PSS and NCEA, respectively. Comparisons of the PSS estimates for Catholic schools, students, and FTE teachers with the NCEA data for the 2003–04 school year show differences in the number of students (2,365,220 vs. 2,484,252) and FTE teachers (152,611 vs. 162,337) between PSS and NCEA, respectively. The difference between the PSS estimate of 7,919 Catholic schools and the NCEA count of 7,955 schools is not statistically significant.

For the 2001–02 school year, comparisons of the PSS estimate for Catholic schools with the NCEA data show differences in the school and student counts. The NCEA count of 8,000 schools is below the lower limit of the 95 percent confidence interval of the PSS estimate of Catholic schools (which ranges from 8,112 to 8,302). The NCEA K–12 student count of 2,553,277 is higher than the upper limit of the 95 percent confidence interval of the PSS estimate of Catholic students (which ranges from 2,492,773 to 2,538,274). Both the NCEA teacher count of 163,004 and the PSS estimate of 155,514 include part- and full-time teachers in the computation of full-time equivalents (the 95 percent confidence interval of the PSS estimate ranges from 153,902 to 157,126).

NCES publication criteria for the PSS. NCES criteria for the publication of an estimate are dependent on the type of survey—sample or universe. The PSS includes both types of surveys: (1) a sample survey of PSUs (area frame) that collects data on schools not in the list frame (the number of PSUs changes for each administration); and (2) a complete census of schools belonging to the list frame. NCES has established a rule that published PSS estimates must be based on at least 15 schools. If the estimate satisfies this criterion and the coefficient of variation (the standard error divided by the estimate) is between 30 and 50 percent, the estimate is identified as having a large coefficient of variation and the reader is referred to a table of standard errors. If the coefficient of variation is greater than 50 percent, the estimate is suppressed.

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7. METHODOLOGY AND EVALUATION REPORTS

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