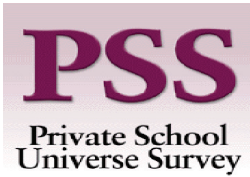




U.S. Department of Education
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2003–2004 Private School Universe Survey (PSS) Data File User's Manual and Survey Documentation



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I. Overview

The Private School Universe Survey (PSS) is conducted by the National Center for Education Statistics (NCES) on behalf of the United States Department of Education in order to collect basic information on American private elementary and secondary schools. PSS grew out of a proposal, in 1988, to develop a private school data collection that would improve on the irregular collection of private school data dating back to 1890 and improve on commercially available private school sampling frames. PSS was first collected by the U.S. Census Bureau in the 1989–90 school year, with data collections every 2 years since.

Target Population

The target population for PSS is all schools in the United States that are not supported primarily by public funds, provide instruction for one or more of grades kindergarten through 12 (or comparable ungraded levels), and have one or more teachers. Organizations or institutions that provide support for homeschooling but do not provide classroom instruction are not included.

Purpose and Content of the Survey

PSS is currently designed to generate biennial data on the total number of private schools, teachers, and students, and to build a universe of private schools to serve as a sampling frame for the NCES sample surveys. Key terms for PSS are defined in appendix A.

The 2003–2004 PSS consisted of a single school questionnaire designed to be filled out by school administrators. Data collected included enrollment by grade, enrollment by race/ethnicity and sex, number of high school graduates, 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 had a library media center. A copy of the 2003–2004 PSS questionnaire is contained in appendix B. The 2003–2004 PSS questionnaire content is relatively unchanged from that of 2001–2002. The percentage of students that went on to attend technical or other specialized schools was dropped from item 9. One association, Islamic School League of America (ISLA), was added to the list of private school associations in item 15.

Content of the Manual

The Manual contains nine more chapters, covering frame creation, data collection procedures, response rates, data processing, imputation procedures, weighting and variance estimation, the quality of PSS data, information on data files, and user notes and cautions.

Information in the chapters is supported by material in the appendices. Appendix A contains the key terms for the 2003–2004 PSS, appendix B contains a copy of the 2003–2004 PSS questionnaire, appendix C lists the private school lists that were received and processed, appendix D lists the 2003–2004 area frame counties, appendix E contains selected unit and item response rates, appendix F contains the counts of pre-edit rejections of PSS data, appendix G contains the counts of changes made during editing and imputation, appendix H contains the variable categories used in developing adjustment factor cells for weighting, appendix I contains the 2003–2004 PSS public-use codebook, and appendix J contains the variable list for the 2003–2004 PSS address file.

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II. Frame Creation

Since PSS attempts to include every private school in the United States, a universe list of private schools meeting the PSS definition (i.e., not supported primarily by public funds, providing instruction for one or more of grades kindergarten through 12—or comparable ungraded levels, and having one or more teachers) must be created. Since 1983, NCES has used a dual frame approach for building the private school universe (Beller 1984). The dual frame consists of a list frame and an area frame. The combination of the list frame schools and additional schools identified in the area search comprised schools included in the 2003–2004 PSS.

List Frame

The list-building component was the primary means for improving coverage of private schools. The basis for the 2003–2004 PSS list frame was the 31,748 private schools from the 2001–2002 PSS list frame (table 1). Additionally, 3,181 programs identified in the 2001–2002 PSS as prekindergarten-only were included in case any of these programs included at least a kindergarten in the 2003–2004 school year. In order to provide coverage of private schools founded since 2001 and to improve coverage of private schools existing in 2001, the Census Bureau requested membership lists from 26 private school associations and religious denominations; all 26 lists were received and processed. (See table C-1 in appendix C.) The departments of education from each of the 50 states and the District of Columbia were asked to provide lists of private schools, and all 51 lists were received and processed. Additional private schools that submitted requests to NCES to be included in PSS were added to the list frame.

Table 1. Number and percentage of PSS cases, by source: 2003–04

Source	Number	Percent
Total	41,184	100.0
List frame	39,391	95.6
2001–2002 PSS	34,929	84.8
Base list	31,748	77.1
Prekindergarten only cases	3,181	7.7
2003 lists	4,462	10.8
Traditional lists ¹	3,270	7.9
Early-childhood lists	1,192	2.9
Area frame	1,793	4.4

¹ Traditional lists are those received from state departments of education or private school associations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Beginning in 1995, the PSS private school definition was expanded to include schools for which kindergarten is the highest grade. In 2003, a separate list-building operation (early childhood operation) was conducted to identify schools for which kindergarten was the highest grade (kindergarten terminal or k-terminal schools). Requests for lists of programs that might include a kindergarten were made to sources other than state departments of education in all 50 states and the District of Columbia, including state departments of health or recreation, state child care licensing agencies, and child care referral

agencies. Although early childhood lists were requested for all states and the District of Columbia, 15 states and the District of Columbia were selected in advance for follow-up in the event that they did not respond to the initial request for lists. If the remaining 35 states did not respond to the initial early childhood list request, no additional effort was made to obtain the lists. In 2003, 26 lists were received and 17 lists were processed. (See table C-2 in appendix C.)

Schools on private school association membership lists, the state lists, and the early childhood lists were compared to the base list, and any school that did not match a school on the base list was added to the NCES private school universe list. The total number of private schools added by the 2003–2004 list frame operation was 4,462; including 3,270 from the traditional operation and 1,192 from the early childhood operation (table 1).

Area Frame

To identify private schools that may have been overlooked in the list-building component, a group of geographic areas were selected to be searched for private schools. The United States is divided by the Census Bureau into 2,062 primary sampling units (PSUs), each PSU consisting of a single county, independent city, or group of contiguous counties. The area frame consists of a sample of these 2,062 PSUs. The 2003–2004 PSS area frame was designed to produce an approximately 50 percent overlap with the 2001–2002 PSS area frame to maintain the reliability of estimates of change at a reasonable level.

Certainty PSUs

Ten PSUs were included in the 2003–2004 PSS area frame with certainty. Eight of these PSUs were originally designated as “certainty PSUs” for the 1983 National Private School Survey based on their large population size (these being the eight PSUs whose populations exceeded 1.7 million in the 1980 Census of Population) and have been included in every PSS area sample with certainty since the 1989–90 PSS.¹ The other two of these PSUs (Miami-Dade County, Florida, and Philadelphia County, Pennsylvania) were included with certainty for the first time in the 2003–2004 PSS area frame.

The inclusion of ten certainty PSUs in the 2003–2004 PSS area frame resulted from a revision in the set of eight certainty PSUs. Prior to the selection of the 2003–2004 PSS area frame sample, an evaluation of the set of eight certainty PSUs was conducted. Using PSU private school enrollment counts from the 2000 decennial census, the eight PSUs with the highest private school enrollment were selected to be the new “certainty PSUs.” This revised set of certainty PSUs contains two new certainty PSUs (Miami-Dade County, Florida, and Philadelphia County, Pennsylvania) that were not members of the eight original certainty PSUs and drops two of the original eight certainty PSUs (San Diego County, California, and Wayne County, Michigan) as certainty PSUs. In order to maintain the reliability of estimates of change during the transition from the original (2001–2002 PSS) set of eight certainty PSUs to the revised set of eight certainty PSUs, all of the original eight and the two new PSUs were included with certainty for 2003–2004.

Noncertainty PSUs

All 58 noncertainty PSUs that had been selected for the 2001–2002 PSS area frame as nonoverlap sample PSUs were selected again for the 2003–2004 PSS.

¹ The PSUs designated as “certainty PSUs” for the 1983 National Private School Survey include the counties of Los Angeles, Orange, and San Diego, California; Harris County, Texas; Cook County, Illinois; Wayne County, Michigan; and Queens and Kings Counties, New York.

An additional 56 PSUs were selected independently² of the overlap sample from the 2,052 noncertainty PSUs. The strata for selecting the nonoverlap PSUs were defined the same way as in the 2001–2002 PSS area frame design. Initially, 16 strata were created: region (Northeast, Midwest, South, West), metro/nonmetro status, and high/low percent private enrollment within metro/nonmetro status (i.e., above or below the median private school enrollment within each metro/nonmetro status). The high/low cutoffs were then adjusted so as to more nearly equalize the expected variance between the two strata. The purpose of this was to try to lower the overall standard errors resulting from the sample of PSUs.

Sample sizes were determined for each metropolitan statistical area status within each region, proportional to the measure of size.³ Some adjustments were made so that each sample size was an even number and that sample size was evenly distributed between the high and low groups. This was done in order to have an even number of cases in each stratum (with a minimum of two) for pairing purposes for calculating the PSS variances.

Total Area-frame Sample

A total of 124 distinct PSUs (161 counties) were in the area sample. The 2003–2004 PSS area frame counties are listed in table D-1 of appendix D. 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, regional office field staff created the frame by using such sources as yellow pages, local Catholic dioceses, non-Catholic religious institutions, local education agencies, and local government offices.

Once the area search lists were constructed, they were matched with the list frame. Schools that did not match the list frame were considered part of the area frame. The number of schools added to the universe by the 2003–2004 area-frame operation was 1,793 (table 1).

Changes in Frame Creation Methodology From 2001–2002 to 2003–2004

There was one change in the 2003–2004 PSS frame creation methodology. For the 2001–2002 PSS area frame, eight PSUs were selected with certainty. These eight PSUs were originally designated as “certainty PSUs” for the 1983 National Private School Survey based on their large population size; these were the eight PSUs whose populations exceeded 1.7 million in the 1980 Census of Population. Prior to the selection of the 2003–2004 area frame, an evaluation of the set of eight certainty PSUs was conducted using PSU private school enrollment counts from the 2000 decennial census. The eight PSUs with the highest private school enrollment were selected to be the new “certainty PSUs.” This revised set of certainty PSUs contains two new certainty PSUs (Miami-Dade County, Florida, and Philadelphia County, Pennsylvania) that were not members of the eight original certainty PSUs. Two of the original eight certainty PSUs (San Diego County, California, and Wayne County, Michigan) were dropped as certainty PSUs. In order to maintain the reliability of estimates of change during the transition from the original (2001–2002 PSS) set of eight certainty PSUs to the revised set of eight certainty PSUs, all of the original eight and the two new PSUs were included with certainty for 2003–2004.

² The nonoverlap PSUs are selected independently of the overlap sample to avoid the complicated calculation of conditional probabilities of selection that a dependent selection would entail. If an overlap sample PSU is selected for the nonoverlap sample, that PSU would be considered as part of the overlap sample and the number of PSUs in the nonoverlap sample would be reduced by one.

³ The PSS sample PSUs were selected systematically with probabilities proportional to the square root of the Census 2000 PSU population.

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III. Data Collection

Time Frame of the Survey

The 2003–2004 PSS data were collected during the 2003–04 school year. Table 2 shows the specific data collection activities and the time frame when each occurred.

Table 2. PSS data collection time schedule: 2003–04

Activity	Month of activity
Initial mailing	Nov. 2003
Initial mailing of reminder postcards	Nov. 2003
Second mailing of PSS questionnaires	Dec.–Jan. 2004
Second mailing of PSS reminder postcards	Jan. 2004
Field follow-up for cases with no phone numbers	Feb.–Mar. 2004
Telephone follow-up for PSS nonresponse cases	Feb.–Mar. 2004
Mailing of PSS questionnaires to Schools and Staffing Survey (SASS) Private School Questionnaire (SASS-3B) nonrespondents	Mar. 2004
Field follow-up for mail and telephone nonresponse cases	Mar.–May 2004

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Data Collection Procedures

The 2003–2004 PSS utilized a mailout/mailback collection methodology. Follow-up of nonresponding cases was conducted first by computer-assisted telephone interviewing (CATI), and then by Census Bureau field representatives.

Data collection for the 2003–2004 PSS coincided with the data collection phase of the private school component of the 2003–04 Schools and Staffing Survey (SASS). In order to reduce respondent burden during data collection, the 3,443 list-frame private schools selected for SASS were initially excluded from PSS. Schools selected for SASS initially received a SASS private school questionnaire (SASS-3B) only. The remaining 35,948 list-frame schools were sent a PSS questionnaire. The PSS questionnaire items were imbedded in the longer SASS questionnaire. After data collection, the data for the SASS cases were merged into the PSS universe.

Questionnaire Mailings and Reminder Postcards

The Census Bureau began mailing PSS questionnaires to a total of 35,944⁴ private schools on November 7, 2003. Beginning on December 29, 2003, and finishing on January 5, 2004, a second PSS questionnaire was sent to schools not responding to the first. A reminder postcard was sent 1 week after each mailout.

The 2003–04 SASS used a field data collection methodology, with Census Bureau field representatives leaving a blank questionnaire at the school and returning at a later date to collect the completed questionnaires. SASS school questionnaires began to be distributed to 3,622 private schools⁵ by Census

⁴ Four list-frame cases were not included in the initial PSS mailing but were subsequently mailed a PSS questionnaire.

⁵ The SASS sample included 179 additional SASS area frame cases (2001–2002 PSS area frame cases) that were excluded from PSS.

Bureau field representatives on September 29, 2003. The combined PSS/SASS return rate for the end of the first PSS mailout period (December 30, 2003) was 47 percent while the return rate at the end of the second PSS mailout period (February 3, 2004) was 59 percent.⁶

Nonresponse Follow-up

Telephone Follow-up

Telephone interviewing for PSS schools that had not responded to the mail questionnaire but for which phone numbers were available began on February 3, 2004. An additional 1,793 schools from the area frame operation were also added to the workload at this time. Telephone interviewing took place at the Census Bureau’s computer-assisted telephone interview (CATI) facilities located in Jeffersonville, Indiana; Tucson, Arizona; and Hagerstown, Maryland. CATI follow-up for PSS cases with phone numbers continued through March 15, 2004. Of the 16,004 telephone follow-up cases, 52 percent were completed CATI interviews, 17 percent were out-of-scope (i.e., were not eligible schools), 21 percent were noninterviews (i.e., cases that refused to participate or did not respond), and 9 percent were late mail returns⁷ (table 3).

Table 3. Number and percentage of PSS cases in telephone follow-up, by response status and telephone center: 2003–04

Telephone center	Total workload	Completed interview		Out-of-scope		Noninterview		Late mail return	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	16,004	8,364	52.3	2,764	17.3	3,379	21.1	1,497	9.4
Hagerstown, Maryland	5,336	2,559	48.0	878	16.5	1,373	25.7	526	9.9
Jeffersonville, Indiana	5,334	3,048	57.1	1,069	20.0	781	14.6	436	8.2
Tucson, Arizona	5,334	2,757	51.7	817	15.3	1,225	23.0	535	10.0

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Field Follow-up

On February 5, 2004, the Census Bureau’s 12 Regional Offices began follow-up on 850 PSS cases that did not have a telephone number listed. Field follow-up of PSS cases without phone numbers continued through March 31, 2004. Of the 850 nonresponse cases with no phone numbers, approximately 73 percent were completed interviews, 20 percent were out-of-scope, and 3 percent were noninterviews; the remaining 4 percent were late mail returns (table 4).

⁶ The return rates cited in the data collection portion of the documentation are unweighted return rates calculated by dividing the total number of returns (interviews, refusals, and out-of-scopes) less undeliverable as addressed/blank questionnaires by the total number of schools in the private school universe.

⁷ Late mail returns were questionnaires returned after the closeout of the second mailout period.

Table 4. Number and percentage of PSS cases in field follow-up, by response status: 2003–04

Activity	Field workload	Completed interview		Out-of-scope		Noninterview		Late mail return	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total field	1,844	1,114	60.4	584	31.7	90	4.9	56	3.0
Schools with no phone number	850	622	73.2	171	20.1	22	2.6	35	4.1
Mail and computer-assisted telephone interviewing (CATI) nonresponse	994	492	49.5	413	41.5	68	6.8	21	2.1

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Following CATI closeout in mid-March, additional follow-up of 994 mail and telephone nonresponse cases⁸ was conducted by Census Bureau field representatives. Field follow-up continued through June 2, 2004. Of the 994 mail and telephone nonresponse cases sent to field follow-up, approximately 49 percent were completed interviews, 42 percent were out-of-scope, 7 percent were noninterviews, and the remaining 2 percent were late mail returns (table 4).

PSS Follow-up of SASS Sample Cases

On March 18, 2004, 74 SASS private school nonresponse cases were mailed a PSS questionnaire and on April 1, 2004, 638 SASS private school refusals were also mailed a PSS questionnaire. Of these 712 SASS noninterviews, 166 returned a completed PSS questionnaire.

Status at the End of Data Collection

By the end of data collection, Census Bureau staff were able to reconcile the status (interview, noninterview, or out-of-scope case) for virtually 100 percent of PSS cases. At the end of data collection, 76 percent (31,086) of the 41,184 cases were interviews, 20 percent (8,281) were out-of-scope, and 4 percent (1,817) were noninterviews (table 5). The 1,817 noninterviews were comprised of 1,625 refusals and 192 nonrespondents. Of the 31,086 completed interviews, 64 percent were completed during the mailout period, 27 percent were completed during telephone follow-up, 4 percent were completed during field follow-up, and 5 percent were late mail returns (table 6).

⁸ Of the 3,379 cases that were noninterviews at the end of telephone follow-up, 1,049 were ineligible for field follow-up because they were refusals. An additional 1,341 of the noninterview cases that were out-of-scope in the 2001–2002 PSS were declared out-of-scope for the 2003–2004 PSS. Five cases that were not included in telephone follow-up were added to the field follow-up.

Table 5. Number and percentage of PSS cases, by interview status at end of data collection: 2003–04

Interview status	Number	Percent
Total	41,184	100.0
Completed interview	31,086	75.5
Out-of-scope	8,281	20.1
Noninterview	1,817	4.4
Refusal	1,625	3.9
Nonrespondent	192	0.5

NOTE: After the end of data collection, another 1,055 cases (1,015 interviews and 40 noninterviews) were determined to be out-of-scope. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Table 6. Number and percentage of completed PSS interviews at end of data collection, by mode of data collection: 2003–04

Mode of data collection	Number	Percent
Total	31,086	100.0
First mailout	17,083	55.0
Second mailout	2,927	9.4
Late mail returns	1,598	5.1
Computer-assisted telephone interviewing (CATI)	8,364	26.9
Field staff	1,114	3.6

NOTE: After the end of data collection, another 1,015 interviews were determined to be out-of-scope. The late mail returns included 166 SASS nonresponding cases that returned a completed PSS questionnaire. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Changes in Data Collection Procedures From 2001–2002 to 2003–2004

Below is a summary of the changes to the 2003–2004 PSS data collection procedures.

- Data for SASS were not collected in 2001–02, while data collection for the 2003–2004 PSS coincided with the data collection phase of the private school component of the 2003–04 SASS. In order to reduce respondent burden during data collection, the 3,443 list-frame private schools selected for SASS were initially excluded from PSS. Schools selected for SASS initially received a SASS private school questionnaire only. After the closeout of the SASS data collection, 712 nonresponding SASS private schools were mailed PSS questionnaires, giving them one opportunity to respond to PSS. The PSS questionnaire items were imbedded in the longer SASS questionnaire. After data collection, the data for the SASS cases were merged into the PSS universe.
- Data collection on the 2003–2004 PSS began later than for the 2001–2002 PSS. The 2003–2004 PSS questionnaires were mailed out on November 7, 2003, compared to October 9, 2001, for the 2001–2002 PSS. The delay was not by design, but was needed to allow time for OMB clearance.

- In 2001–02, telephone follow-up was conducted from two Census Bureau CATI facilities (Jeffersonville, Indiana, and Tucson, Arizona). In 2003–04, telephone follow-up was conducted from three Census Bureau CATI facilities (Tucson, Arizona; Jeffersonville, Indiana; and Hagerstown, Maryland).
- For the 2001–2002 PSS, nonresponse follow-up of cases without phone numbers was conducted by Census Bureau field representatives after the closeout of telephone follow-up. For the 2003–2004 PSS, follow-up for cases without phone numbers by a Census Bureau field representative began earlier; follow-up for cases without phone numbers began at the same time as telephone follow-up began for cases with phone numbers.

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IV. Response Rates

Survey Response Rates

The weighted survey response rates by frame for the 2003–2004 PSS are presented in table 7. The weighted survey response rates by frame for traditional and kindergarten-terminal schools are presented in tables 8 and 9, respectively. The weighted response rates were calculated by dividing the number of interview cases weighted by the base weight by the total number of eligible cases weighted by the base weight. The base weight for each sample case is the inverse of the probability of selection.

Overall there were 32,641 interviews and 2,075 noninterviews, resulting in a response rate of 94.0 percent (table 7). The response rate for list-frame schools was 94.6 percent, while that for area-frame schools was 88.9 percent. The response rate for traditional schools was 93.7 percent—94.5 percent for list-frame schools and 85.3 percent for area-frame schools (table 8). The response rate for kindergarten-terminal schools was 95.5 percent—95.2 percent for list-frame schools and 96.8 percent for area-frame schools (table 9). Because the response rates for traditional and kindergarten-terminal schools by frame were all greater than 85 percent, no bias analysis was performed. See appendix tables E-1 and E-2 for the number of interviews and noninterviews, and weighted response rates by NCES typology and by the religious and nonsectarian orientation of the school.

Table 7. Weighted and unweighted number of PSS interviews and noninterviews, and weighted response rates, by frame: 2003–04

Frame type	Interviews		Noninterviews		Weighted response rate (percent)
	Unweighted	Weighted	Unweighted	Weighted	
Total	30,071	32,641	1,777	2,075	94.0
List frame	29,516	29,516	1,686	1,686	94.6
Area frame	555	3,125	91	389	88.9

NOTE: Weighted using the inverse of the probability of selection. After the end of data collection, another 1,055 cases (1,015 interviews and 40 noninterviews) were determined to be out-of-scope, lowering the number of completed interviews from 31,086 to 30,071, and the number of noninterviews from 1,817 to 1,777. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), "Documentation Data File," 2003–2004.

Table 8. Weighted and unweighted number of PSS interviews and noninterviews, and weighted response rates for traditional private schools, by frame: 2003–04

Frame type	Interviews		Noninterviews		Weighted response rate (percent)
	Unweighted	Weighted	Unweighted	Weighted	
Total	24,979	26,710	1,523	1,795	93.7
List frame	24,654	24,654	1,442	1,442	94.5
Area frame	325	2,056	81	353	85.3

NOTE: Weighted using the inverse of the probability of selection. Traditional schools are those for which the highest grade is 1 through 12 or ungraded. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), "Documentation Data File," 2003–2004.

Table 9. Weighted and unweighted number of PSS interviews and noninterviews, and weighted response rates for kindergarten-terminal private schools, by frame: 2003–04

Frame type	Interviews		Noninterviews		Weighted response rate (percent)
	Unweighted	Weighted	Unweighted	Weighted	
Total	5,092	5,931	254	280	95.5
List frame	4,862	4,862	244	244	95.2
Area frame ¹	230	1,069	10	36	96.8

¹ Caution should be used when looking at area frame kindergarten-terminal nonresponse because all cases that lacked sufficient information to determine k-terminal or traditional status were classified as traditional school cases.

NOTE: Weighted using the inverse of the probability of selection. Kindergarten-terminal schools are those in which the highest grade is kindergarten. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), “Documentation Data File,” 2003–2004.

Item Response Rates

The unweighted and weighted item response rates are presented in tables 10 (traditional schools) and 11 (kindergarten-terminal schools). The unweighted item response rates are the number of sample cases responding to an item divided by the number of sample cases eligible to answer the item, excluding the survey nonrespondents. The weighted item response rates are the number of sample cases weighted by the final weight divided by the number of sample cases eligible to answer the item, excluding the survey nonrespondents, weighted by the final weight.

For traditional schools, one item had a weighted response weight of less than 85 percent. The item response rate for item 9d (the percentage of graduates that went to 2-year colleges) was 83.6 percent. For kindergarten-terminal schools, four items had a weighted item response rate of less than 85 percent. The weighted item response rates for items 7d (number of Asian or Pacific Islander students), 7e (number of American Indian or Alaska Native students), 8b (number of male students), and 16 (days in the school year) were 84.8, 82.6, 77.9, and 81.2 percent, respectively. See appendix tables E-3 through E-7 for a breakdown of weighted item response rates for the five items that had rates below 85 percent by NCES typology, school level, size, and community type. See chapter VI for a description of the imputation procedures used to compensate for item nonresponse.

Table 10. PSS item response rates for traditional private schools: 2003–04

Item number	Unweighted response rate	Final weighted response rate	Item number	Unweighted response rate	Final weighted response rate
5a	96.4	96.7	9a	99.9	99.9
5b	97.3	96.9	9b	96.3	96.3
5c	97.2	96.4	9c	97.0	97.1
5d	96.2	96.1	9d - 4yr	85.7	86.1
5e	96.9	96.9	9d - 2yr	83.0	83.6
5f	96.7	95.8	10a	98.9	98.9
5g	96.5	95.7	10b	97.6	97.6
5h	96.4	95.7	11a	98.8	98.8
5i	96.4	95.6	11b	97.8	97.8
5j	96.4	95.6	11c	97.8	97.8
5k	96.2	95.3	11d	97.7	97.6
5l	96.1	95.1	11e	97.5	97.5
5m	96.0	95.0	11f	98.3	98.4
5n	94.1	92.6	12a	98.6	98.6
5o	94.0	92.5	12b	98.5	98.6
5p	93.9	92.3	13	99.6	99.6
5q	94.0	92.2	14a	99.8	99.8
6	98.6	98.7	14b	96.9	97.0
7a	90.3	89.4	14c	99.7	99.7
7b	90.2	89.3	14d	96.2	96.3
7c	90.1	89.2	15	95.4	95.3
7d	89.6	88.8	16	94.5	94.2
7e	86.4	85.7	17	97.8	97.7
8a	99.3	99.4	18	99.2	99.2
8b	89.7	89.7			

NOTE: Traditional schools are those for which the highest grade is 1 through 12 or ungraded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), "Documentation Data File," 2003–2004.

Table 11. PSS item response rates for kindergarten-terminal private schools: 2003–04

Item number	Unweighted response rate	Final weighted response rate	Item number	Unweighted response rate	Final weighted response rate
5a	†	†	9a	100.0	100.0
5b	98.1	98.0	9b	100.0	100.0
5c	98.6	98.5	9c	100.0	100.0
5d	98.0	97.6	9d - 4yr	100.0	100.0
5e	96.5	96.8	9d - 2yr	100.0	100.0
5f	†	†	10a	98.7	98.8
5g	†	†	10b	98.3	97.8
5h	†	†	11a	97.1	97.4
5i	†	†	11b	95.0	95.7
5j	†	†	11c	95.0	95.7
5k	†	†	11d	94.7	95.5
5l	†	†	11e	94.9	95.6
5m	†	†	11f	95.1	95.8
5n	†	†	12a	99.5	99.4
5o	†	†	12b	98.1	98.3
5p	†	†	13	99.3	99.3
5q	†	†	14a	99.5	99.6
6	99.0	99.2	14b	97.1	97.6
7a	85.0	85.4	14c	99.3	99.4
7b	85.1	85.4	14d	94.9	95.1
7c	84.4	85.2	15	94.6	94.4
7d	83.9	84.8	16	82.1	81.2
7e	81.6	82.6	17	86.3	86.1
8a	97.9	98.2	18	98.6	98.7
8b	78.2	77.9			

† Not applicable.

NOTE: Kindergarten-terminal are schools in which the highest grade is kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), “Documentation Data File,” 2003–2004.

V. Data Processing

Questionnaire Check-in

Paper questionnaires returned by individual respondents and those completed by field representatives during field follow-up were sent to the Census Bureau's National Processing Center (NPC) in Jeffersonville, Indiana. Upon receipt, codes were assigned to each questionnaire to indicate its status (e.g., complete interview, refusal, school closed). Then the questionnaires were grouped into batches for data capture.

Data Capture

The 2003–2004 PSS used imaging technology to capture the data. The questionnaires were disassembled and each page was scanned. Each imaged response was presented to a keying operator and all fields except the checkboxes were keyed from image. The checkboxes were captured using Optical Mark Recognition software. All non-blank data fields were 100 percent verified. After all the batches had been processed, the output file was sent to the Census Bureau's Demographic Surveys Division (DSD) for review. Any problems with the data were reported to NPC for correction and resubmission of the output file to DSD.

Reformatting

Merging Data Files

After the PSS questionnaire data were captured, the output files from the different sources (imaged/keyed, CATI, and SASS private school questionnaire) were reformatted into SAS data sets and then merged into one file. Some variables on the CATI and SASS private school questionnaire files had to be recoded to be consistent with those from the PSS paper questionnaire output file.

Name and Address Updates

Corrections to the name, address, and telephone numbers supplied by the respondents were applied to the PSS file during the reformatting phase. These corrections were keyed, either by NPC or during the CATI interviews. Name, address, or telephone number corrections were made only to records where the respondent indicated that a change was necessary. To minimize the introduction of address errors to the PSS file, the address corrections were checked with Postalsoft software, a commercial software package that corrects and standardizes addresses.

Preliminary Interview Status

The next step in processing was to make a preliminary determination of each case's interview status recode (ISR); that is, whether it was an interview, a noninterview, or out-of-scope. In general, those cases with "out-of-scope" check-in codes (assigned by clerks to the paper questionnaires when they were received by the Census Bureau) or "out-of-scope" final outcome codes (assigned by CATI interviewers) were classified as out-of-scope (ISR = 3) for the preliminary ISR. Otherwise, cases with data entries were classified as interviews (ISR = 1) and those with no data were classified as noninterviews (ISR = 2).

Computer Pre-Edit

After the preliminary ISR classification, interview records (ISR = 1) on the data file were processed through a computer pre-edit designed to identify inconsistencies and invalid entries. This pre-edit program generated lists of cases where there were potential data problems. Census Bureau staff reviewed the computer record of cases that met each pre-edit rejection condition. Whenever possible, unacceptable entries were corrected by using information reported in other questionnaire items or information from other sources. Wrong entries that could not be corrected were blanked in the data record. The procedures described above are referred to as “pre-edits” because they took place before the regular PSS editing and imputation. (See table F-1 in appendix F for the number of records rejected by pre-edit rejection reason.)

Computer Edit

After pre-edit corrections were made, the file was submitted to a computer edit. This edit consisted of a range check, a consistency edit, and a blanking edit. The range check deleted entries that were outside the range of acceptable values. The consistency edit identified inconsistent entries within each record. The fields compared could be within items (e.g., if the response in item 8a, whether any students were enrolled in 12th grade last year, was “No,” but the second part of the question reported 12th graders enrolled the previous year) or between items (e.g., if kindergarten was reported in item 5c and item 10a reported the school did not offer kindergarten). Entries were corrected for those inconsistencies that could be resolved; for those that could not be resolved, the entries were deleted. The blanking edit deleted inappropriate entries and assigned the “not answered” (.N) code to items that should have been answered but were not. Only records classified as interviews in the preliminary ISR were edited.

Final Interview Status

After the range check, consistency edit, and blanking edit were complete, the records were put through an edit to make a final determination of whether the case was in-scope and, if so, whether sufficient data had been collected for the case to be classified as an interview. A final ISR value was assigned to each case as a result of the edit.

A case was classified as out-of-scope (ISR = 3) if

- the school was prekindergarten only (item 5); or
- any of the five screening questions was marked “No” (item 3); or
- the school was located in a private home that was used primarily as a family residence (item 13) and had less than six students (item 6); or
- the school was located in a private home that was used primarily as a family residence (item 13) and had all ungraded students (item 5).

A case was classified as an interview (ISR = 1) if

- none of the conditions for out-of-scope case was met; and
- there were valid entries for either total number of students enrolled (item 6) or total number of teachers (item 11); and
- there were valid entries in at least two of the following items:
 - Whether school had any students enrolled in 12th grade in the last school year (item 9a)
 - Type of school (item 12a)
 - Whether school had religious orientation or purpose (item 14a)

Number of days in the school year (item 16)

A case was classified as a noninterview (ISR = 2) if the conditions for out-of-scope case or interview case were not met.

The preliminary ISR and final ISR counts and the percent of change between the preliminary and final ISR counts are presented in table 12.

Table 12. Number of PSS cases, by preliminary and final interview status and the percentage change between preliminary and final interview status: 2003–04

Interview status	Preliminary ISR	Final ISR	Percent change
Total	41,363 ¹	41,363 ^{1,2}	†
Interview	31,402	30,460	-3.1
Noninterview	1,561	1,917	18.6
Out-of-scope	8,400	8,986	6.5

† Not applicable.

¹ Includes 179 SASS private school questionnaire area-frame cases that were not included in the 2003–2004 PSS.

² Some interviews were subsequently reclassified as out-of-scope due to the post-final ISR discovery of duplicate cases.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–04.

Imputation

After the final ISR edit, there were variables with missing values on the file. Values were created for these variables during imputation, which will be described in chapter VI.

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VI. Imputation Procedures

After the edit and final ISR processing were complete, there were missing values within some records classified as interviews (ISR = 1). These were cases where the respondent had not answered some applicable questionnaire items (and data for these items were not added in the consistency edit) or the response had been deleted during editing. Values were imputed to the missing data in three stages, which are described below.

First-Stage Imputation

In the first stage of imputation, the following sources were used to create entries for items with missing data:

- Other items on the 2003–2004 PSS questionnaire.** Based on entries from related items on the school record, assumptions were made about how the respondent should have answered items 5c–e (number of kindergarten, transitional kindergarten, transitional 1st grade students) and 10a (length of school day for kindergarten, transitional kindergarten, transitional 1st grade) with missing values. The source item used for items 5c–d was item 10a. The source items used for imputing item 10a were items 5c–d and 17. For example, if the respondent did not answer item 10a (length of school day for kindergarten, transitional kindergarten, transitional 1st grade) and item 5 indicated that the school did not have students enrolled in any of those grades, then zero (school does not offer kindergarten) was imputed to item 10a.
- Data from the 2001–2002 PSS.** Data from the 2001–2002 PSS were used to fill the items with missing values whenever possible. For example, if the type of school was not reported in item 12a and it had been reported on the 2001–2002 PSS, the 2001–2002 response was copied to the 2003–2004 record.

In addition to filling items where values were missing, some inconsistencies between students by race and total enrollment items were corrected by ratio adjustment during the first stage of imputation. For records where the number of students in item 7 (students by race) did not equal the enrollment in item 6, excluding prekindergarten, the item 7 entries were adjusted to be consistent with item 6; that is, each entry in item 7 was multiplied by the ratio of the student count in item 7 to the enrollment in item 6, excluding prekindergarten.

Second-Stage Imputation

In the second stage of imputation, values were created by extracting data from the record for a sample case with similar characteristics, using a procedure known as the “sequential nearest neighbor hot deck” (Kalton and Kasprzyk 1982, 1986; Kalton 1983; Little and Rubin 1987; Madow, Olkin, and Rubin 1983). In order to match records with missing data values (donors), “imputation” variables were selected at the end of stage 1 imputation. These variables identified certain characteristics that were deemed to be relevant to the data in each item (e.g., religious affiliation, size, instructional level). Items were grouped according to the relevance of the imputation variables to the data collected by the item. For example, instructional level (LEVEL) was used for matching incomplete records and donors to fill item 16 (length of school year) but was not used for item 7 (students by race). See tables G-1 and G-2 in appendix G for a list of the second-stage matching variables and the collapsing order.

Items 13 (located in a private home that is used primarily as a family residence), 14a and 14c (religious orientation or purpose, and religious orientation or affiliation), and 15 (association membership) did not

go through the donor imputation program. If, after the first stage, item 13 or 15 was still incomplete, the assumption was made for item 13 that the school was not located in a private home and for item 15 that the school did not belong to any associations. If values were still missing for items 14a and 14c after the first-stage imputation, the records were reviewed and imputed clerically.

Clerical Imputation

After the second stage of imputation was completed, there were records that still had missing values for some items. These were cases where (1) the stage 2 imputation failed to create a value because there was no suitable record to use as a donor, or (2) the value imputed in stage 2 was deleted in the postimputation edits because it was outside the acceptable range for the item or was inconsistent with other data on the same record, or (3) the religious orientation or purpose, or the religious orientation or affiliation, was not reported (items 14a and 14c) and there was no previous PSS information available.

For these cases, values were clerically imputed to the items with missing data. That is, staff reviewed the data record, sample file record, and the questionnaire and identified a value consistent with the information from these sources for imputation.

Changes to PSS Variables

The changes made during imputation are summarized in table 13 below. The number of changes made to the PSS variables during editing and imputation are listed in table G-3 in appendix G.

Table 13. Summary of changes made to PSS questionnaire variables during imputation, by type of change: 2003–04

Type of change	Number of variables where changes were made	Range of numbers of records affected	Percent of number of records affected
Ratio adjustment	5	2,602–11,536	8.29–36.74
Imputed from same record or previous PSS record	109	20–3,413	0.06–10.87
Imputed from a donor record	62	3–952	0.01–3.03
Imputed clerically	49	1–169	<0.01–0.54

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

VII. Weighting and Variance Estimation

This chapter describes the weighting procedure used for the 2003–2004 PSS. The final weights are needed to have the estimates reflect the population of private schools when analyzing the data. In addition, the method of estimating sampling errors for weighted estimates in PSS using the replicate weights is discussed. Weighting is presented first, followed by the variance estimation.

Weighting

The 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. The final weight for PSS data items is the product of the **Base Weight** and the **Nonresponse Adjustment Factor**, where:

Base Weight is the inverse of the probability of selection of the school. The base weight is equal to one for all list-frame schools. For area-frame schools, the base weight is equal to the inverse of the probability of selecting the PSU in which the school resides and a subsampling factor. The subsampling factor is equal to the inverse of the probability of a school being named by a subsampled non-Catholic religious institution for those schools that were named solely on non-Roman Catholic religious institution lists and equal to one for all other area-frame schools.⁹

Nonresponse Adjustment Factor is an adjustment that accounts for school nonresponse. It is the weighted (base weight) ratio of the total eligible in-scope schools (interviewed schools plus noninterviewed schools) to the total responding in-scope schools (interviewed schools) within cells. Noninterviewed and out-of-scope cases are assigned a nonresponse adjustment factor of zero.

The cells used to compute the nonresponse adjustment were defined differently for list-frame and area-frame schools. For schools in the list frame, the cells were defined by affiliation (17 categories), community type (3 categories), grade level (5 categories), region (varying number of categories), and enrollment (varying number of categories). (See appendix H.) The nonresponse adjustment cells for area frame schools were defined by certainty/noncertainty PSU status (2 categories), three-level typology (3 categories), and grade level (4 categories). (See appendix H.)

If the number of schools in a cell was less than 15 or the nonresponse adjustment factor was greater than 1.5, then that cell was collapsed into a similar cell. The variables used to collapse the cells and the collapse order varied according to whether the school was from the list or area frame and whether a school was a traditional or k-terminal school. The cells for traditional schools from the list frame were collapsed within enrollment category, community type, grade level, and census region. Cells for k-terminal schools from the list frame were collapsed within enrollment category, community type, 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.

⁹ See the “Area Frame” section of chapter II.

Variance Estimation

This section describes the variance estimation used for the 2003–2004 PSS, how the replicates were assigned, and how to use the replicate weights to compute variances.

Producing Replicate Weights

In surveys with complex sample designs, direct estimates of sampling errors that assume a simple random sample will typically underestimate the variability in the estimates. The PSS sample design and estimation included procedures that deviate from the assumption of simple random sampling, primarily resulting from the stratified cluster sampling occurring in the area frame.

The preferred method of calculating sampling errors to reflect these aspects of the complex sample design of PSS is using replication. Replication methods involve constructing a number of subsamples, or replicates, from the full sample and computing the statistic of interest for each replicate. The mean square error of the replicate estimates around the full sample estimate provides an estimate of the variance of the statistic. The replicate weights are used to compute the variance of a statistic, Y , as given below:

$$\text{Variance } (Y) = \left(\frac{1}{n}\right) \sum_r (Y_r - Y)^2$$

where: Y_r = the estimate of Y using the r^{th} set of replicate weights
 n = the number of replicates

PSS uses a procedure known as balanced repeated replication (BRR) for the calculation of sampling variance. BRR assumes sampling is done with replacement, and hence, BRR does not reflect the increase in precision due to sampling a large proportion of a finite population.

To execute the BRR procedure, half-samples are defined by pairing sample PSUs within each sampling stratum, forming variance strata. The final product is 88 replicate weights. After the variance strata were assigned, an orthogonal matrix (matrix H where: $HH^T = nI_n$ where I_n is the identity matrix of order n) was used to form the 88 balanced half-sample replicates.

Applying Replicate Weights

Each PSS data file includes a set of 88 replicate weights designed to produce variance estimates. Replicate weights were created for each of the 88 samples using the same estimation procedures used for the full sample and are included in the data file. The replicate weights for PSS are REPW1–REPW88.

The computation of sampling errors using these replicate weights can be done easily using one of the following software: WesVar Complex Sample Software, SUDAAN (Research Triangle Institute 2001), or AM Statistical Software.

- **WesVar.** The user needs to create a new WesVar data file by specifying the full sample weight variable and the replicate weight variables as defined above, and the replication method, BRR. The replicate weights and the full sample weight can be highlighted and dragged to their appropriate place on the “New WesVar Data File” window. For more information, visit www.westat.com/wesvar/.

- **SUDAAN.** The user needs to specify the sample design as a “Balanced Repeated replication” design as well as specifying the replicate weight variables. Specifying the sample design (DESIGN = BRR) is done in the procedure call statement (i.e., PROC DESCRIPT DESIGN = BRR;). The specification of the replicate weights is done with the REPWGT statement (i.e., to produce the sampling errors for estimates use the statement: REPWGT REPW1-REPW88;). For more information, visit www.rti.org/sudaan/.
- **AM.** The user needs to set the replicate weights along with the replication method using the right-click context menu in the variable list window. Once the “Set Replicate Weights” window is displayed, the replicate weights as identified above can be highlighted and dragged into the window. At the bottom of the window are four options for replication method; BRR should be selected. For more information, visit <http://am.air.org>.

Changes in Weighting Procedures From 2001–02 to 2003–04

Below is a summary of the changes to the 2003–2004 PSS weighting procedures.

- The 2001–2002 PSS base weight for area-frame schools is equal to the inverse of the probability of selecting the PSU in which the school resided. For the 2003–2004 PSS, the base weight for area-frame schools also contained a nonunitary subsampling factor for schools named solely on non-Roman Catholic religious institution lists.
- The cells used to compute the nonresponse adjustment for list-frame schools were defined differently for the 2003–2004 PSS than for the 2001–2002 PSS. The affiliation variable was redefined and different enrollment categories were used for 2003–2004. See table B-5 of Broughman and Pugh (2004) for the 2001–2002 PSS nonresponse adjustment cell definitions.

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VIII. Quality of PSS Data

This chapter describes the steps taken to review the quality of the PSS data and some indicators of the quality of the PSS data, such as the area-frame contribution, coverage estimates, and comparisons with other data sources.

Reviewing the Quality of PSS Data

NCES program staff members have the responsibility of ensuring that the PSS data file is acceptable for public release. Before files are released to the public, staff members review the data for errors associated with frame construction, data collection, or processing. Below are aspects of the datasets that were reviewed:

1. **Unit nonresponse.** Response rates were calculated for traditional and k-terminal schools by frame. (See chapter IV for unit response rate information.) Because these response rates were all greater than 85 percent, no bias analysis was performed.
2. **Item nonresponse.** Item response rates were calculated separately for traditional and k-terminal schools for each item. (See chapter IV for item response rate information.)
3. **Edits.** The validity of the skip patterns in the questionnaire was established during the processing of the data; that is, Census Bureau analysts verified that each item had the number of responses it should have if skip instructions were followed correctly.
4. **Reasonableness of data.** Multivariate tabulations of key survey variables were obtained and compared to estimates from the 2001–2002 PSS survey. Tabulations were reviewed to determine whether the estimates were within reasonable bounds, allowing for elements of change (such as random fluctuations in variance, or secular growth).

Area Frame Contribution to Estimates

The standard error of an estimate is an indicator of the precision of that estimate for a given sample size. Because all list-frame cases are included in PSS, the list-frame component of the standard error is always zero. Since only the area frame contributes to the standard error for PSS, the contribution of the area frame to an estimate is a measure of the precision of that estimate. For the 2003–2004 PSS, approximately 8 percent of traditional private schools (table 14), 4 percent of traditional private school enrollment (table 15), and 5 percent of the number of traditional private school teachers (headcount) (table 16) were from the area frame. Approximately 20 percent of k-terminal private schools, 17 percent of k-terminal private school enrollment, and 17 percent of the number of k-terminal private school teachers (headcount) were from the area frame (table 17).

Table 14. Weighted number of traditional private schools by frame and percentage of total schools from the area frame, by NCES typology: 2003–04

NCES typology	Total	List frame	Area frame	Area frame as percent of total
Total	28,384	26,145	2,240	7.9
Catholic	7,919	7,803	115	1.5
Parochial	4,074	4,005	69	1.7
Diocesan	2,947	2,929	18	0.6
Private	897	869	28	3.1
Other religious	13,659	12,400	1,259	9.2
Conservative Christian	5,060	4,805	255	5.0
Affiliated	3,398	3,155	243	7.2
Unaffiliated	5,201	4,440	761	14.6
Nonsectarian	6,806	5,941	865	12.7
Regular	2,963	2,473	490	16.5
Special emphasis	2,392	2,116	277	11.6
Special education	1,451	1,352	99	6.8

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Table 15. Weighted number of traditional private school students by frame and percentage of total students from area-frame schools, by NCES typology: 2003–04

NCES typology	Total	List frame	Area frame	Area frame as percent of total
Total	5,122,772	4,918,272	204,500	4.0
Catholic	2,365,220	2,335,494	29,725	1.3
Parochial	1,097,417	1,080,131	17,286	1.6
Diocesan	908,583	902,085	6,499	0.7
Private	359,220	353,279	5,941	1.7
Other religious	1,835,559	1,735,579	99,979	5.5
Conservative Christian	773,847	747,122	26,725	3.5
Affiliated	553,305	534,944	18,361	3.3
Unaffiliated	508,407	453,513	54,893	10.8
Nonsectarian	921,993	847,198	74,795	8.1
Regular	603,442	551,871	51,571	8.6
Special emphasis	213,986	195,809	18,177	8.5
Special education	104,566	99,519	5,047	4.8

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Table 16. Weighted number of traditional private school teachers (headcount) by frame and percentage of total teachers from area-frame schools, by NCES typology: 2003–04

NCES typology	Total	List frame	Area frame	Area frame as percent of total
Total	470,104	448,683	21,421	4.6
Catholic	164,928	163,112	1,816	1.1
Parochial	72,575	71,494	1,082	1.5
Diocesan	61,867	61,618	249	0.4
Private	30,846	30,000	486	1.6
Other religious	185,241	174,730	10,511	5.7
Conservative Christian	73,483	70,785	2,699	3.7
Affiliated	58,642	56,654	1,988	3.4
Unaffiliated	53,116	47,292	5,824	11.0
Nonsectarian	119,935	110,841	9,094	7.6
Regular	72,378	66,364	6,014	8.3
Special emphasis	28,669	26,652	2,017	7.0
Special education	18,888	17,825	1,063	5.6

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Table 17. Weighted number of kindergarten-terminal private schools, students, and teachers (headcount) by frame and the percentage of schools, students, and teachers from the area frame, by NCES three-level typology: 2003–04

NCES three-level typology	Total	List frame	Area frame	Area frame as percent of total
Schools				
Total	6,297	5,054	1,243	19.7
Catholic	122	116	6	4.9
Other religious	1,848	1,457	391	21.2
Nonsectarian	4,327	3,481	845	19.5
Students				
Total	90,220	75,145	15,075	16.7
Catholic	3,284	3,159	125	3.8
Other religious	27,876	23,993	3,883	13.9
Nonsectarian	59,060	47,992	11,068	18.7
Teachers				
Total	18,297	15,228	3,069	16.8
Catholic	482	468	14	2.9
Other religious	5,216	4,422	795	15.2
Nonsectarian	12,599	10,339	2,260	17.9

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004.

Capture-Recapture Estimate of PSS Coverage

Because PSS uses a dual frame approach, it is possible to estimate the coverage or completeness of PSS. A capture-recapture methodology (Sekar and Deming 1949) was used to estimate the number of traditional private schools in the United States and to estimate the coverage of traditional private schools in the 2003–2004 PSS. The list frame “captured” 26,145 schools. In the subsequent area frame, 21,377 schools (weighted) were “captured,” of which 19,137 were “recaptured” (i.e., already on the list frame). Solution for x in the equation $21,377*(26,145/x) = 19,137$ reveals an estimated population (capture-recapture estimate) of 29,205 private schools. The coverage of the traditional PSS estimate is the ratio of the PSS estimate (28,384) to the traditional capture-recapture estimate (29,205) and is equal to 97.2 percent.

The capture-recapture estimate of 29,205 traditional private schools is based on the assumption that the probability of observing a school from a frame has the same expected value for all units. Violation of this assumption tends to underestimate the undercoverage. Using poststratification cells to compute the capture-recapture estimate can alleviate concerns about this. Separate traditional private school capture-recapture estimates were computed for four different sets of poststratification cells: typology (29,424), grade level (29,376), three-level typology—Catholic, other religious, nonsectarian (29,404), and three-level typology within grade level (29,499). Using the highest estimate makes it least likely that the above-mentioned assumption would be violated. The largest traditional private school capture-recapture estimate is produced using the three-level typology within grade level poststratification cells (29,499). The most conservative traditional private school coverage rate, then, is equal to 96.2 percent.

The same capture-recapture methodology was used to estimate the number of k-terminal private schools in the United States and to estimate the coverage of k-terminal private schools in the 2003–2004 PSS. The list frame “captured” 5,054 schools. In the subsequent area frame, 3,996 schools (weighted) were “captured,” of which 2,753 were “recaptured” (i.e., already on the list frame). Solution for x in the equation $3,996*(5,054/x) = 2,753$ reveals an estimated population (capture-recapture estimate) of 7,336 private schools. The coverage of the k-terminal private school PSS estimate is the ratio of the PSS estimate (6,297) to the k-terminal private school capture-recapture estimate (7,336) and is equal to 85.8 percent.

The capture-recapture estimate of 7,336 k-terminal private schools is also based on the assumption that the probability of observing a school from a frame has the same expected value for all units. Separate k-terminal private school capture-recapture estimates were computed for two different sets of poststratification cells: nine-level typology (7,454) and three-level typology—Catholic, other religious, nonsectarian (7,387). The higher k-terminal private school capture-recapture estimate is produced using the nine-level typology poststratification cells (7,454). The more conservative k-terminal private school coverage rate, then, is equal to 84.5 percent.

Comparability With Other Estimates

One way to verify the external validity of the 2003–2004 PSS data is to make comparisons to estimates computed from other sources. The 2003–2004 PSS estimates were compared to those produced using the 2003–04 Current Population Survey and National Catholic Educational Association data and prior PSS data.

Current Population Survey Data

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 2003 October Supplement of the Current Population Survey (CPS) (U.S. Census Bureau 2005) shows that the PSS estimate of 5,212,992 does not statistically differ from the CPS estimate of the number of private school students in grades kindergarten through 12 in October 2003 of 5,259,000.

National Catholic Educational Association Data

Comparisons of the PSS estimates for Catholic schools, students, and FTE teachers with the National Catholic Educational Association (NCEA) data for the 2003–04 school year show differences in the student (2,365,220 versus 2,484,252) and FTE teacher counts (152,611 versus 162,337) between the two data sources (table 18). The difference between the PSS estimate of 7,919 Catholic schools and the NCEA count of 7,955 schools is not statistically significant.

The survey methodologies used by NCES and NCEA are quite different; NCES surveys private schools directly while NCEA surveys archdiocesan and diocesan offices of education and some state Catholic conferences. The NCEA and PSS computations of full-time equivalents differ in the weight assigned to part-time teachers, thus the FTE teacher counts are not strictly comparable between PSS and NCEA.

Table 18. Weighted number of PSS Catholic schools, students, and teachers compared to those of the National Catholic Educational Association, by level: 2003–04

School level	NCEA	PSS
Schools		
Total	7,955	7,919
Elementary	6,727	6,539
Secondary	1,228	1,096
Combined	—	284
Students		
Total	2,484,252	2,365,220
Elementary	1,842,918	1,658,769
Secondary	641,334	609,601
Combined	—	96,850
Teachers		
Total	162,337	152,611
Elementary	112,303	101,182
Secondary	50,034	42,728
Combined	—	8,700

— Not available.

NOTE: Teachers are in full-time equivalents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2003–2004; *United States Catholic Elementary and Secondary Schools, 2003–04: Annual Statistical Report on Schools, Enrollment, and Staffing*, National Catholic Educational Association (NCEA).

Prior PSS Data

The number of schools, students, and FTE teachers for each PSS collection are presented in table 19. The estimated number of private schools and students decreased between 2001–02 and 2003–04 (by 889 schools and 218,741 students). The estimated number of FTE teachers in 2003–04 was not statistically different from that of 2001–02.

Table 19. Weighted number of private schools, students, and teachers, by level: 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–02, and 2003–04

Level	1989–90	1991–92	1993–94	1995–96	1997–98	1999–2000	2001–02	2003–04
Schools								
Total	26,712	25,998	26,093	27,686	27,402	27,223	29,273	28,384
Elementary	16,514	15,716	15,571	16,744	16,623	16,530	17,427	17,197
Secondary	2,490	2,475	2,506	2,533	2,487	2,538	2,704	2,694
Combined	7,707	7,807	8,016	8,409	8,292	8,155	9,142	8,494
Students								
Total	4,838,497	4,889,545	4,836,442	5,032,200	5,076,119	5,162,684	5,341,513	5,122,772
Elementary	2,764,118	2,766,059	2,759,771	2,835,247	2,824,844	2,831,372	2,883,010	2,694,494
Secondary	842,040	818,570	791,235	811,422	798,339	806,639	835,328	845,083
Combined	1,232,339	1,304,917	1,285,437	1,385,531	1,452,937	1,524,673	1,623,175	1,583,194
Teachers								
Total	331,533	339,267	338,162	361,909	376,544	395,317	425,406	425,238
Elementary	158,025	160,125	163,641	176,148	180,452	187,833	202,071	199,064
Secondary	62,971	62,198	58,497	59,880	60,885	62,737	67,318	68,344
Combined	110,537	116,944	116,025	125,881	135,207	144,746	156,017	157,830

NOTE: Teachers are in full time equivalents. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 1989–90, 1991–92, 1993–94, 1995–96, 1997–98, 1999–2000, 2001–2002, 2003–2004.

IX. Information on Data Files

Availability of Data

The 2003–2004 PSS data are available as restricted-use, public-use, and address data. Access to the restricted-use data file is limited to individuals associated with organizations that have received a license to use PSS data, while the public-use data file is available to the public. The address file is a public-use file containing the contact information for the schools and a select subset of PSS variables.

Restricted-Use Data File

The restricted-use data are available on CD-ROM in SAS, SPSS, and text format. The data are restricted because they contain information that can be used to disclose individually identifiable information, which is confidential and protected by law. Access to the restricted-use data files is limited to individuals associated with organizations that have received a license.

How to Get a Restricted-Use Data File

Researchers who can demonstrate a need for more detailed information may request a license to use the restricted-use dataset for statistical research purposes. Applicants should review the *Restricted-Use Data Procedures Manual* (available at <http://nces.ed.gov/statprog/rudman>) before submitting their application. The manual specifies required procedures and details the security requirements.

Researchers requesting access to the restricted-use dataset must supply the following information through the Electronic Application System:

- the name, title, and contact information of the Principal Project Officer(s) at the institution who will be heading up the research effort;
- the name, title, and contact information of the Senior Official who has the legal authority to sign a contract;
- the name, title, and contact information of the Systems Security Official;
- the exact year and name of the data to which access is desired;
- project title;
- a detailed description of the statistical research project and objectives for which the restricted-use data are needed;
- an explanation and justification of why the restricted-use data are needed (e.g., instead of the public data version);
- a description of what other data may be linked to the restricted-use data;
- an explanation of who will be serviced by conducting this statistical research project;
- the estimated loan period (not to exceed 5 years); and
- the name(s), and title(s) of professional and technical staff, including graduate students, who will be accessing the restricted-use dataset.

Additional Electronic Application System instructions are at <http://nces.ed.gov/statprog/instruct.asp>.

Applicants must also submit hard copies of the following three items to the IES Data Security Program to complete the application process:

- a signed IES License Document (http://nces.ed.gov/statprog/rudman/pdf/IES_License_Document.pdf);
- signed and notarized Affidavit(s) of Nondisclosure (<http://nces.ed.gov/statprog/rudman/pdf/g.pdf>); and
- a completed and signed Security Plan Form (<http://nces.ed.gov/statprog/rudman/pdf/j.pdf>).

Send these documents to

IES Data Security Office
Department of Education/NCES/ODC/SSP
1990 K Street NW, Room 9060
Washington, DC 20006
IESData.Security@ed.gov

After the online request and the documents have been reviewed, the applicants will be informed whether the license application has been approved.

Applicants and/or institutions that violate the license agreement are subject to a class E felony and can be imprisoned up to five years, and/or fined up to \$250,000, or both (under the provisions of 18 U.S.C. 3559 and 3571) . The confidentiality provisions that NCES must follow by law can be found at <http://nces.ed.gov/statprog/confproc.asp>.

Public-Use Data File

Public-use data are, as the name implies, available to the public. The PSS restricted-use and public-use data files are exactly the same except the restricted-use file contains one variable (P355—the number of students who graduated from the 12th grade in school year 2002–03) that is not on the public-use file. This variable is not available on the public-use file because of the possibility of using this variable to disclose individually identifiable information, which is confidential and protected by law.

How to Access Public-Use Data

The public-use data file is available online in SAS, SPSS, and text format. At the time of publication, the website was in development. It will be accessible on the NCES website for PSS at <http://nces.ed.gov/surveys/pss/>.

Address File

The PSS address data is the version of the public-use data used to populate the private school search tools on the NCES website. The address file is intended for users who want the school contact information for the 2003–2004 PSS schools. Since the address file does not contain the weighting variables, it is not possible to produce weighted estimates with this file. Also, the data in the address file do not contain the imputations for item nonresponse. See appendix J for the list of variables contained in the address file.

How to Access the Address Data

The address file is available online in Excel and text format. At the time of publication, the website was in development. It will be accessible on the NCES website for PSS at <http://nces.ed.gov/surveys/pss/>.

Understanding the Data Files

Categories of Variables

Variables on the restricted-use and public-use PSS data files were organized into the following five categories on each record layout: frame, survey, created, weighting, and imputation flag variables. The purpose of these categories is to help the user better understand what types of variables are included on the files and what the sources were for the variables.

Variables were classified as frame variables if they were drawn from the 2001–2002 PSS file or based on the 2003–2004 PSS frame update. Examples of frame variables include the school’s permanent identification number (PPIN) or the ZIP code of the school’s mailing address (PZIP).

Survey variables are the actual variables drawn from the questionnaire responses. Each item on the questionnaire has a small number printed to the left. This series of numbers is the source code. A single letter “P” was added to the beginning of the series to create the corresponding variable name. For example, item 6a has the source code 305 printed to the left. On the data file, the variable name for this item is P305.

Created variables are based on survey variables, frame variables, or other created variables. These variables are frequently used in NCES publications and have been added to the files to facilitate data analysis.

There are two types of weighting variables on the file. (For more information on weighting and standard errors, see chapter VII.) The first is the final weight for the respondent, and the second includes the 88 replicate weights. The final weight adjusts for nonresponse and the sampling rates of the area-frame PSUs and is used so that estimates represent the population of private schools. The replicate weights are used as a set to generate standard errors for estimates. On the file, the final weight is called PFNLWT and the replicate weights are REPW1–REPW88.

The imputation flags identify whether or not a survey item was imputed for missing data. (See chapter VI for details.) All survey variables have a corresponding imputation flag that indicates whether a value was imputed and, if so, what method was used. All survey imputation flags begin with “F_” and are followed by the name of the variable. For example, the imputation flag for P135 is F_P135.

The variable names, descriptions, and weighted and weighted frequencies for all variables on the public-use file are contained in appendix I. The variables contained in the address file are listed in appendix J.

Linking to PSS Files for Other Years

The 2003–2004 PSS school records can be matched to those of other years by using the school’s permanent identification number (PPIN). PPIN is a unique 8-character code assigned when a private school is first included in PSS.

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X. User Notes and Cautions

Although the definition of the eight-category locale code (LOCALE) remains unchanged from the 2001–2002 PSS, caution should be used when comparing the 2003–2004 geographic classifications of schools to those of previous years. The eight-digit locale code (LOCALE) that exists on the 2003–2004 PSS data files is based on Consolidated Statistical Area (CSA)/Core-Based Statistical Area (CBSA) rather than the Standard Metropolitan Statistical Area (SMSA)/Metropolitan Statistical Area (MSA) that was used prior to the 2003–2004 PSS. Also, the 2003–2004 LOCALE is based on 2000 Census data; for the 2001–2002 PSS, LOCALE was based on 1990 Census information.

The 2003–2004 PSS restricted-use and public-use data files also contain a 12-category locale code (ULOCAL). ULOCAL is based on a new (2003) geographic classification of schools and will replace LOCALE on future PSS files. LOCALE and ULOCAL are both included on the 2003–2004 PSS files (and will be included on the 2005–2006 PSS files), so that users may evaluate the effects of the change during the transition period.

Caution should also be used when comparing the 2003–2004 community type classification of schools to those of previous years. Community type is derived from the eight-category locale code, so any changes over time in the assignment of locale codes could induce changes in the community type. In addition, the definition of community type changed for the 1999–2000 PSS. Beginning with the 1999–2000 PSS, schools that were “rural within a CBSA” 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. Two community type variables are on the 2003–2004 PSS file: one corresponding to the current definition of community type (COMMTYPE) and one corresponding to the pre-1999–2000 definition (COMMTYP2).

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