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U.S. DEPARTMENT OF EDUCATION

Characteristics of Public Elementary and Secondary School Principals in the United States:

Results From the 2015–16 National Teacher and Principal Survey

First Look

ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences

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AUGUST 2017

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NTPS

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Introduction

The 2015–16 National Teacher and Principal Survey (NTPS) is a nationally representative sample survey of public[1] K–12 schools, principals, and teachers in the 50 states and the District of Columbia. This report presents selected findings from the Public School Principal Data File of NTPS. NTPS is a redesign of the Schools and Staffing Survey (SASS). SASS was conducted on behalf of the National Center for Education Statistics (NCES) on a 4-year cycle, beginning with the 1987–88 school year and ending in the 2011–12 school year. NTPS maintains the same focus on schools, teachers, and administrators that was traditionally held by SASS; however, it has a different structure and sample than previous administrations of SASS and operates on a 2-year survey cycle. NTPS collects data on core topics including teacher and principal preparation, classes taught, school characteristics, and demographics of the teacher and principal labor force. It is developed by NCES of the Institute of Education Sciences within the U.S. Department of Education and conducted by the U.S. Census Bureau. This report represents the initial results of the first collection of NTPS.

The purpose of NTPS is to collect information that can provide a detailed picture of U.S. elementary and secondary schools and their staff. This information is collected through school, principal, and teacher surveys, and information can be linked across all three surveys.

The 2015–16 NTPS uses a school-based sample of public schools. Because of this school-based design, principals associated with public schools were included in the sample. Teachers associated with a selected school were sampled from a teacher list provided by the school, collected from school websites, or purchased from a vendor. The selected samples include about 8,300 traditional and charter public schools and public school principals, and 40,000 public school teachers. The samples were drawn to support estimates by geography, grade span, and charter school status. The reader is referred to the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming) for details about these estimation domains and their precision criteria.

The data were collected via mailed questionnaires and internet instruments with telephone and in-person field follow-up. The first questionnaires were mailed in September 2015, and data collection ended in August 2016. The weighted unit response rate was 71.8 percent for public school principals. For detailed information about response rates, bias analysis results, methodology, and design of the 2015–16 NTPS, please see the technical notes of this report in appendix B or the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

The purpose of this First Look is to introduce new data through the presentation of tables containing descriptive information. Selected findings chosen for this report demonstrate the range of information available on the 2015–16 NTPS Public School Principal Restricted-Use Data File. The selected findings do not represent a complete review of all observed differences in the data and are not meant to emphasize any issue. This First Look report highlights findings from the NTPS public school principal survey. Findings from the school and teacher data files will be presented in two companion First Look reports:

- *Characteristics of Public Elementary and Secondary Schools in the United States: Results From the 2015–16 National Teacher and Principal Survey First Look* (NCES 2017-071); and
- *Characteristics of Public Elementary and Secondary School Teachers in the United States: Results From the 2015–16 National Teacher and Principal Survey First Look* (NCES 2017-072).

[1] Public schools include traditional public and charter schools.

The tables in this report contain frequencies and percentages demonstrating bivariate relationships. All results have been weighted to reflect the sample design and to account for nonresponse and other adjustments. Comparisons drawn in the selected findings have been tested for statistical significance at the .05 level using Student's *t* statistics to ensure that the differences are larger than those that might be expected due to sampling variation. While the selected findings include only statistically significant findings they do not include every statistically significant comparison. No adjustments were made for multiple comparisons. Many of the variables examined are related to one another, and complex interactions and relationships have not been explored. Statistical Analysis Software (SAS 9.4) and SUDAAN (11.1) were used to compute the statistics for this report. Tables of standard errors are provided in appendix A. Detailed information about the survey methodology is provided in appendix B. Appendix C contains a description of the variables used in this report.

More information about NTPS can be found at https://nces.ed.gov/surveys/ntps.

Selected Findings

- During the 2015–16 school year, there were an estimated 90,400 public school principals of K–12 schools in the United States. Among public school principals, 78 percent were non-Hispanic White, 11 percent were non-Hispanic Black or African American, 8 percent were Hispanic, and 3 percent were another race/ethnicity[2] (table 1).
- Overall, 54 percent of public school principals were female. Relatively more primary school principals were female (68 percent) than were middle, high, or combined school principals (40 percent, 33 percent, and 42 percent, respectively). The average age of public school principals was 47 (table 2).
- Among public schools, a majority of principals held a master's degree (61 percent) as their highest degree, compared to a bachelor's degree or less (2 percent), an education specialist/professional diploma[3] (27 percent) or a doctorate/first professional degree (10 percent) (table 3).
- The average annual salary of public school principals was $95,700.[4] Public school principals in high schools earned more ($101,200) than their peers in middle schools ($98,000), primary schools ($94,600), and combined schools ($86,500) (table 4).
- Public school principals spent an average of 58.6 hours per week on all school-related activities.[5] On average, principals spent about 30 percent of their time on internal administrative tasks, 30 percent of their time on curriculum and teaching-related tasks, 23 percent of their time on student interactions, and 14 percent of their time on parent interactions (table 5).
- Public school principals had an average of 6.6 years of experience as a principal and an average of 4 years as a principal of their current school. Principals in traditional public schools were generally more experienced (6.6 years) than those in charter schools (5.9 years) (table 6).
- Among public school principals, 95 percent reported having a major influence on decisions concerning evaluating teachers, 87 percent reported having a major influence on hiring new full-time teachers, and 75 percent reported having a major influence on setting discipline policy (table 7).

[2] Hispanic includes Latino. Other race/ethnicity includes American Indian/Alaska Native, non-Hispanic; Asian, non-Hispanic; Native Hawaiian or Other Pacific Islander, non-Hispanic; and Two or more races, non-Hispanic.

[3] At least 1 year beyond the master's level.

[4] Principals who reported an annual salary of zero were excluded from the calculation of average salary.

[5] Includes hours spent during the school day, before and after school, and on the weekends.

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Estimate Tables

Table 1. Total number of public school principals and percentage distribution of school principals, by race/ethnicity and selected school characteristics: 2015–16

Selected school characteristic	Total number of principals	Percent of principals by race/ethnicity			
		Hispanic, regardless of race	White, non-Hispanic	Black or African American, non-Hispanic	Other[1]
All public schools	90,400	8.2	77.8	10.6	3.4
School classification					
Traditional public	83,100	8.0	78.5	10.2	3.3
Charter school	7,300	11.0	69.7	14.8	4.5
Community type					
City	24,800	12.9	63.3	19.6	4.2
Suburban	29,100	9.5	78.5	9.4	2.6
Town	12,400	6.0	84.8	6.0	3.3
Rural	24,200	2.9	88.3	5.0	3.7
School level					
Primary	50,400	9.0	76.8	10.9	3.4
Middle	13,900	7.7	77.4	11.5	3.4
High	18,100	8.2	78.6	9.6	3.6
Combined	8,000	4.4	83.0	9.2	3.4
Student enrollment					
Less than 100	6,500	9.6	78.3	8.2	3.8
100–199	7,300	6.4	76.4	11.7	5.5
200–499	35,800	6.2	79.9	10.9	3.0
500–749	22,900	10.5	75.4	10.7	3.4
750–999	9,100	9.8	74.8	12.0	3.4
1,000 or more	8,800	9.5	79.3	8.3	2.9
Percent of K–12 students who were approved for free or reduced-price lunches					
0–34	24,600	4.1	87.8	5.5	2.6
35–49	12,000	5.3	86.0	4.9	3.9
50–74	18,900	6.8	80.5	8.9	3.9
75 or more	29,900	14.4	62.8	19.2	3.6
School did not participate in free or reduced-price lunch program	5,000	4.0 !	88.3	4.4	3.3

! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 percent and 50 percent (i.e., the standard error is at least 30 percent and less than 50 percent of the estimate).

[1] Other includes American Indian/Alaska Native, non-Hispanic; Asian, non-Hispanic; Native Hawaiian or Other Pacific Islander, non-Hispanic; and Two or more races, non-Hispanic.

NOTE: Hispanic includes Latino. Detail may not sum to totals because of rounding. Some of the counts for selected school characteristics may not match between school and principal data files due to independent weighting procedures, differential nonresponse, rounding, and not every school having a principal.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Data File," 2015–16.

Table 2. Average and median age of public school principals and percentage distribution of principals, by age category, sex, and selected school characteristics: 2015–16

Selected school characteristic	Average age of principals	Median age of principals	Percent of principals by Age: Less than 45 years	Age: 45–54 years	Age: 55 years or more	Sex: Male	Sex: Female
All public schools	47	46	40.4	36.9	22.7	45.8	54.2
School classification							
Traditional public	48	46	39.5	37.6	22.9	46.4	53.6
Charter school	46	44	50.1	29.1	20.8	38.8	61.2
Community type							
City	48	46	39.4	37.3	23.3	39.0	61.0
Suburban	47	46	42.2	35.1	22.7	42.5	57.5
Town	48	46	38.2	38.7	23.1	51.8	48.2
Rural	47	46	40.2	37.8	22.0	53.6	46.4
School level							
Primary	47	46	40.3	36.8	22.9	32.3	67.7
Middle	47	45	44.0	37.2	18.8	59.6	40.4
High	47	46	40.0	38.6	21.4	67.3	32.7
Combined	48	47	35.8	33.1	31.1	57.9	42.1
Student enrollment							
Less than 100	49	47	37.9	29.4	32.6	43.6	56.4
100–199	48	47	35.5	36.4	28.0	46.3	53.7
200–499	47	46	42.0	37.4	20.6	43.9	56.1
500–749	47	46	41.8	35.9	22.3	42.3	57.7
750–999	48	46	38.1	39.4	22.5	48.1	51.9
1,000 or more	48	46	38.1	40.8	21.1	61.1	38.9
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	47	46	41.0	36.9	22.2	49.3	50.7
35–49	48	46	38.8	39.0	22.3	52.7	47.3
50–74	47	46	40.6	38.8	20.6	45.1	54.9
75 or more	47	46	40.9	35.4	23.7	40.7	59.3
School did not participate in free or reduced-price lunch program	48	47	37.5	34.2	28.3	44.9	55.1

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Table 3. Percentage distribution of public school principals, by highest degree earned and selected school characteristics: 2015–16

Selected school characteristic	Bachelor's degree or less	Master's degree	Education specialist or professional diploma[1]	Doctorate or first professional degree
All public schools	2.3	61.3	26.6	9.9
School classification				
Traditional public	1.6	61.1	27.4	9.9
Charter school	9.5	63.5	16.9	10.2
Community type				
City	2.6	62.0	23.6	11.9
Suburban	1.7	60.1	26.0	12.2
Town	3.3	61.1	28.5	7.2
Rural	2.1	62.1	29.3	6.5
School level				
Primary	2.3	60.6	27.3	9.9
Middle	1.1 !	65.2	24.8	8.9
High	2.5	60.8	24.9	11.7
Combined	3.6	59.9	28.6	7.9
Student enrollment				
Less than 100	8.3	59.0	26.6	6.0
100–199	4.7	62.6	23.7	9.0
200–499	2.0	60.1	28.4	9.6
500–749	1.1	61.3	27.3	10.4
750–999	1.5 !	65.0	24.3	9.3
1,000 or more	0.8 !	62.6	22.1	14.5
Percent of K–12 students who were approved for free or reduced-price lunches				
0–34	1.1	61.7	27.0	10.3
35–49	1.1 !	61.7	28.4	8.9
50–74	3.1	59.7	28.3	8.9
75 or more	2.6	61.4	25.0	11.1
School did not participate in free or reduced-price lunch program	6.0	63.7	23.0	7.4

! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 percent and 50 percent (i.e., the standard error is at least 30 percent and less than 50 percent of the estimate).
[1] At least 1 year beyond the master's level.
NOTE: Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Data File," 2015–16.

Table 4. Average annual salary for public school principals, by years of experience as a principal and selected school characteristics: 2015–16

Selected school characteristic	Average annual salary	Average annual salary for principals by years of experience		
		Less than 3 years	3 to 9 years	10 years or more
All public schools	$95,700	$89,000	$96,500	$102,200
School classification				
Traditional public	96,400	89,700	97,100	102,800
Charter school	88,000	82,800	89,700	93,400
Community type				
City	100,600	95,100	101,500	105,600
Suburban	105,700	99,600	105,700	112,400
Town	86,700	79,500	88,000	93,400
Rural	83,300	75,800	84,100	90,900
School level				
Primary	94,600	88,000	95,500	100,400
Middle	98,000	92,700	98,100	106,500
High	101,200	94,800	100,900	109,100
Combined	86,500	76,500	89,400	93,700
Student enrollment				
Less than 100	86,100	77,800	87,600	94,600
100–199	84,500	76,600	82,900	95,800
200–499	92,800	86,600	93,800	98,500
500–749	98,000	91,300	98,800	104,500
750–999	102,100	96,400	102,700	107,200
1,000 or more	111,600	107,500	111,700	115,600
Percent of K–12 students who were approved for free or reduced-price lunches				
0–34	102,500	96,500	102,800	107,500
35–49	95,000	87,800	95,700	101,400
50–74	92,000	86,700	93,200	96,700
75 or more	93,300	87,700	93,800	100,300
School did not participate in free or reduced-price lunch program	92,700	77,900	96,500	104,700

NOTE: Principals who reported an annual salary of zero are excluded from the table.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Table 5. Average hours per week that public school principals spent on all school-related activities and average percentage of time per school year spent on various school-related tasks, by selected school characteristics: 2015–16

Selected school characteristic	Average hours per week on all school-related activities[1]	Average percent of time spent per school year			
		Internal administrative tasks	Curriculum and teaching-related tasks	Student interactions	Parent interactions
All public schools	58.6	30.1	29.8	23.0	14.0
School classification					
Traditional public	58.6	30.1	29.9	23.1	14.0
Charter school	59.0	30.9	28.7	22.5	14.4
Community type					
City	60.3	29.7	31.3	22.0	13.8
Suburban	59.0	30.0	30.6	22.3	14.3
Town	57.6	31.4	28.3	23.9	13.8
Rural	57.0	30.2	28.2	24.5	14.1
School level					
Primary	58.6	29.4	31.4	22.5	14.4
Middle	59.5	29.6	29.5	23.5	14.3
High	59.3	32.4	28.0	22.8	12.8
Combined	56.1	30.9	24.7	26.0	14.2
Student enrollment					
Less than 100	50.5	32.3	26.0	24.5	13.1
100–199	56.3	30.7	26.3	26.3	13.0
200–499	58.7	28.8	29.8	24.5	14.1
500–749	59.7	29.8	31.7	21.4	14.4
750–999	59.7	30.7	31.4	21.1	14.2
1,000 or more	62.3	33.8	28.9	19.4	14.0
Percent of K–12 were approved for free or reduced-price lunches					
0–34	58.8	30.5	29.7	21.9	14.9
35–49	58.7	30.4	28.6	23.9	14.0
50–74	58.9	29.5	29.8	23.8	14.2
75 or more	59.2	29.0	30.8	23.8	13.5
School did not participate in free or reduced-price lunch program	53.2	37.2	27.5	19.0	12.5

[1] Includes hours spent during the school day, before and after school, and on the weekends.
NOTE: Detail may not sum to 100 because of time spent on "other" tasks.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Principal Data File," 2015–16.

Table 6. Average total years of experience as a school principal, average years as a principal at current school, and percentage distribution of public school principals, by reported years of experience as a principal at current school and selected school characteristics: 2015–16

Selected school characteristic	Average total years of experience	Average years at current school	Percent of principals by reported years of experience at current school			
			Less than 2 years	2–3 years	4–9 years	10 years or more
All public schools	6.6	4.0	34.6	25.4	29.1	10.8
School classification						
Traditional public	6.6	4.0	34.5	25.2	29.4	10.9
Charter school	5.9	3.7	36.4	28.1	25.9	9.7
Community type						
City	6.4	3.8	35.1	26.8	28.7	9.4
Suburban	6.6	4.0	33.2	25.6	30.7	10.5
Town	6.6	3.9	37.2	23.2	28.2	11.4
Rural	6.6	4.1	34.5	25.1	28.1	12.4
School level						
Primary	6.7	4.1	33.8	25.1	29.1	12.0
Middle	5.9	3.7	36.5	25.9	28.9	8.7
High	6.5	3.6	35.3	26.6	30.0	8.1
Combined	7.0	4.1	35.1	24.3	27.4	13.2
Student enrollment						
Less than 100	6.4	3.6	36.1	26.4	28.0	9.5
100–199	6.4	3.8	37.7	26.1	24.4	11.8
200–499	6.5	4.1	35.2	24.4	28.6	11.7
500–749	6.5	4.0	33.3	26.6	29.5	10.6
750–999	6.9	4.2	31.7	24.1	34.2	9.9
1,000 or more	6.7	3.6	35.0	26.4	29.4	9.2
Percent of K–12 students who were approved for free or reduced-price lunches						
0–34	7.1	4.3	32.5	24.6	31.0	11.9
35–49	7.0	4.3	33.6	23.8	30.0	12.6
50–74	6.2	3.8	35.1	26.7	27.2	11.1
75 or more	6.1	3.6	36.5	26.2	28.5	8.8
School did not participate in free or reduced-price lunch program	7.1	4.3	34.8	23.8	28.8	12.7

NOTE: Years of experience do not include the current school year. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Data File," 2015–16.

Table 7. Percentage of public school principals who thought they had a major influence on decisions concerning various activities at their school, by selected school characteristics: 2015–16

Selected school characteristic	Setting performance standards for students	Establishing curriculum	Determining the content of in-service professional development programs for teachers	Evaluating teachers	Hiring new full-time teachers	Setting discipline policy	Deciding how their school budget will be spent
All public schools	69.8	39.9	68.4	95.5	87.3	75.5	59.6
School classification							
Traditional public	69.0	38.3	67.6	95.6	87.1	75.4	59.9
Charter school	78.6	57.5	78.0	93.5	89.7	76.5	56.0
Community type							
City	69.0	37.8	72.2	94.3	83.8	72.8	61.8
Suburban	69.6	33.0	65.1	95.7	87.6	75.4	65.7
Town	69.8	42.6	67.1	95.7	90.7	75.7	59.1
Rural	70.9	49.0	69.2	96.3	88.9	78.1	50.4
School level							
Primary	70.5	37.1	68.2	96.2	86.2	75.8	61.1
Middle	68.9	34.4	64.8	95.6	89.2	74.1	63.4
High	68.5	45.0	70.0	94.2	90.5	74.4	59.8
Combined	69.5	55.6	72.7	93.1	84.3	77.7	43.6
Student enrollment							
Less than 100	70.4	55.0	70.9	90.6	85.3	79.2	49.7
100–199	71.3	52.1	70.3	95.2	84.3	78.4	51.6
200–499	71.0	41.4	67.6	96.2	85.9	76.4	57.9
500–749	68.3	35.1	68.6	96.3	88.8	74.9	62.9
750–999	69.6	31.8	66.9	95.8	90.3	74.2	63.7
1,000 or more	67.4	33.9	69.3	93.9	90.3	69.1	67.7
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	66.6	35.2	66.4	96.6	90.9	75.8	61.3
35–49	71.5	37.6	66.1	95.6	90.5	75.5	58.1
50–74	67.5	38.5	69.1	94.9	87.3	73.7	58.0
75 or more	72.8	44.0	69.0	95.8	83.2	76.3	60.5
School did not participate in free or reduced-price lunch program	72.1	50.0	77.8	89.6	86.7	75.3	55.4

NOTE: Response options included “no influence,” “minor influence,” “moderate influence,” “major influence,” and “not applicable.” Principals who reported “not applicable” are excluded from the table.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Appendix A: Standard Error Tables

Table A-1. Standard errors for table 1: Total number of public school principals and percentage distribution of school principals, by race/ethnicity and selected school characteristics: 2015–16

Selected school characteristic	Total number of principals	Percent of principals by race/ethnicity			
		Hispanic, regardless of race	White, non-Hispanic	Black or African American, non-Hispanic	Other
All public schools	300	0.40	0.52	0.39	0.28
School classification					
Traditional public	350	0.43	0.56	0.43	0.30
Charter school	240	1.13	1.62	1.46	0.87
Community type					
City	190	0.89	1.23	0.97	0.58
Suburban	180	0.79	0.94	0.70	0.42
Town	370	1.12	1.50	0.80	0.80
Rural	400	0.46	0.85	0.61	0.48
School level					
Primary	230	0.55	0.75	0.57	0.42
Middle	150	0.88	1.22	0.94	0.63
High	360	0.87	1.32	0.87	0.68
Combined	330	1.01	1.54	1.05	0.63
Student enrollment					
Less than 100	450	2.81	3.28	1.54	1.42
100–199	390	1.16	2.21	1.81	1.23
200–499	610	0.59	0.90	0.73	0.41
500–749	550	0.88	1.17	0.91	0.53
750–999	360	1.27	1.70	1.33	0.75
1,000 or more	330	1.06	1.47	1.00	0.58
Percent of K–12 students who were approved for free or reduced-price lunches					
0–34	590	0.59	0.90	0.59	0.46
35–49	410	0.82	1.36	0.91	0.74
50–74	530	0.85	1.21	0.88	0.59
75 or more	540	0.92	1.23	0.96	0.55
School did not participate in free or reduced-price lunch program	320	1.39	2.10	1.01	1.18

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Table A-2. Standard errors for table 2: Average and median age of public school principals and percentage distribution of principals, by age category, sex, and selected school characteristics: 2015–16

Selected school characteristic	Average age of principals	Median age of principals	Percent of principals by Age: Less than 45 years	Age: 45–54 years	Age: 55 years or more	Sex: Male	Sex: Female
All public schools	0.1	0.2	0.63	0.71	0.70	0.74	0.74
School classification							
Traditional public	0.1	0.2	0.66	0.77	0.74	0.78	0.78
Charter school	0.4	0.4	1.89	1.80	1.61	1.83	1.83
Community type							
City	0.2	0.3	1.34	1.40	1.17	1.40	1.40
Suburban	0.2	0.3	1.25	1.27	1.22	1.27	1.27
Town	0.3	0.4	1.80	1.82	1.68	1.73	1.73
Rural	0.3	0.3	1.34	1.41	1.30	1.46	1.46
School level							
Primary	0.2	0.2	0.97	1.02	0.95	1.01	1.01
Middle	0.2	0.3	1.51	1.61	1.26	1.53	1.53
High	0.3	0.3	1.37	1.50	1.34	1.45	1.45
Combined	0.4	0.7	1.97	2.01	2.18	2.29	2.29
Student enrollment							
Less than 100	0.7	0.9	3.64	3.39	3.50	4.02	4.02
100–199	0.5	0.8	2.44	2.41	2.51	2.88	2.88
200–499	0.2	0.3	1.18	1.16	1.08	1.30	1.30
500–749	0.2	0.3	1.34	1.25	1.19	1.47	1.47
750–999	0.3	0.3	1.99	2.16	1.76	1.94	1.94
1,000 or more	0.3	0.3	1.76	1.81	1.65	1.81	1.81
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	0.2	0.3	1.30	1.33	1.29	1.32	1.32
35–49	0.3	0.5	1.87	1.90	1.61	1.97	1.97
50–74	0.3	0.3	1.42	1.50	1.33	1.56	1.56
75 or more	0.2	0.3	1.22	1.32	1.21	1.33	1.33
School did not participate in free or reduced-price lunch program	0.7	0.7	3.62	3.26	3.24	3.71	3.71

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Data File," 2015–16.

Table A-3. Standard errors for table 3: Percentage distribution of public school principals, by highest degree earned and selected school characteristics: 2015–16

Selected school characteristic	Bachelor's degree or less	Master's degree	Education specialist or professional diploma	Doctorate or first professional degree
All public schools	0.23	0.73	0.62	0.46
School classification				
Traditional public	0.23	0.77	0.66	0.48
Charter school	1.09	1.89	1.58	1.32
Community type				
City	0.39	1.26	1.10	0.93
Suburban	0.32	1.32	1.27	0.93
Town	0.75	1.71	1.51	0.98
Rural	0.59	1.35	1.18	0.66
School level				
Primary	0.32	1.01	0.96	0.65
Middle	0.39	1.49	1.38	0.91
High	0.54	1.57	1.36	0.95
Combined	0.95	1.98	1.89	1.09
Student enrollment				
Less than 100	2.07	3.42	3.23	1.62
100–199	1.16	2.82	2.60	1.62
200–499	0.31	1.21	1.10	0.73
500–749	0.27	1.33	1.20	0.88
750–999	0.47	1.78	1.61	1.11
1,000 or more	0.29	1.75	1.56	1.16
Percent of K–12 students who were approved for free or reduced-price lunches				
0–34	0.31	1.28	1.24	0.80
35–49	0.39	1.80	1.68	1.07
50–74	0.69	1.53	1.45	0.87
75 or more	0.42	1.37	1.19	0.83
School did not participate in free or reduced-price lunch program	1.67	3.21	2.75	1.50

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Data File," 2015–16.

Table A-4. Standard errors for table 4: Average annual salary for public school principals, by years of experience as a principal and selected school characteristics: 2015–16

Selected school characteristic	Average annual salary	Average annual salary for principals by years of experience		
		Less than 3 years	3 to 9 years	10 years or more
All public schools	300	560	440	760
School classification				
Traditional public	310	580	480	800
Charter school	940	1,400	1,310	2,290
Community type				
City	600	1,090	860	1,460
Suburban	580	990	860	1,360
Town	690	990	980	1,600
Rural	620	960	900	1,250
School level				
Primary	440	780	690	1,080
Middle	720	1,250	1,090	1,890
High	780	1,500	990	1,710
Combined	1,310	1,840	2,210	2,090
Student enrollment				
Less than 100	2,300	3,510	3,750	4,460
100–199	1,430	1,920	1,820	3,480
200–499	540	880	850	1,230
500–749	520	830	800	1,360
750–999	780	1,460	1,260	1,630
1,000 or more	820	1,610	1,290	1,820
Percent of K–12 students who were approved for free or reduced-price lunches				
0–34	610	1,140	850	1,300
35–49	820	1,260	1,280	1,550
50–74	680	1,130	1,000	1,490
75 or more	600	970	890	1,610
School did not participate in free or reduced-price lunch program	2,220	3,260	3,280	4,600

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Table A-5. Standard errors for table 5: Average hours per week that public school principals spent on all school-related activities and average percentage of time per school year spent on various school-related tasks, by selected school characteristics: 2015–16

Selected school characteristic	Average hours per week on all school-related activities	Average percent of time spent per school year			
		Internal administrative tasks	Curriculum and teaching-related tasks	Student interactions	Parent interactions
All public schools	0.20	0.24	0.21	0.21	0.12
School classification					
Traditional public	0.22	0.25	0.22	0.22	0.13
Charter school	0.54	0.65	0.67	0.53	0.29
Community type					
City	0.38	0.50	0.42	0.38	0.20
Suburban	0.31	0.34	0.40	0.34	0.20
Town	0.65	0.66	0.49	0.52	0.28
Rural	0.45	0.49	0.46	0.43	0.30
School level					
Primary	0.28	0.31	0.33	0.28	0.19
Middle	0.37	0.51	0.45	0.43	0.24
High	0.43	0.54	0.46	0.48	0.24
Combined	0.58	0.94	0.53	0.69	0.36
Student enrollment					
Less than 100	1.48	1.54	1.36	1.36	1.00
100–199	0.65	0.93	0.82	0.89	0.38
200–499	0.28	0.34	0.38	0.28	0.16
500–749	0.34	0.38	0.40	0.29	0.21
750–999	0.41	0.58	0.51	0.48	0.27
1,000 or more	0.37	0.61	0.56	0.48	0.30
Percent of K–12 students who were approved for free or reduced-price lunches					
0–34	0.41	0.41	0.39	0.34	0.26
35–49	0.46	0.56	0.51	0.47	0.29
50–74	0.36	0.42	0.48	0.39	0.21
75 or more	0.33	0.47	0.42	0.37	0.18
School did not participate in free or reduced-price lunch program	1.24	1.50	1.25	0.92	0.60

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public School Principal Data File,” 2015–16.

Table A-6. Standard errors for table 6: Average total years of experience as a school principal, average years as a principal at current school, and percentage distribution of public school principals, by reported years of experience as a principal at current school and selected school characteristics: 2015–16

Selected school characteristic	Average total years of experience	Average years at current school	Percent of principals by reported years of experience at current school			
			Less than 2 years	2–3 years	4–9 years	10 years or more
All public schools	0.09	0.07	0.65	0.66	0.73	0.45
School classification						
Traditional public	0.10	0.07	0.68	0.69	0.77	0.48
Charter school	0.26	0.18	2.03	1.86	1.73	1.08
Community type						
City	0.17	0.12	1.40	1.25	1.37	0.84
Suburban	0.16	0.11	1.17	1.20	1.26	0.71
Town	0.22	0.14	1.65	1.55	1.60	1.12
Rural	0.18	0.13	1.21	1.28	1.33	0.95
School level						
Primary	0.13	0.10	0.95	0.90	1.03	0.69
Middle	0.18	0.13	1.56	1.51	1.46	0.94
High	0.17	0.12	1.58	1.36	1.53	0.77
Combined	0.29	0.18	1.96	2.11	1.86	1.40
Student enrollment						
Less than 100	0.48	0.28	3.43	3.56	3.48	2.06
100–199	0.34	0.25	2.54	2.49	2.50	1.68
200–499	0.16	0.11	1.04	1.06	1.01	0.82
500–749	0.16	0.12	1.35	1.24	1.33	0.84
750–999	0.25	0.18	1.70	1.75	1.99	1.21
1,000 or more	0.21	0.14	1.81	1.73	1.79	1.05
Percent of K–12 students who were approved for free or reduced-price lunches						
0–34	0.18	0.12	1.24	1.12	1.29	0.87
35–49	0.24	0.20	1.96	1.63	1.93	1.31
50–74	0.18	0.12	1.49	1.39	1.41	0.90
75 or more	0.15	0.11	1.29	1.15	1.20	0.75
School did not participate in free or reduced-price lunch program	0.45	0.34	3.26	2.90	2.89	2.44

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Table A-7. Standard errors for table 7: Percentage of public school principals who thought they had a major influence on decisions concerning various activities at their school, by selected school characteristics: 2015–16

Selected school characteristic	Setting performance standards for students	Establishing curriculum	Determining the content of in-service professional development programs for teachers	Evaluating teachers	Hiring new full-time teachers	Setting discipline policy	Deciding how their school budget will be spent
All public schools	0.71	0.72	0.73	0.30	0.47	0.66	0.72
School classification							
Traditional public	0.77	0.78	0.78	0.31	0.50	0.69	0.76
Charter school	1.63	1.99	1.71	0.93	1.33	1.66	2.13
Community type							
City	1.41	1.40	1.14	0.66	1.00	1.32	1.49
Suburban	1.21	1.27	1.33	0.51	0.90	1.16	1.19
Town	1.72	1.52	1.69	0.84	1.12	1.59	1.70
Rural	1.32	1.44	1.42	0.57	0.97	1.21	1.46
School level							
Primary	1.04	1.13	1.13	0.39	0.72	0.93	0.96
Middle	1.62	1.54	1.65	0.72	1.06	1.51	1.56
High	1.32	1.51	1.39	0.83	0.93	1.42	1.41
Combined	2.25	2.39	2.15	1.26	1.88	1.99	2.04
Student enrollment							
Less than 100	3.22	3.83	3.27	2.33	2.65	2.77	3.82
100–199	2.57	2.84	2.66	1.14	2.26	2.34	2.99
200–499	1.21	1.14	1.19	0.49	0.85	1.11	1.13
500–749	1.27	1.34	1.31	0.51	0.99	1.17	1.26
750–999	1.92	1.71	2.15	0.84	1.20	1.75	1.96
1,000 or more	1.82	1.87	1.56	0.82	1.05	1.78	1.60
Percent of K–12 students who were approved for free or reduced-price lunches							
0–34	1.22	1.29	1.40	0.48	0.79	1.17	1.35
35–49	1.66	1.72	1.91	0.88	1.16	1.84	1.80
50–74	1.49	1.61	1.48	0.72	1.03	1.47	1.55
75 or more	1.24	1.37	1.35	0.52	1.00	1.18	1.37
School did not participate in free or reduced-price lunch program	2.74	3.55	2.63	2.86	2.91	2.66	3.72

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), “Public School Principal Data File,” 2015–16.

Appendix B: Methodology and Technical Notes

Overview of the NTPS Principal Survey

The National Teacher and Principal Survey (NTPS) is sponsored by the National Center for Education Statistics (NCES) of the Institute of Education Sciences within the U.S. Department of Education and is conducted by the U.S. Census Bureau. NTPS is a nationally representative sample survey of public K–12 schools, principals, and teachers in the 50 states and the District of Columbia. This is the first year of NTPS.

The 2015–16 NTPS consisted of questionnaires for three types of respondents: public schools, public school principals, and public school teachers. The information can be linked across teachers, principals, and schools. There is a separate data file for each type of respondent (school, principal, and teacher). For the content of the questionnaires, see https://nces.ed.gov/surveys/ntps/question1516.asp.

NTPS was designed to produce national estimates for public elementary and secondary schools, principals, and teachers, including national estimates for public charter schools and the principals and teachers within them. Additionally, the teacher survey was designed to produce national estimates of teachers by subject matter taught and by full-time or part-time status.

For additional information on the specific NTPS-related topics discussed in this appendix, consult the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming) or the *User's Manual for the 2015–16 National Teacher and Principal Survey Volumes 1–4* (Goldring et al. 2017). To access additional general information on NTPS or for electronic copies of the questionnaires, go to the NTPS home page (https://nces.ed.gov/surveys/ntps).

Sampling Frames and Sample Selection

Public schools. The starting point for the 2015–16 NTPS public school sampling frame was the preliminary 2013–14 Common Core of Data (CCD) Nonfiscal School Universe data file.[1] The sampling frame was adjusted from CCD to fit the definition of a school eligible for NTPS. To be eligible for NTPS, a school was defined as an institution or part of an institution that provides classroom instruction to students, has one or more teachers to provide instruction, serves students in one or more of grades 1–12 or the ungraded equivalent, and is located in one or more buildings apart from a private home. It was possible for two or more schools to share the same building; in that case, they were treated as different schools if they had different administrators (i.e., principal or school head). This definition is unchanged from the Schools and Staffing Survey (SASS).

The 2015–16 NTPS universe of schools is confined to the 50 states plus the District of Columbia and excludes the other jurisdictions, Department of Defense overseas schools, and CCD schools that do not offer teacher-provided classroom instruction in grades 1–12 or the ungraded equivalent. This last group includes schools that are essentially administrative units that may oversee entities that provide classroom instruction or may only provide funding and oversight. Although Bureau of Indian Education-funded (BIE) schools are included in NTPS, these schools were not oversampled and the data do not support separate BIE estimates.

The NTPS definition of a school is generally similar to the CCD definition, with some exceptions. Like SASS, NTPS allows schools to define themselves. During SASS collections, Census Bureau staff observed that in situations where two or more schools have the same administration, these schools were reported separately on CCD but generally reported as one entity for the SASS. Thus, CCD schools with

[1] For more information about CCD, see https://nces.ed.gov/ccd/.

the same location, address, and phone number were collapsed during the frame building on the assumption that the respondent would consider them to be one school. Due to similarities with SASS, NTPS also followed the same type of collapsing procedure. A set of rules was applied to determine in which instances school records should be collapsed together. When school records were collapsed together, the student and teacher counts, grade ranges, and names as reported to CCD were all modified to reflect the change.

Finally, since CCD and NTPS differ in scope and their definition of a school, some records were deleted, added, or modified to provide better coverage and a more efficient sample design for NTPS. For a detailed list of frame modifications, see the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming). After deleting, collapsing, and adding school records, the NTPS public school sampling frame consisted of about 87,600 traditional public schools and 6,500 public charter schools.

NTPS uses a systematic, probability proportionate to size (PPS) sample (for an explanation of PPS sampling, see Cochran, 1977). Unlike SASS, NTPS did not stratify schools prior to sampling. Rather, some types of schools were oversampled based on specific characteristics such as the following:

- School grade level (primary, middle, high, combined);
- Collapsed urbanicity (city, suburban, town, rural); and
- Charter status.

In addition to oversampling based on specific school characteristics, sample sizes were inflated for schools in the six states with the smallest number of schools: Alaska, District of Columbia, Hawaii, Rhode Island, Vermont, and Wyoming.

Prior to sampling, schools were sorted by the following:

- charter status;
- school grade level (four categories);
- urbanicity (four categories);
- poverty status (four categories);
- school size category (based on full-time equivalent [FTE] teachers; two categories for middle and combined charter schools, three categories for all other schools);
- school type for noncharter schools (four categories);
- state; and
- number of FTE teachers.

These sampling procedures resulted in a total public school sample of about 7,130 traditional public schools and 1,170 public charter schools.

Principals. The principal of each sampled school was selected. About 8,300 school principals were sampled (7,130 traditional public school principals, 1,170 public charter school principals).

Data Collection Procedures

In 2015–16, NTPS employed a combined mail-based and internet survey approach, with subsequent telephone and in-person follow-up. Data collection included the Teacher Listing Form, Principal Questionnaire, School Questionnaire, and Teacher Questionnaire. This report focuses on the Principal Questionnaire.

In preparation for school-level data collection, advance letters were mailed to the sampled schools in June 2015 to verify their addresses. Initial school packages were mailed in September 2015.[2] Next, schools were telephoned using a computer-assisted telephone-interviewing instrument to verify school information, establish a survey coordinator, and follow up on the Teacher Listing Form if the school had not already provided an electronic teacher list. The in-person follow-up period was preceded by phone calls from the telephone centers to remind the survey coordinators to have staff complete and return all forms. Data collection ended in August 2016.

One of the main goals of the data collection plan for the 2015–16 NTPS was to target the schools that presented a challenge to data collection during previous administrations of SASS. These "known difficult" schools have resulted in poor response rates for certain school types (e.g., large schools in urban areas). Sampled schools that have a known large impact on weighting were targeted, as well. These schools were identified during sampling, and their data collection priority flag was set accordingly. Contact strategies that were more proactive during the early phases of data collection were employed during 2015–16 NTPS data collection to mitigate potential low response rates for these cases. Survey coordinators also were utilized during data collection. The role of the survey coordinator was to be the primary contact person at the school. A survey coordinator's duties included facilitating data collection by passing out questionnaires to the appropriate staff, reminding the staff to complete their questionnaires, and collecting the questionnaires to return. The data collection follow-up strategies for schools with a survey coordinator were different from schools without a survey coordinator, with the more proactive approach taken for those schools without a survey coordinator.

Data Processing and Imputation

The Census Bureau checked returned questionnaires, keyed the data, and implemented quality control procedures. Questionnaires that had a preliminary classification of a complete interview were submitted to a series of computer edits consisting of a range check, a consistency edit,[3] a blanking edit,[4] and a logic edit.[5] After these edits were run and reviewed by analysts, the records were put through another edit to make a final determination as to whether the case was eligible for the survey and whether sufficient data had been collected for the case to be classified as a complete interview.

After the final edits were run, cases with "not-answered" values for items remained. Values were imputed for these cases using two main approaches. First, donor respondent methods, such as hot-deck imputation, were used. Second, if no suitable donor case could be matched, the few remaining items were imputed using mean or mode from groups of similar cases to impute a value to the item with missing data. After each stage of imputation, computer edits were run again to verify that the imputed data were consistent with the existing questionnaire data. If that was not the case, an imputed value was blanked out by one of these computer edits due to inconsistency with other data within the same questionnaire or because it was out of the range of acceptable values. In these situations, Census Bureau analysts looked at the items and tried to determine an appropriate value. Edit and imputation flags, indicating which edit or imputation method was used, were assigned to each relevant survey variable. For further information, see the sections

[2] The NTPS school package contained a letter to the principal, an interior envelope containing a letter to the survey coordinator, the Teacher Listing Form, the Principal Questionnaire, the School Questionnaire, and postage-paid return envelopes.

[3] The consistency edits identified inconsistent entries within each case and, whenever possible, corrected them. If the inconsistencies could not be corrected, the inconsistent entries were deleted.

[4] Blanking edits delete answers to questions that should not have been filled in (e.g., if a respondent followed a wrong skip pattern).

[5] Data were added to questionnaire records during the logic edits, which filled in some items where data were missing or incomplete using other information on the same questionnaire or from other related data sources.

on data processing and imputation in the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

Response Rates

Unit response rates. The unit response rate indicates the percentage of sampled cases that met the definition of a complete interview. The weighted NTPS unit response rate was produced by dividing the weighted number of respondents who completed questionnaires by the weighted number of eligible sampled cases, using the initial base weight (the inverse of the probability of selection).[6] The weighted response rate using the initial base weight was 71.8 percent for public school principals.

Unit nonresponse bias analysis. Because the *NCES Statistical Standards* (4-4) require analysis of nonresponse bias for any survey stage with a base-weighted response rate less than 85 percent, the NTPS principal file was evaluated for potential bias. National-level estimates were first examined for potential bias. The base-weighted[7] unit response rate was calculated. The following frame characteristics were used for the Public School Principal Data File:

- *Charter status:* noncharter, charter
- *Enrollment:* less than 200, 200 to less than 500, 500 to less than 750, 750 to less than 1,000, 1,000 or more
- *Percent of enrollment with race other than White:* less than 5 percent, 5 to less than 10 percent, 10 to less than 20 percent, 20 to less than 30 percent, 30 to less than 50 percent, 50 percent or more
- *Percent free or reduced-price lunch eligible:* less than 35 percent, 35 to less than 50 percent, 50 to less than 75 percent, 75 percent or more
- *Community type (Locale):* city, suburb, town, rural
- *Pupil-teacher ratio:* less than 10, 10 to less than 15, 15 to less than 20, 20 or more
- *Grade level:* primary, middle, high, combined
- *Region:* Northeast, Midwest, South, West
- *Number of teachers:* less than 10, 10 to less than 25, 25 to less than 50, 50 to less than 75, 75 or more
- *Title I status:* Title I program, Title I noneligible, Title I eligible but no Title I program

First, the base-weighted distribution of responding principals was compared to the base-weighted distribution of sampled schools through *t* tests to find any school groups with potential bias prior to weighting adjustments. Table B-1 presents national-level school groups with a statistically significant difference in base-weighted percentages between the sampled cases and respondents. Additionally, the unit base-weighted response rate of each school group was compared to the overall base-weighted response rate through a *t* test and the base-weighted distribution of responding principals and the base-weighted distribution of nonrespondents were compared through a likelihood ratio chi-square test to find any groups that would have been over- or underrepresented by the respondents without nonresponse adjustment. The results for each set of tests were mostly consistent with the results presented in table B-1. Each comparison group with evidence of potential bias prior to weighting adjustments had a significant difference in response rate from the overall response rate and the respondents and nonrespondents had

[6] For the formula used to calculate the unit response rate, see *2012 Revision of NCES Statistical Standards: Final* (NCES 2014-097).

[7] Unit nonresponse bias analysis was conducted using the base weight, defined as the product of the initial base weight (the inverse of the probability of selection) and the sampling adjustment factor. The sampling adjustment factor is an adjustment that accounts for circumstances that affect the school's probability of selection that are identified after the data collection has begun, such as a merger, duplication, or incorrect building-level collapsing (e.g., a junior high school and a senior high school merge to become a junior/senior high school).

different distributions by each frame variable with a school group showing potential bias before weighting adjustments except for the grade level variable.

Table B-1. Indication of potential sources of bias for public school principal data at the national level based on comparisons between frame distribution and base-weighted or nonresponse-adjusted respondent distributions: 2015–16

			Potential source of bias	
Estimate level	Characteristic	Value	Base-weighted respondent distribution	Nonresponse-adjusted respondent distribution
National	Enrollment	Less than 200	x	x
National	Enrollment	750 to less than 1,000	x	
National	Enrollment	1,000 or more	x	x
National	Charter status	Noncharter		x
National	Charter status	Charter		x
National	Community type	City	x	
National	Community type	Suburban	x	
National	Community type	Town	x	
National	Community type	Rural	x	
National	Number of teachers	10 to less than 25	x	x
National	Number of teachers	25 to less than 50	x	
National	Number of teachers	50 to less than 75	x	x
National	Number of teachers	75 or more	x	x
National	Percent free lunch eligible	Less than 35%	x	x
National	Percent free lunch eligible	35% to less than 50%	x	
National	Percent free lunch eligible	50% to less than 75%	x	
National	Percent free lunch eligible	75% or more	x	
National	Percent non-White	Less than 5%	x	
National	Percent non-White	5% to less than 10%	x	
National	Percent non-White	10% to less than 20%	x	
National	Percent non-White	50% or more	x	
National	Grade level	Combined	x	
National	Student-teacher ratio	15 to less than 20		x
National	Region	Northeast	x	
National	Region	Midwest	x	
National	Title I status	Noneligible	x	

NOTE: x denotes comparisons that are a potential source of bias.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Documentation Data File," 2015–16.

Weighting adjustments were designed to reduce or eliminate nonresponse bias and to reduce the variance introduced due to sampling by adjusting the sample estimates to known totals from the frame. The final-weighted comparisons to eligible cases shown in table B-1 reflect the effect of weighting adjustment. This table shows that weighting adjustments eliminated most but not all evidence of potential bias. Evidence of potential bias remains after nonresponse adjustments for the following national-level items included in the analysis:

- Enrollment, for schools with less than 200 students and schools with 1,000 or more students;
- Number of teachers, for schools with 10 to less than 25, 50 to less than 75, and 75 or more teachers; and

- Percent free or reduced-price lunch eligible, for schools where less than 35 percent of students were eligible for free or reduced-price lunches.

Evidence of potential bias formed after nonresponse adjustments for the following national-level items included in the analysis:

- Charter status, for charter and noncharter schools; and
- Pupil-teacher ratio, for schools with a student-teacher ratio of 15 to less than 20 students.

For further information on unit response rates and nonresponse bias analysis, see the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

Item response rates. The item response rate indicates the percentage of respondents who answered a given survey question or item. The weighted NTPS item response rate is calculated by dividing the weighted number of respondents who provided an answer to an item by the weighted number of respondents who were eligible to answer that item.[8] Table B-2 provides a summary of the weighted item response rates. For the public school principal data, no items had a response rate below 85 percent. For further information on item response rates and bias analysis, see the *Survey Documentation for the 2015–16 National Teacher and Principal Survey* (Cox et al. forthcoming).

Table B-2. Summary of weighted item response rates, by survey: 2015–16

Survey	Percent of items with a response rate of 85 percent or more	Percent of items with a response rate of less than 85 percent
Public School Principal	100.0	0

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Documentation Data File," 2015–16.

Weighting

The general purpose of weighting is to scale up the sample estimates to represent the target survey population. For NTPS, a base weight is used as the starting point. In most cases, this base weight is the simple reciprocal of the unit's probability of selection on the frame (the initial base weight), and in other cases, adjustments are made to this frame base weight to reflect multiple chances of selection from the frame or other situations such as subsampling.

Next, a series of nonresponse adjustment factors are calculated and applied based on a weighting cell adjustment. Weighting cells are developed using tree search algorithms. These cells are selected to be homogeneous in response propensity within cells and heterogeneous in response propensity across cells (response propensity is the underlying "chance" that a particular sample unit will respond by completing the questionnaire: its individual response rate). The adjustment is the inverse of the weighted response rate within each cell, and each respondent in the cell receives this adjustment. Nonrespondents are given weights of zero and the respondents are reweighted to represent the nonrespondents. The variables examined for potential bias were the same as those used by the tree search algorithms. All of the subgroups that showed potential bias as given in table B-1 above were used as cell generators by the tree search algorithms except for charter status, as well as other subgroups which are related, and may show

[8] For the formula to calculate the item response rate, see *2012 Revision of NCES Statistical Standards: Final* (NCES 2014-097).

differential response conditional on other subgroups (i.e., they may be chosen as cell generators by the tree search algorithm within particular branches).

Finally, for the principal file, a raking factor is calculated and applied to the sample to adjust the sample totals to the frame totals, so that the sum of the weights within each of the specified cells is equal to the corresponding frame total for the cell. These cells are defined based on school level, urbanicity, and percentage of students eligible for free or reduced-price lunch. The weights are then adjusted to the control totals by an iterative process, referred to as raking, until the weights simultaneously aggregate to be equal to each set of control totals. In some cases, extreme weights may be trimmed back to a cutoff value. This all improves the precision of survey estimates.

The product of these factors is the final weight for each NTPS respondent, which appears as PFNLWGT on NTPS Public School Principal Data File.

The counts in table 1 (in the Estimate Tables section) do not necessarily match the frame counts because some cases in the frame were found to be ineligible (i.e., out of scope). Some of the counts for selected school characteristics may not match between school and principal data files due to independent weighting procedures, differential nonresponse, rounding, and not every school having a principal.

Variance Estimation

In surveys with complex sample designs, such as NTPS, direct estimates of sampling errors that assume a simple random sample typically underestimate the variability in the estimates. The NTPS sample design and estimation include procedures that deviate from the assumption of simple random sampling, such as sampling with differential probabilities.

One method of calculating sampling errors of complex sample designs is jackknife replication. Jackknife replication methods involve dropping a small portion of the sample from the full sample and computing the statistic of interest for the retained and reweighted sample (the jackknife replicate). The sum of squares of the replicate estimates around the full sample estimate provides an estimate of the variance of the statistic. The NTPS principal data file includes a set of 200 replicate weights designed to produce variance estimates. The set of replicate weights for each file should be applied to the respondents in that file. The replicate weights for NTPS respondents are PREPWT1–PREPWT200 for principals.

Reliability of Data

NTPS estimates are based on samples. The sample estimates may differ somewhat from the values that would be obtained from the universe of respondents using the same questionnaire, instructions, and field representatives. The difference occurs because a sample survey estimate is subject to two types of errors: nonsampling and sampling. Estimates of the magnitude of sampling error for NTPS data can be derived or calculated. Nonsampling errors are attributed to many sources, including definitional difficulties, the inability or unwillingness of respondents to provide correct information, differences in the interpretation of questions, an inability to recall information, errors made in collection (e.g., in recording or coding the data), errors made in processing the data, and errors made in estimating values for missing data. Quality control and edit procedures were used to reduce errors made by respondents, coders, and interviewers.

Comparability to SASS

NTPS is a new survey that is strongly based on SASS. However, care must be taken in estimating changes over time in data elements that both surveys have in common because some of the change measured may not be attributable to a change in the education system.

Some of the change may be due to changes in the sampling frame, changes in the questionnaire item wording, or other changes. Additionally, NTPS is a different survey than SASS and pulls data from a larger variety of sources and timeframes than SASS did. While SASS collected data on student race/ethnicity, special programs, and high school graduation, the 2015–16 NTPS gets this information from external sources. Data on student gender and race/ethnicity are taken from the 2014–15 CCD, while graduation rates come from the 2014–15 *EdFacts* data and information on special programs[9] came from the 2013–14 Civil Rights Data Collection.

Additionally, the 2015–16 NTPS is not representative at the state level, and comparisons to SASS may only be made at the national level. Private sector schools are also excluded from the 2015–16 NTPS. The next round of NTPS, in 2017–18, will include private sector schools and be representative at the state level.

[9] Special programs include: magnet programs, gifted programs, disciplinary programs, Advanced Placement classes, and International Baccalaureate classes.

Appendix C: Description of Variables

Description of Variables

The variables that are included in this report are listed in table C-1. Those with variable names that begin with "P" and are followed by four digits are survey variables that come from items on the school principal questionnaire. The variables without the letter plus four digit names are "derived variables," meaning they were created using survey variables, frame variables (variables taken from the sampling frame), other created variables, or a combination of these. They are frequently used in National Center for Education Statistics publications and have been added to the data files to facilitate data analysis. The definitions for the created variables follow table C-1.

Table C-1. Variables used in the *Characteristics of Public Elementary and Secondary School Principals in the United States: Results From the National Teacher and Principal Survey* report: 2015–16

Variable	Variable name in data files
Annual salary	P0908
Charter school identifier	CHARFLAG
Four-category school level	SCHLEV_4CAT
Highest degree earned	P0106
Hours spent per week on school-related activities	P1400
Percentage of time spent on internal administrative tasks	P1401
Percentage of time spent on curriculum and teaching-related activities	P1402
Percentage of time spent on interacting with students	P1403
Percentage of time spent on interacting with parents	P1404
Percentage of students in the school approved for National School Lunch Program	NSLAPP_S
Principal's age	AGE_P
Principal's influence on deciding how your school budget will be spent	P0209
Principal's influence on determining the content of in-service professional development programs for teachers of this school	P0205
Principal's influence on establishing curriculum at this school	P0204
Principal's influence on evaluating teachers of this school	P0206
Principal's influence on hiring new full-time teachers of this school	P0207
Principal's influence on setting discipline policy at this school	P0208
Principal's influence on setting performance standards for students of this school	P0203
Principal's race/ethnicity	RACETH_P

See notes at end of table.

Table C-1. Variables used in the *Characteristics of Public Elementary and Secondary School Principals in the United States: Results From the National Teacher and Principal Survey* report: 2015–16—Continued

Variable	Variable name in data files
Principal's sex	P0900
Student enrollment	SCHSIZE
Total years of experience as a school principal	P0104
Total years of experience as a school principal at current school	P0105
Urban-centric school locale code	URBANS12

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), "Public School Principal Data File," 2015–16.

Charter school identifier (CHARFLAG): A flag variable taken from the Public School Data File that identifies charter schools. 1 = School is a public charter school, 2 = School is a traditional public school. A charter school is a public school that, in accordance with an enabling state statute, has been granted a charter exempting it from selected state or local rules and regulation. CHARFLAG is based on S0500 from the Public School Data File.

Four-category school level (SCHLEV_4CAT): Taken from the Public School Data File, SCHLEV_4CAT is a four-category variable based on grades reported by the school: primary, middle, high, and combined. Primary schools are those with at least one grade lower than 5 and no grade higher than 8. Middle schools have no grade lower than 5 and no grade higher than 8. High schools have no grade lower than 7 and at least one grade higher than 8. Combined schools are those with at least one grade lower than 7 and at least one grade higher than 8, or with all students in ungraded classrooms.

Principal's age (AGE_P): A variable based on a respondent's reported year of birth. AGE_P is a continuous variable that was created by subtracting the principal's reported year of birth (P0907) from the year of data collection (2015).

Principal's race/ethnicity (RACETH_P): A variable created for this analysis based on P0901—whether or not the principal is of Hispanic or Latino origin and P0902–P0906—the principal's race. The following categories were created for analysis:

- Hispanic, regardless of race: the principal indicates he/she is of Hispanic or Latino origin (P0901 = 1);
- White, non-Hispanic: the principal indicates he/she is White (P0902 = 1), not of Hispanic or Latino origin (P0901=2), and does not consider him/herself to be any other race;
- Black or African-American, non-Hispanic: the principal indicates he/she is Black or African-American (P0903 = 1), not of Hispanic or Latino origin (P0901=2), and does not consider him/herself to be any other race; and
- Other: the principal indicates he/she is Asian, Native Hawaiian or Other Pacific Islander, or American Indian or Alaska Native (P0904 = 1 or P0905 = 1 or P0906 = 1), or considers him/herself to be more than one race, and not of Hispanic or Latino origin (P0901=2).

Percentage of students in school approved for the National School Lunch Program (NSLAPP_S): Taken from the Public School Data File, NSLAPP_S is a continuous variable created by dividing the number of K–12 and ungraded students approved for free or reduced-price lunches (S0410) by the total

number of K–12 and ungraded students enrolled (S0115) among schools that participated in the National School Lunch Program (NSLP) (S0409=1). Schools that did not participate in NSLP have valid skip values. For this report, NSLAPP_S is recoded as a categorical variable describing the proportion of students approved for free or reduced-price lunches.

Student enrollment in K–12 and ungraded (SCHSIZE): Taken from the Public School Data File, SCHSIZE is a categorical variable based on the number of K–12 and ungraded students enrolled in the school (S0115). For this report, SCHSIZE was recoded into six categories for public schools.

Urban-centric school locale code (URBANS12): Taken from the Public School Data File, URBANS12 is a created variable collapsed from the 12 category urban-centric school locale code (SLOCP12) which was updated to incorporate Census population and geography information and recoded into four categories: city, suburban, town, and rural.