STATS IN BRIEF
U.S. DEPARTMENT OF EDUCATION DECEMBER 2015 NCES 2015–089

Public School Teacher Autonomy in the Classroom Across School Years 2003–04, 2007–08, and 2011–12

AUTHORS
Dinah Sparks
Activate Research, Inc.

Nat Malkus
American Institutes for Research

PROJECT OFFICER
John Ralph
National Center for Education Statistics

Statistics in Brief publications present descriptive data in tabular formats to provide useful information to a broad audience, including members of the general public. They address topical issues and questions. They do not investigate more complex hypotheses, account for inter-relationships among variables, or support causal inferences. We encourage readers who are interested in more complex questions and in-depth analysis to explore other NCES resources, including publications, online data tools, and public- and restricted-use datasets. See nces.ed.gov and references noted in the body of this document for more information.

Scholars have studied varying

aspects of teacher working conditions to identify areas that may improve teacher experiences and reduce attrition rates (Ingersoll 2006; Liu and Meyer 2005; Pearson and Moomaw 2005). One element of working conditions is teacher control over classroom activities, also called teacher autonomy (Ingersoll and May 2012). Teacher autonomy is a complex aspect of teachers' working conditions because it requires that educators balance the need for cohesion and structure in school systems against the need for independence in instruction (Campbell 2006; Firestone 2001; Ingersoll 2006). For instance, scholars have argued that teachers require some degree of autonomy to use their professional judgment to tailor instruction to students in varying situations and contexts (Glazer 2008). However, research suggests that some limits to autonomy may be necessary, as school administrators and policymakers must consider local and national expectations of accountability, standardization, and equity (Finnigan and Gross 2007; Hanushek and Raymond 2004).

This publication was prepared for NCES under Contract No. ED-IES-12-D-0002 with American Institutes for Research. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.

ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences

Research finds that teacher autonomy is positively associated with teachers' job satisfaction and teacher retention (Guarino, Santibañez, and Daley 2006; Ingersoll and May 2012). Teachers who perceive that they have less autonomy are more likely to leave their positions, either by moving from one school to another or leaving the profession altogether (Berry, Smylie, and Fuller 2008; Boyd, Lankford, Loeb, and Wyckoff 2008; Ingersoll 2006; Ingersoll and May 2012). Teacher autonomy is an important topic for administrators and policymakers to consider when trying to improve teacher satisfaction and reduce teacher attrition rates.

DATA SOURCES AND OVERVIEW OF BRIEF

This Statistics in Brief explores teacher autonomy in the classroom during the 2003–04, 2007–08, and 2011–12 school years. Using data from the National Center for Education Statistics (NCES) Schools and Staffing Survey (SASS), the Statistics in Brief examines a construct of teacher autonomy based on teachers' responses to six questions regarding perceptions of influence over classroom instruction and classroom management.[1] The brief focuses on how teachers' perceptions[2] of autonomy have changed over these three school years, as well as how levels of teacher autonomy vary across selected teacher and school characteristics.

This brief reports the percentage distribution of perceived autonomy for each characteristic presented (i.e., each characteristic sums to 100 percent across the three levels of autonomy). For example, the percentages of public secondary school teachers who perceived high, moderate, or low autonomy in the 2011–12 school year were 16, 65, and 19 percent, respectively, which captures 100 percent of public secondary school teachers. This full distribution by characteristic allows comparison between levels of autonomy in one year and comparisons for a specific level from year to year.

Comparisons made in the text of this Statistics in Brief were tested for statistical significance at the $p < .05$ level to ensure that the differences were larger than might be expected due to sampling variation. Consistent with widely accepted statistical standards, only those findings that are statistically significant at the .05 level are reported. No adjustments were made for multiple comparisons. The comparisons reported below do not constitute an exhaustive list of all statistically significant results from the study.

[1] Prior research has used this same approach to study teacher autonomy (Ingersoll and May 2012; Ingersoll and Alsalam 1997).

[2] The construct of teacher autonomy used in this report is described in detail in the **Methodology and Technical Notes** at the end of this brief.

Measuring Teacher Autonomy

The measure of autonomy used in this Statistics in Brief is constructed from teachers' responses to six questionnaire items in the 2003–04, 2007–08, and 2011–12 SASS. Teachers were asked, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?

- selecting textbooks and other classroom materials;
- selecting content, topics, and skills to be taught;
- selecting teaching techniques;
- evaluating and grading students;
- disciplining students; and
- determining the amount of homework to be assigned."

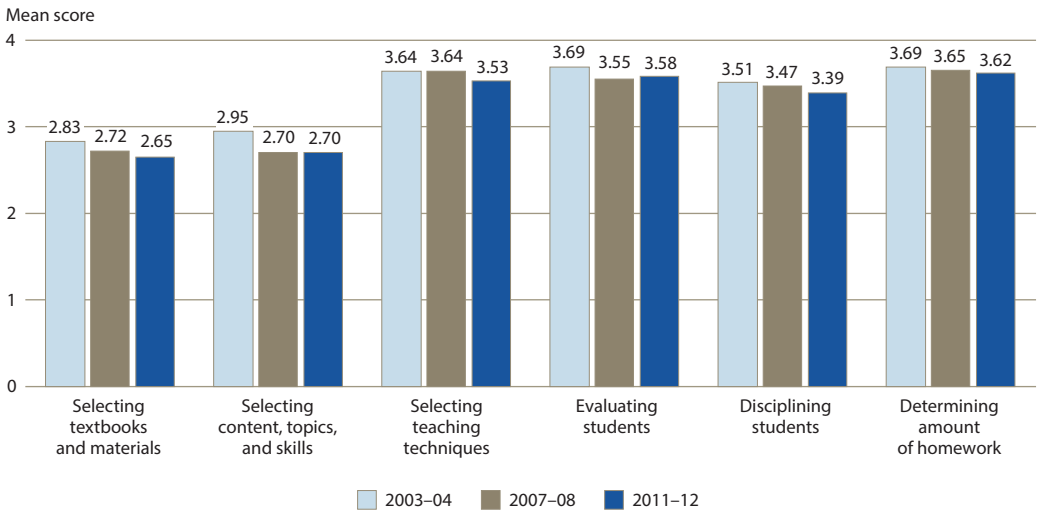
For each area of planning and teaching, teachers reported whether they perceived:

- "No control," which received a score of 1;
- "Minor control," which received a score of 2;
- "Moderate control," which received a score of 3; or
- "A great deal of control," which received a score of 4.

Figure 1 displays the average scores of the six constituent items of the autonomy scale for each year.

FIGURE 1.

Public school teachers' mean score on measures of perceived autonomy: School years 2003–04, 2007–08, and 2011–12



NOTE: The SASS questionnaire item is worded as follows: "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" Answers were scored on a 4-point scale where 1=no control, 2=minor control, 3=moderate control, and 4=a great deal of control.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

In this brief, for comparisons by teacher and school characteristics within and across years, teachers are classified into three levels of autonomy—high, moderate, and low—based on their responses to all six questionnaire items. "High" autonomy includes teachers who perceived "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3).

For more information about the autonomy measures used in this study, please see **Methodology and Technical Notes** at the end of this brief.

STUDY QUESTIONS

1. What were teachers' overall perceptions of autonomy in school years 2003–04, 2007–08, and 2011–12?
2. What changes, if any, occurred in teachers' perceptions of low autonomy from the 2003–04 school year to the 2007–08 and the 2011–12 school years, by teacher and school characteristics?
3. What changes, if any, occurred in teachers' perceptions of high autonomy from the 2003–04 school year to the 2007–08 and the 2011–12 school years, by teacher and school characteristics?

KEY FINDINGS

- Across all three survey years, the majority of teachers perceived moderate autonomy (figure 2).
- Compared to 2003–04, along nearly every teacher and school characteristic, larger percentages of teachers perceived low autonomy in 2007–08, with still larger percentages in 2011–12 (figure 3).
- Perceptions of autonomy shifted from high to low for teachers who taught in low-poverty schools and who taught in towns. In 2003–04, larger percentages of these teachers perceived high autonomy than perceived low autonomy. In 2007–08 and again in 2011–12, the reverse was true; larger percentages perceived low autonomy than perceived high autonomy (figure 7).
- In each year, teachers whose main assignment was music or who worked in schools with 100–199 students were the only teachers with larger percentages of teachers who perceived high autonomy than low autonomy.

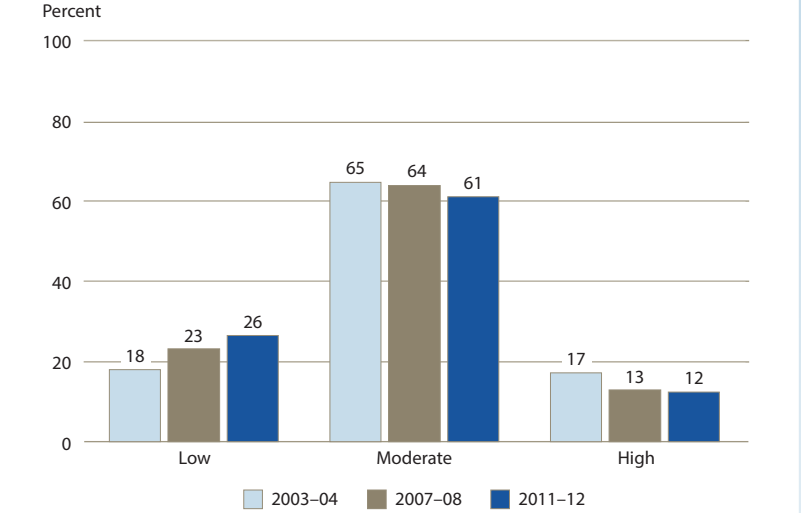
1 What were teachers' overall perceptions of autonomy in school years 2003–04, 2007–08, and 2011–12?

Figure 2 displays the overall distribution of teacher autonomy for each of the three school years. Across all survey years, the majority of teachers perceived moderate autonomy. The percentage of teachers who perceived low autonomy, meaning that they reported a low measure of control over instruction and planning in their classroom, increased over the reported survey years. This change was accompanied by a decrease in the percentage of teachers who perceived a high level of autonomy between 2003 and 2007 and a decrease in the percentage who perceived a moderate level of autonomy between 2007 and 2011.

In the 2003–04 school year, 18 percent of teachers perceived low autonomy. That percentage increased by 5 points to 23 percent in 2007–08, and by an additional 3 percentage points to 26 percent in 2011–12. About 12 percent of teachers perceived high autonomy in 2011–12, which was 5 percentage points lower than in 2003–04, but not significantly different from 2007–08. While the majority of teachers reported moderate autonomy in all three years, smaller percentages of teachers perceived moderate autonomy in 2011–12 (61 percent), than teachers in 2007–08 (64 percent), or in 2003–04 (65 percent).

FIGURE 2.

Percentage distribution of public school teachers, by their perceptions of autonomy: Schools years 2003–04, 2007–08, and 2011–12



NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned. Detail may not sum to 100 because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

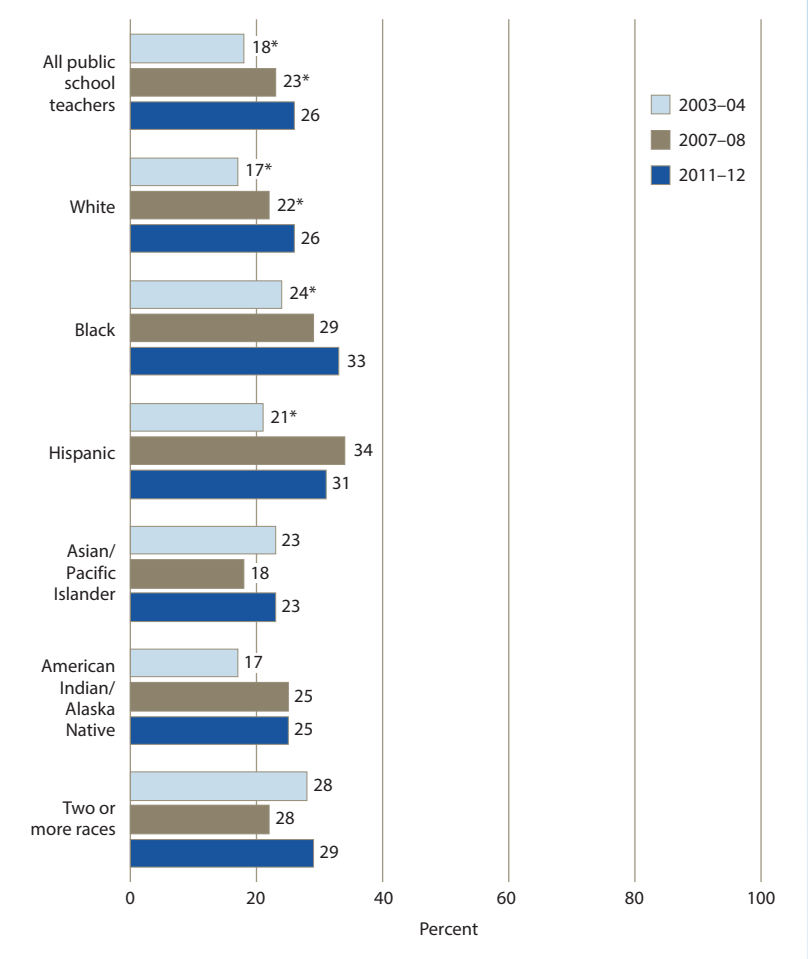
2 What changes, if any, occurred in teachers' perceptions of low autonomy from the 2003–04 school year to the 2007–08 and the 2011–12 school years, by teacher and school characteristics?

Consistent with the overall pattern, along nearly every teacher and school characteristic larger percentages of teachers perceived low autonomy in 2011–12 than in 2003–04. To illustrate, among White teachers 26 percent perceived low autonomy in 2011–12, and 17 percent perceived low autonomy in 2003–04 (figure 3). Larger percentages of Black and Hispanic teachers also perceived low autonomy in 2011–12 compared to 2003–04 (33 vs. 24 percent for Black teachers; 31 vs. 21 percent for Hispanic teachers).

Additional examples of teacher characteristics that fit this pattern include years of teaching experience and age (table A-2). For instance, higher percentages of teachers with both 10–19 years of experience and 20 years or more of teaching experience perceived low autonomy in 2011–12, compared to 2003–04. Additionally, higher percentages of teachers aged 40–49 and 50 or more perceived low autonomy in 2011–12, compared to 2003–04.

FIGURE 3.

Percent of public school teachers who perceived low autonomy, by race/ethnicity: School years 2003–04, 2007–08, and 2011–12



* Significantly different from 2011–12.

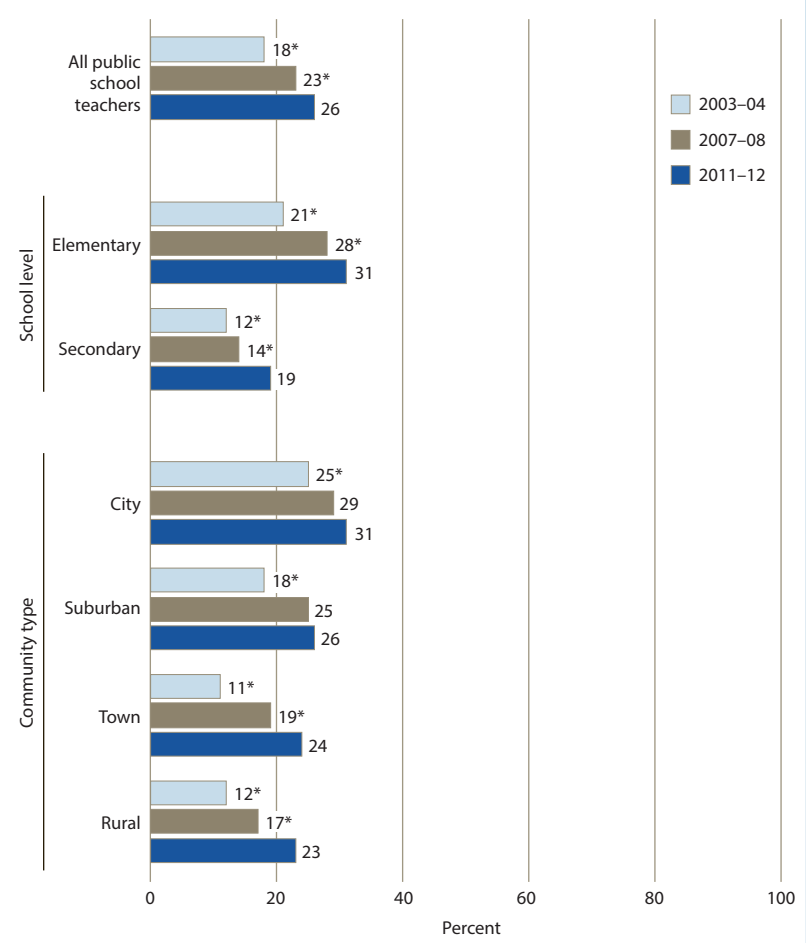
NOTE: Race categories exclude persons of Hispanic ethnicity. "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

Increases in the percent of teachers who perceived low autonomy were found along school characteristics. For example, higher percentages of teachers in both elementary schools and secondary schools perceived low autonomy in 2011–12, compared to 2003–04. Additionally, compared to 2003–04, larger percentages of teachers in schools in towns or rural communities perceived low autonomy in 2007–08 with still larger percentages in 2011–12 (figure 4).

FIGURE 4.

Percent of public school teachers who perceived low autonomy, by school level and community type: School years 2003–04, 2007–08, and 2011–12



* Significantly different from 2011–12.

NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

3 What changes, if any, occurred in teachers' perceptions of high autonomy from the 2003–04 school year to the 2007–08 and the 2011–12 school years, by teacher and school characteristics?

Three main patterns were found for teacher perceptions of high autonomy. First, compared to 2003–04, for certain teacher subgroups, the percentages of teachers who perceived high autonomy decreased in 2007–08, with further decreases in 2011–12. Second, in 2003–04, some teacher subgroups had larger percentages of teachers who perceived high autonomy than perceived low autonomy. These percentages shifted such that by 2011–12, the reverse was true—larger percentages of teachers perceived low autonomy compared to high autonomy. Third, two teacher subgroups maintained larger percentages of high autonomy compared to low in each of the three school years; however, the gap between the percentages for the two levels of autonomy narrowed.

Each of these patterns is explained in detail in the three sub-sections that follow, first by teacher, then by school characteristics where applicable.

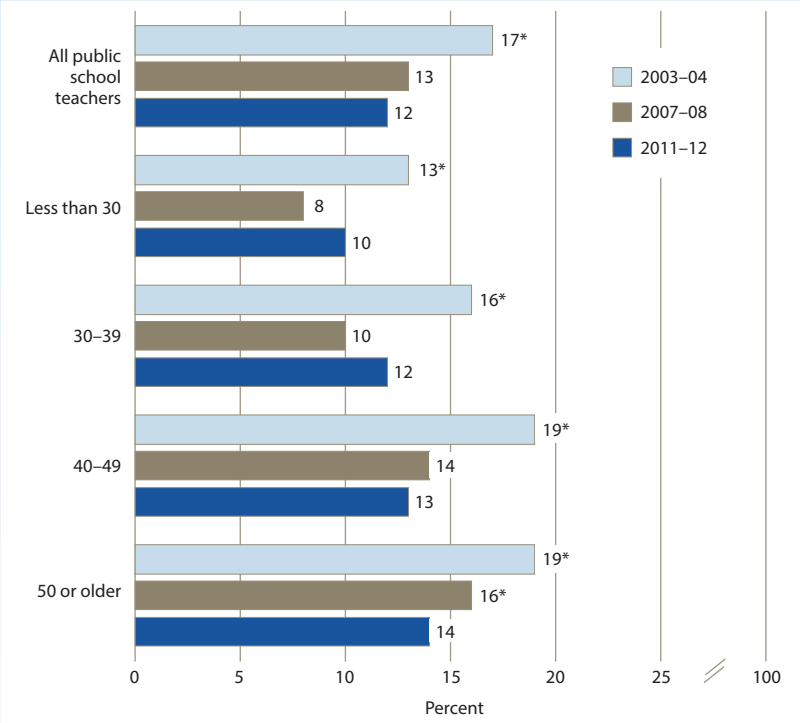
Decreases in high autonomy

Compared to the 2003–04 school year, smaller percentages of the following types of teachers perceived high autonomy in 2007–08, and still smaller percentages perceived high autonomy in 2011–12:

- Teachers aged 50 years or older (19, 16, and 14 percent, respectively, figure 5) and
- Teachers with 20 years or more experience (20, 18, and 14 percent, respectively; figure 6).

FIGURE 5.

Percent of public school teachers who perceived high autonomy, by age: School years 2003–04, 2007–08, and 2011–12



* Significantly different from 2011–12.

NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

Shifts from high autonomy to low autonomy

The perceptions of teachers in six subgroups (three teacher and three school characteristics) experienced something like a reversal over time. In these cases, the percentage of teachers who perceived high autonomy in 2003–04 was greater than the percentage who perceived low autonomy. However, in 2007–08 and/or 2011–12 larger percentages perceived low autonomy than high autonomy.

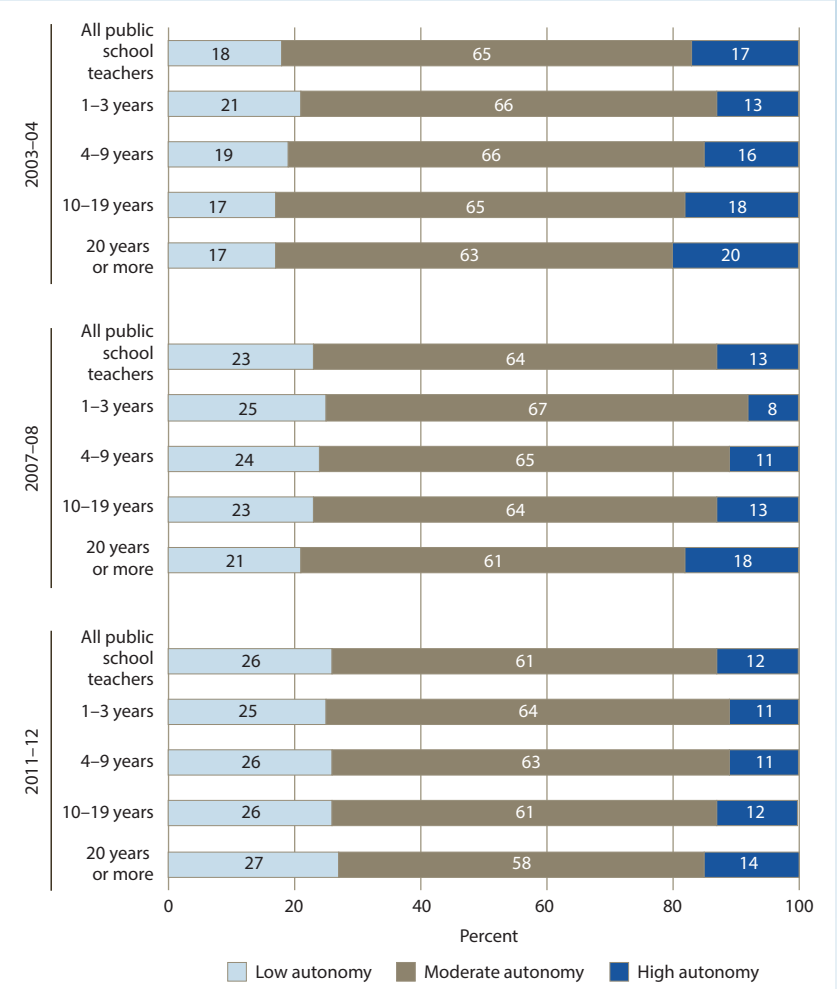
Teacher Characteristics

In 2003–04, larger percentages of teachers in the subgroups listed below perceived high autonomy than perceived low autonomy. In 2007–08 and in 2011–12, the opposite was true:

- Teachers with 20 years or more experience (20 vs. 17 percent, 18 vs. 21 percent, 14 vs. 27 percent; 2003–04, 2007–08, 2011–12, respectively; figure 6);
- Teachers aged 40 to 49 (19 vs. 16 percent, 15 vs. 23 percent, 13 vs. 26 percent; 2003–04, 2007–08, 2011–12, respectively, table A-2); and
- Teachers who taught special education as their primary assignment (25 vs. 17 percent, 17 vs. 23 percent, 16 vs. 27 percent; 2003–04, 2007–08, 2011–12, respectively, table A-2).

FIGURE 6.

Percentage distribution of public school teachers, by their perceptions of autonomy and teaching experience: School years 2003–04, 2007–08, and 2011–12



NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

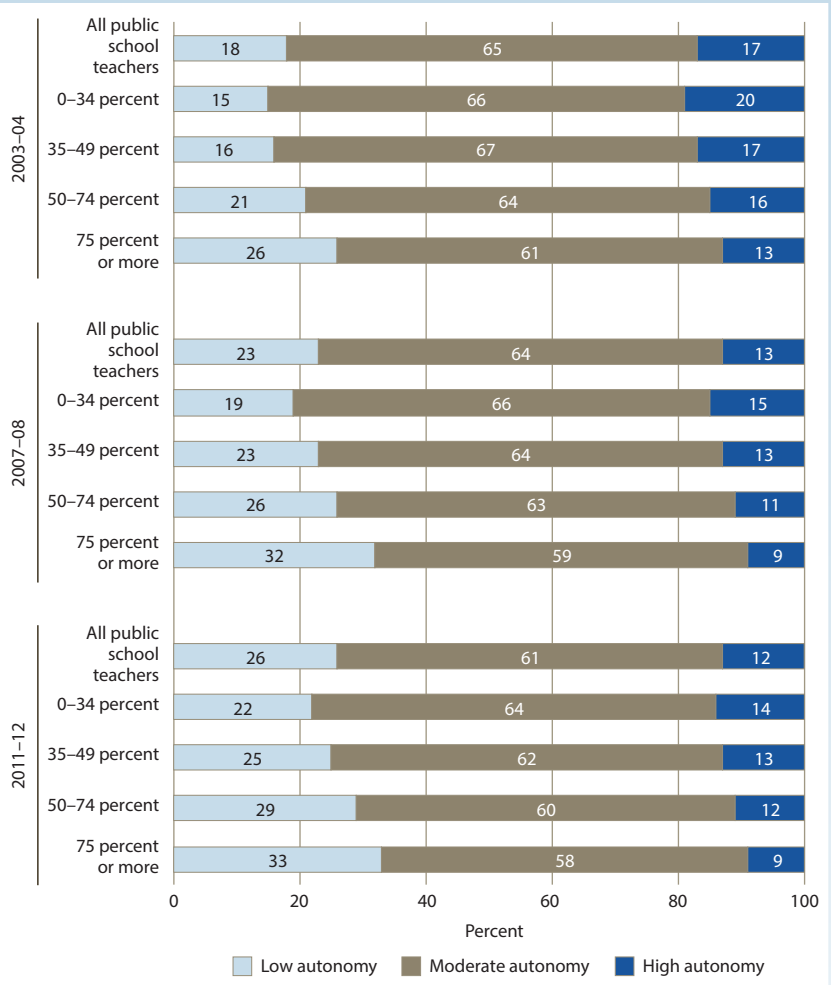
School Characteristics

Within the school characteristics noted below, the percentages of teachers differed between those who perceived high and low autonomy for each school year, and these teachers experienced a reversal in their perceptions of autonomy levels. Specifically, in 2003–04, larger percentages of teachers perceived high autonomy than perceived low autonomy, but in subsequent school years, the percentages shifted such that larger percentages of teachers perceived low autonomy than perceived high autonomy. The changes were significant among:

- Teachers in schools with 0–34 percent of K–12 students approved for free or reduced-price lunch (figure 7);
- Teachers in schools in towns (table A-2); and
- Teachers in secondary schools, although the shift did not occur until 2011–12 (table A-2).[3] Meanwhile, teachers in secondary, low-minority, and rural schools experienced a shift from larger percentages who perceived high autonomy compared to low autonomy in 2003–04 to larger percentages who perceived low autonomy than high autonomy in 2011–12.

FIGURE 7.

Percentage distribution of public school teachers, by their perceptions of autonomy and percent of K–12 students approved for free or reduced-price school lunch: School years 2003–04, 2007–08, and 2011–12



NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned. Low-poverty schools have 0 to 34 percent of students approved for free or reduced-price school lunch.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

[3] While larger percentages of teachers in secondary schools continued to perceive high levels of autonomy compared to low in 2007–08, there was no measurable difference in 2007–08 between high and low autonomy levels for teachers in low-minority and rural schools.

Maintained high autonomy

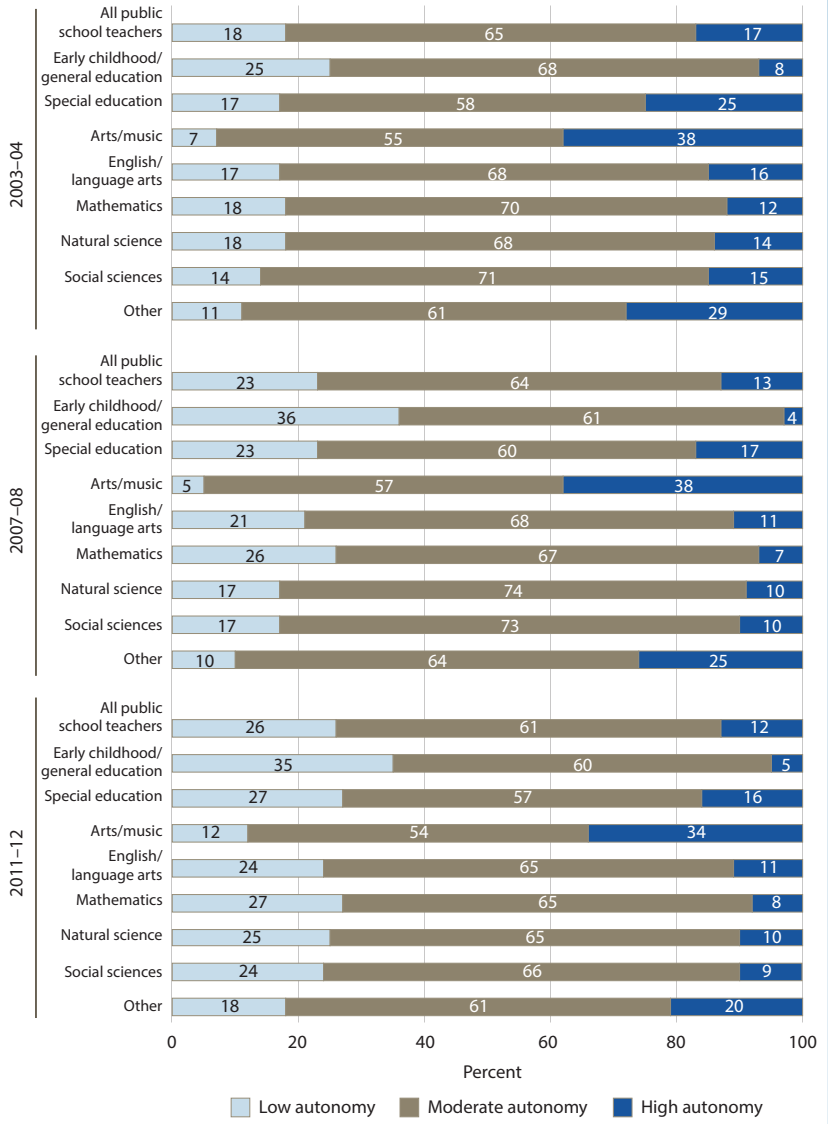
In contrast to the other characteristics discussed in this report, two teacher subgroups maintained perceptions of high autonomy across the survey years.

Teacher Characteristics

Within each year, unlike any other teacher characteristic, higher percentages of teachers who taught arts/music perceived high autonomy than perceived low autonomy (figure 8). Most recently, in 2011–12, 34 percent of arts/music teachers perceived high autonomy, compared to 12 percent who perceived low autonomy. Notwithstanding the maintained perception of high autonomy compared to low for these teachers, from 2007–08 to 2011–12 the percentage of arts/music teachers who perceived low autonomy increased by 7 percentage points (5 to 12 percent).

FIGURE 8.

Percentage distribution of public school teachers, by their perceptions of autonomy and primary teaching assignment: School years 2003–04, 2007–08, and 2011–12



NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned. "Other" primary teaching assignment includes English as a Second Language (ESL), foreign language, health/physical education, career and technical education, and all other assignments.

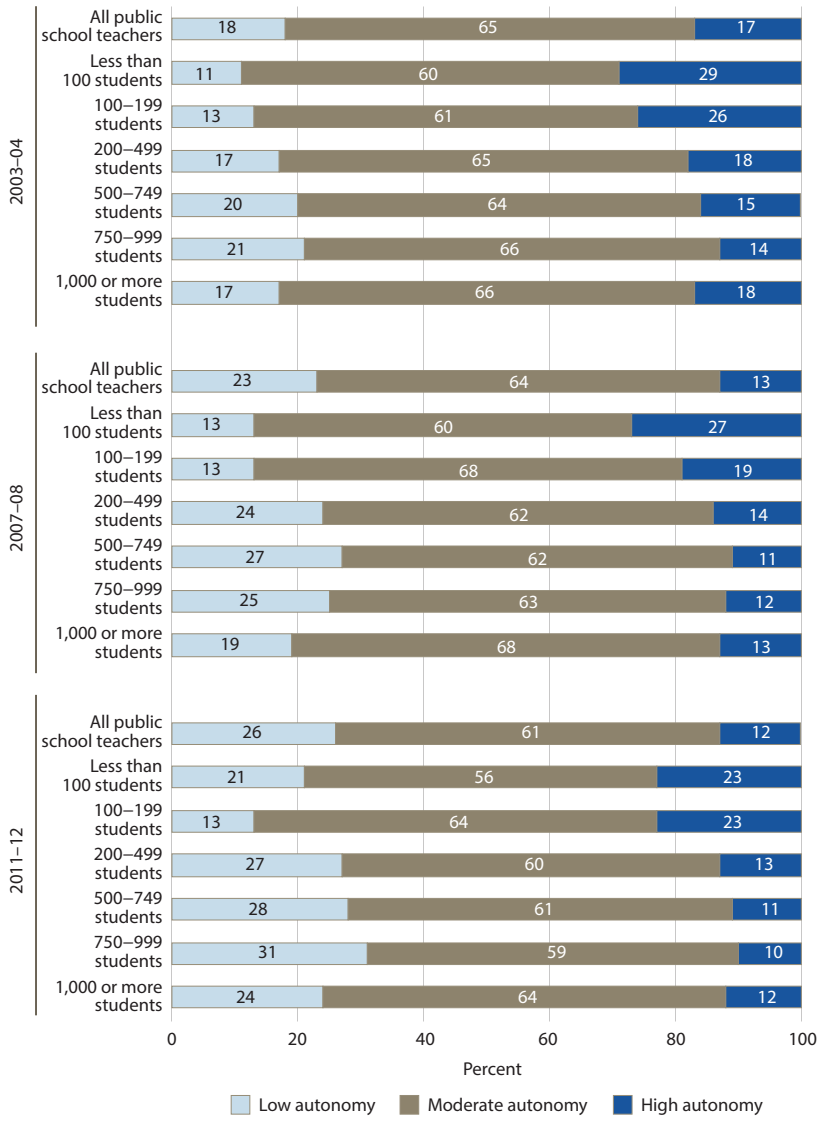
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

School Characteristics

Unlike any other school characteristic, for each of the three years larger percentages of teachers who worked in schools with 100 to 199 students perceived high autonomy than perceived low autonomy (figure 9).[4] Most recently, in 2011–12, about 23 percent of teachers in these schools perceived high autonomy compared to 13 percent who perceived low autonomy.

FIGURE 9.

Percentage distribution of public school teachers, by their perceptions of autonomy and school size: School years 2003–04, 2007–08, and 2011–12



NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3). The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

[4] All other school characteristics either had larger percentages of teachers who perceived low autonomy in at least one of the years or had no measurable difference between high and low autonomy in at least one of the years.

FIND OUT MORE

For questions about content, to download this Statistics in Brief, or to view this report online, go to:

http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015089

Readers of this brief may be interested in the following:

Goldring, R., Gray, L., and Bitterman, A. (2013). *Characteristics of Public and Private Elementary and Secondary School Teachers in the United States: Results From the 2011–12 Schools and Staffing Survey* (NCES 2013-314). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Coopersmith, J. (2009). *Characteristics of Public, Private, and Bureau of Indian Education Elementary and Secondary School Teachers in the United States: Results From the 2007–08 Schools and Staffing Survey* (NCES 2009-324). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Strizek, G.A., Pittsonberger, J.L., Riordan, K.E., Lyter, D.M., and Orlofsky, G.F. (2006). *Characteristics of Schools, Districts, Teachers, Principals, and School Libraries in the United States: 2003–04 Schools and Staffing Survey* (NCES 2006-313 Revised). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

METHODOLOGY AND TECHNICAL NOTES

Overview of SASS

SASS is sponsored by the National Center for Education Statistics (NCES)—which is part of the Institute of Education Sciences within the U.S. Department of Education—and is conducted by the U.S. Census Bureau. SASS is designed to produce national, regional, and state estimates for public elementary and secondary schools and related components (i.e., teachers, principals, school districts, and school library media centers). This report uses data from the 2003–04, 2007–08, and 2011–12 SASS Public School Teacher Questionnaire and Public School Questionnaire data files. Estimates in tables A-1 and A-2 of this report are based on data collected from about 43,240 public school teachers in 2003–04, about 38,240 public school teachers in 2007–08, and about 37,500 teachers in 2011–12 who provided SASS teacher questionnaire data. When properly weighted, these data produce nationally representative estimates for public school teachers in each year. Information about obtaining the SASS data and publications can be found at the SASS website: http://nces.ed.gov/surveys/sass/.

Public school and public school teacher sample design

For the 2003–04, 2007–08, and 2011–12 SASS data collections, the sampling frames for traditional and public charter schools were built from the Common Core of Data (CCD) Public Elementary/Secondary School Universe Survey of 2001–02, 2005–06, and 2009–10, respectively. CCD is a universe survey of all public elementary and secondary schools in the United States. The SASS public school sample is a stratified probability-proportionate-to-size (PPS) sample.

The sampling frame for SASS teachers consists of lists of teachers provided by schools in the SASS sample. Teachers are defined as staff who teach a regularly scheduled class to students in grades K–12. Respondents are instructed to exclude teachers of prekindergarten only, teachers of adult education or postsecondary education only, short-term substitutes, student teachers, teacher aides, day care aides, and librarians who only teach library skills. The sample of teachers is selected from all of the schools that provide teacher lists.

On average, three to eight teachers were selected from each school. The maximum number of teachers selected per school was set at 20. The teacher sample size is limited in this way to avoid overburdening the schools, while allowing for a large enough teacher sample to meet the reliability requirements.

For more information on SASS sampling frames and sample design, see the Methods and Procedures pages of the SASS website (http://nces.ed.gov/surveys/sass/methods0304.asp for 2003–04 and http://nces.ed.gov/surveys/sass/methods0708.asp for 2007–08; 2011–12 is not yet available through the website).

Data collection

The data collection procedures for all questionnaires administered at the schools were changed from mail-based to in-person delivery and pick-up for the 2003–04 SASS. In previous administrations of SASS, self-administered questionnaires were mailed to the selected schools. Nonrespondents were then contacted by telephone, using a computer-assisted telephone interviewing (CATI) instrument. Finally, the remaining nonrespondents were assigned to field representatives who contacted them by telephone or by personal visits. Under this methodology, most respondents completed self-administered questionnaires, while some were interviewed by telephone.

During the 2003–04 SASS, field representatives were responsible for data collection at each of the sampled schools, and nearly all questionnaires were completed directly by respondents, as opposed to telephone interviews.

For the 2007–08 and 2011–12 data collections, SASS returned to the methodology used in 1999–2000: a mail-based survey, with telephone and field follow-up. An advance letter was mailed to sampled schools during the summer of 2007 for the 2007–08 sample and in the summer of 2011 for the 2011–12 sample to verify school addresses. Subsequent to school address verification, a package containing all surveys and explanatory information was mailed to sampled schools. Using a CATI instrument to

verify school information, schools were contacted to establish a survey coordinator and to follow up on the Teacher Listing Form, which served as the teacher list frame. Sampled teachers were mailed questionnaires on a flow basis. Field follow-up was conducted for schools that did not return the Teacher Listing Form.

Schools were called from Census Bureau telephone centers to remind survey coordinators to have staff complete and return all forms. Individual survey respondents (i.e., principals, librarians, and teachers) were called from the telephone centers to attempt to complete the questionnaire over the phone. Field follow-up was conducted for schools and teachers that did not return their questionnaires.

Response rates and nonresponse bias analysis

Unit response rates. Unit response rates are the rate at which the sampled units respond by substantially completing the questionnaire. The base-weighted unit response rates are the base-weighted number of interviewed cases divided by the base-weighted number of eligible cases. The base weight for each sampled unit is the inverse of the probability of selection. For the 2003–04 SASS, the base-weighted public school and public school teacher response rates were 81 and 85 percent, respectively, and a public school teacher weighted overall response rate of 76 percent (Tourkin et al. 2007). Base-weighted response rates were similar for the 2007–08 SASS, with public school and public school teacher unit response rates of 80 and 84 percent, respectively, and a public school teacher weighted overall response rate of 72 percent (Tourkin et al. 2010). Base-weighted response rates for the 2011–12 SASS were 73 percent for public schools and 78 percent for public school teachers. The public school teacher weighted overall response rate was 62 percent (Goldring et al. 2013).

Item response rates. Weighted item response rates are the final-weighted number of sample cases responding to an item divided by the final-weighted number of sample cases eligible to answer the item. In the 2003–04 SASS, the final-weighted item response rates ranged from 71 to 100 percent in the Public School data file and from 44 to 100 percent in the Public Teacher data file. In the 2007–08 SASS, the final-weighted item response rates ranged from 80 to 100 percent in the Public School data file and from 44 to 100 percent in the Public Teacher data file. In the 2011–12 SASS, the final-weighted item response rates ranged from 70 to 100 percent in the Public School data file and from 70 to 100 percent in the Public Teacher data file.

Nonresponse bias analysis. A comprehensive nonresponse bias analysis has been conducted for each SASS data file for all survey administrations. Evidence of substantial bias due to unit- or item-level nonresponse was not found in the 2003–04 or 2007–08 data files. Nonresponse bias analysis found evidence of bias in some variables in the 2011–12 data files; however, the potential bias does not affect the estimates produced for this brief. For information on the nonresponse bias analyses, see the documentation manuals for the Schools and Staffing Surveys (Tourkin et al. 2007, Tourkin et al. 2010, Goldring et al. 2013, Chambers et al. forthcoming).

Imputation procedures. SASS is a fully imputed dataset. In general, missing values are filled during one of three stages of imputation: (1) survey data are imputed with a valid response using data from other items in the same questionnaire or from other related sources, (2) data are imputed from items found in the questionnaires of respondents who have certain characteristics in common or from the aggregated answers of similar respondents, and (3) the remaining unanswered items are imputed clerically by Census Bureau analysts. A numerical flag is assigned to each imputed item so that it is possible for data users to identify which items were imputed, to understand how the imputations were performed, and to decide whether or not to include the imputed data in their analysis.

Weighting, variance estimation, and tests of significance

Each SASS data file contains a final weight and a set of replicate weights. The final weights are needed so that the sample estimates reflect the target survey population in data analyses. For the analyses based on estimates from tables A-1 and A-2 of this Statistics

in Brief, the final teacher weight was used so that sample estimates reflect the target teacher population. In all three years, the final weight variable is TFNLWGT.

In surveys with complex sample designs, such as SASS, direct estimates of sampling errors that assume a simple random sample will typically underestimate the variability in the estimates. The SASS sample design and estimation include procedures that deviate from the assumption of simple random sampling. For this reason, the preferred method of calculating sampling errors is replication. Each SASS data file includes a set of replicate weights designed to produce variance estimates. Using balanced repeated replication, the analyses in this brief take into account the complex sampling design when calculating variance estimates and standard errors. For additional information visit SASS at http://nces.ed.gov/surveys/sass/methods.asp.

Measuring teacher autonomy

The measure of autonomy used in this Statistics in Brief is constructed from teachers' responses to six questionnaire items in the 2003–04, 2007–08, and 2011–12 SASS. Teachers were asked, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" Teachers could respond that they had "No control," "Minor control," "Moderate control," or "A great deal of control" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics, and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned. For each year, teachers' perceived level of classroom control is coded on a 4-point Likert scale, ranging from "No control" (1) to "A great deal of control" (4).

For comparisons by teacher and school characteristics within and across years, teachers are classified into three levels of autonomy—high, moderate and low—based on their responses to all six questionnaire items. "High" autonomy includes teachers who perceived "a great deal of control" for all six measures of classroom autonomy (average score of 4). "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but equal to or greater than "moderate control" (average score less than 4 to 3). "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control" (average score less than 3).

In each year, these six items had high and comparable Cronbach's Alphas (0.75 in 2003–04, 0.73 in 2007–08, and 0.77 in 2011–12) which indicated high internal consistency. Further, factor analysis for each year identified distinct factors for which the six items had similar factor loadings within each year which were consistent across years. Each item had a strong and similar relationship to the same underlying teacher autonomy construct. Nonetheless, this report uses the average response to the six items to measure teacher autonomy in a way that can be compared across years. Prior research has used this same measurement approach for teacher autonomy (Ingersoll and May 2012; Ingersoll and Alsalam 1997).

Statistical procedures

Comparisons made in the text were tested for statistical significance at the $p < .05$ level to ensure that the differences were larger than might be expected due to sampling variation. When comparing estimates between categorical groups (e.g., sex, race/ethnicity), *t* statistics were calculated. The following formula was used to compute the *t* statistic:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}}$$

where E_1 and E_2 are the estimates being compared and se_1 and se_2 are the corresponding standard errors of these estimates. In instances where comparisons were made on dependent samples, the test statistic calculation adjusted for the shared variance in the dependent groups. No adjustments were made for multiple comparisons. It is important to note that many of the variables examined in this report may be related to one another and to other variables not included in the analyses. The complex interactions and relationships among the variables were not fully explored and warrant more extensive analysis. Furthermore,

the variables examined in this report are just a few of those that could be examined. Readers are cautioned not to draw causal inferences based on the results presented.

The coefficient of variation (CV) represents the ratio of the standard error to the estimate. The CV is an important measure of the reliability and accuracy of an estimate. In this report, the CV was calculated for all estimates. If any standard errors were between 30 and 50 percent of the estimate, estimates would be noted with a "!" symbol (interpret with caution) in tables; estimates with a standard error greater than 50 percent would be suppressed and noted as "reporting standards not met." However, no estimate in this report had a CV greater than or equal to 30 percent.

REFERENCES

Berry, B., Smylie, M., and Fuller, E. (2008). *Understanding Teacher Working Conditions: A Review and Look to the Future. Center for Teaching Quality.* Retrieved November 2, 2012, from http://www.teachingquality.org/pdfs/TWC2_Nov08.pdf.

Boyd, D., Lankford, H., Loeb, S., and Wyckoff, J. (2008). The Impact of Assessment and Accountability on Teacher Recruitment and Retention. *Public Finance Review, 36*(1): 88–111.

Campbell, E. (2006). Editorial: Curricular and Professional Authority in Schools. *Ontario Institute for Studies in Education of the University of Toronto, 36*(2): 113–118.

Chambers, L., Graham, S., Parmer, R., Stern, S., Strizek, G., and Thomas, T. (forthcoming). *Survey Documentation for the 2011–12 Schools and Staffing Survey* (NCES 2015-XXX). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Finnigan, K., and Gross, B. (2007). Do Accountability Policy Sanctions Influence Teacher Motivation? Lessons from Chicago's Low-Performing Schools. *American Educational Research Journal, 44*(3): 594–629.

Firestone, W. (2001). *The Governance of Teaching and Standards-Based Reform from the 1970s to the New Millennium.* Paper presented at the annual meeting of the Center on Research on Educational Opportunity: Conference on Stability and Change in Education, Notre Dame, IN.

Glazer, J. (2008). Educational Professionalism: An Inside-Out View. *American Journal of Education, 114* (2): 169–189.

Goldring, R., Taie, S., Rizzo, L., Colby, D., and Fraser, A. (2013). *User's Manual for the 2011-12 Schools and Staffing Survey, Volume 1: Overview* (NCES 2013-330). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Guarino, C.M., Santibañez, L., and Daley, G.A. (2006) Teacher Recruitment and Retention: A Review of the Recent Empirical Literature. *Review of Educational Research, 76:* 173–208.

Hanushek, E., and Raymond, M. (2004). *Does School Accountability Lead to Improved Student Performance?* Working Paper 10591. National Bureau of Economic Research: Cambridge, MA.

Ingersoll, R. (2006). *Who Controls Teachers' Work? Power and Accountability in America's Schools.* Cambridge, MA: Harvard University Press.

Ingersoll, R., and Alsalam, N. (1997). *Teacher Professionalization and Teacher Commitment: A Multilevel Analysis* (NCES 97-069). U.S. Department of Education Washington, DC: National Center for Education Statistics.

Ingersoll, R., and May, H. (2012). The Magnitude, Destinations, and Determinants of Mathematics and Science Teacher Turnover. *Educational Evaluation and Policy Analysis, 34*(4): 435–464.

Liu, X.S., and Meyer, J.P. (2005). Teachers' Perceptions of Their Jobs: A Multilevel Analysis of the Teacher Follow-Up Survey for 1994–95. *Teachers College Record, 107*(5): 985–1003.

Pearson, L.C., and Moomaw, W. (2005). The Relationship Between Teacher Autonomy and Stress, Work Satisfaction, Empowerment, and Professionalism. *Educational Research Quarterly, 29*(1): 27–53.

Tourkin, S.C., Warner, T., Parmer, R., Cole, C., Jackson, B., Zukerberg, A., Cox, S., and Soderborg, A. (2007). *Documentation for the 2003–04 Schools and Staffing Survey* (NCES 2007-337). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Tourkin, S., Thomas, T., Swaim, N., Cox, S., Parmer, R., Jackson, B., Cole, C., and Zhang, B. (2010). *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

APPENDIX A: DATA TABLES

Table A-1. Public school teachers' mean scores on measures of perceived autonomy: School years 2003–04, 2007–08, and 2011–12

	Mean score		
Measures of perceived autonomy	**2003–04**	**2007–08**	**2011–12**
Selecting textbooks and other classroom materials	2.83	2.72	2.65
Selecting content, topics and skills to be taught	2.95	2.70	2.70
Selecting teaching techniques	3.64	3.64	3.53
Evaluating and grading students	3.69	3.55	3.58
Disciplining students	3.51	3.47	3.39
Determining the amount of homework to be assigned	3.69	3.65	3.62

NOTE: The SASS questionnaire item is worded as follows: "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" Answers were scored on a 4-point scale where 1=no control, 2=minor control, 3=moderate control, and 4=a great deal of control.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

Table A-2. Percentage distribution of public school teachers by perceived level of autonomy and selected teacher and school characteristics: School years 2003–04, 2007–08, and 2011–12

Teacher and school characteristics	2003–04			2007–08			2011–12		
	Low	Mod-erate	High	Low	Mod-erate	High	Low	Mod-erate	High
Total	**17.9**	**64.8**	**17.2**	**23.1**	**64.0**	**12.9**	**26.5**	**61.1**	**12.4**
Teaching experience									
1–3 years	20.6	66.0	13.4	25.1	66.7	8.3	25.0	63.5	11.5
4–9 years	18.6	65.8	15.6	24.3	64.8	11.0	26.2	62.9	10.9
10–19 years	17.1	65.1	17.8	22.9	64.2	13.0	26.5	61.1	12.5
20 years or more	16.7	63.2	20.1	21.1	61.3	17.6	27.4	58.2	14.4
Age									
Less than 30 years	19.5	67.4	13.1	24.1	67.6	8.3	25.0	64.7	10.3
30–39 years	18.4	65.8	15.8	23.6	66.1	10.4	26.1	62.1	11.7
40–49 years	16.1	65.3	18.6	22.5	63.0	14.5	26.3	61.2	12.5
50 years or more	18.3	62.5	19.2	22.7	60.9	16.4	27.7	58.3	14.0
Race/ethnicity[1]									
White, non-Hispanic	17.0	65.1	17.9	21.9	64.6	13.5	25.6	61.5	12.9
Black, non-Hispanic	23.7	63.4	12.9	28.6	61.9	9.5	32.9	59.5	7.6
Hispanic, regardless of race	21.1	64.8	14.1	33.5	58.4	8.1	30.6	58.1	11.3
Asian/Pacific Islander, non-Hispanic	22.6	61.6	15.8	17.9	66.7	15.4	23.4	63.7	12.9
American Indian/Alaska Native, non-Hispanic	16.6	66.4	16.9	25.4	59.7	14.9	25.2	60.0	14.8
Two or more races, non-Hispanic	27.7	53.7	18.6	21.7	65.5	12.9	28.7	62.2	9.1
General satisfaction teaching at this school									
Strongly satisfied	11.9	67.0	21.1	17.2	66.9	15.9	17.4	66.1	16.5
Somewhat satisfied	24.7	63.6	11.7	29.5	61.7	8.8	33.5	58.4	8.1
Somewhat or strongly unsatisfied	34.2	55.0	10.9	43.8	49.5	6.6	51.7	43.0	5.3
Primary teaching assignment									
Early childhood/general elementary	24.6	67.7	7.7	35.7	60.7	3.6	34.9	59.7	5.4
Special education	16.9	58.3	24.8	22.9	60.4	16.7	26.8	57.2	16.0
Arts/music	7.1	54.9	38.0	4.9	56.8	38.4	11.9	53.7	34.4
English/language arts	16.8	67.6	15.7	21.5	67.8	10.8	23.9	65.0	11.2
Mathematics	17.7	70.1	12.2	25.6	67.3	7.0	27.3	65.1	7.6
Natural sciences	18.3	67.9	13.8	16.6	73.9	9.6	24.8	65.0	10.2
Social sciences	14.2	71.2	14.6	17.1	73.2	9.7	24.5	66.3	9.3
Other[2]	10.9	60.5	28.6	10.5	64.1	25.4	18.1	61.4	20.5

See notes at end of table.

Table A-2. Percentage distribution of public school teachers by perceived level of autonomy and selected teacher and school characteristics: School years 2003–04, 2007–08, and 2011–12—Continued

Teacher and school characteristics	2003–04			2007–08			2011–12		
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
School level									
Elementary	21.0	64.8	14.2	28.2	61.6	10.2	30.7	59.3	10.0
Secondary	12.3	66.1	21.6	14.3	68.6	17.0	19.2	64.8	16.0
Combined	12.0	58.4	29.6	12.9	64.4	22.7	19.0	61.4	19.6
School classification									
Traditional public	17.9	64.9	17.1	23.2	64.0	12.8	26.5	61.2	12.3
Charter school	19.3	58.5	22.2	20.8	61.0	18.2	25.3	58.1	16.6
Minority enrollment									
Less than 20 percent	12.6	65.9	21.5	16.8	66.0	17.2	20.0	64.1	15.9
20–49 percent	17.7	66.6	15.7	23.0	65.3	11.7	24.8	63.0	12.2
50 percent or more	24.8	62.2	13.0	30.3	60.7	9.0	32.8	57.5	9.7
Percent of K–12 students who were approved for free or reduced-price lunches									
0–34 percent	14.5	65.9	19.6	19.0	65.9	15.1	21.8	63.9	14.3
35–49 percent	16.4	66.8	16.8	22.5	64.4	13.1	24.8	62.0	13.2
50–74 percent	20.8	63.7	15.5	26.4	63.0	10.6	28.6	59.8	11.6
75 percent or more	26.2	61.2	12.6	31.8	59.4	8.8	33.1	57.9	9.0
School size									
Less than 100 students	11.3	59.9	28.7	13.2	60.1	26.7	20.9	55.7	23.4
100–199 students	12.8	61.0	26.1	13.3	67.8	18.9	13.2	64.1	22.7
200–499 students	16.6	64.9	18.5	24.1	62.1	13.8	26.8	60.1	13.2
500–749 students	20.0	64.5	15.5	26.8	62.2	11.0	27.8	61.0	11.2
750–999 students	20.5	65.6	13.9	24.8	63.1	12.1	31.0	58.7	10.3
1,000 or more students	16.9	65.6	17.5	19.4	68.1	12.5	24.0	64.0	12.0
Community type									
City	25.1	61.3	13.7	29.3	61.1	9.6	31.4	58.3	10.2
Suburban	18.0	65.7	16.3	25.1	63.7	11.2	26.5	62.3	11.2
Town	11.0	68.5	20.5	18.7	65.7	15.6	23.6	62.7	13.8
Rural	11.9	66.2	21.9	17.0	66.1	16.9	22.8	61.8	15.4

[1] Race categories exclude persons of Hispanic origin.

[2] Other primary teaching assignment includes English as a Second Language (ESL), foreign language, health/physical education, career and technical education, and all other assignments.

NOTE: "High" autonomy includes teachers who reported "a great deal of control" for all six measures of calssroom autonomy. "Moderate" autonomy includes teachers whose average response on the six autonomy measures was lower than "a great deal of control" but more than "moderate control." "Low" autonomy includes teachers whose average response to the six autonomy measures was less than "moderate control." The autonomy scale is composed of responses to the question, "How much actual control do you have IN YOUR CLASSROOM at this school over the following areas of your planning and teaching?" over the following six areas: (1) selecting textbooks and other classroom materials; (2) selecting content, topics and skills to be taught; (3) selecting teaching techniques; (4) evaluating and grading students; (5) disciplining students; and (6) determining the amount of homework to be assigned. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

APPENDIX B: STANDARD ERROR TABLES

Table B-1. Standard errors for table A-1: Public school teachers' mean scores on measures of perceived autonomy: School years 2003–04, 2007–08, and 2011–12

	Mean score		
Measures of perceived autonomy	**2003–04**	**2007–08**	**2011–12**
Selecting textbooks and other classroom materials	0.010	0.012	0.013
Selecting content, topics and skills to be taught	0.010	0.013	0.014
Selecting teaching techniques	0.006	0.008	0.009
Evaluating and grading students	0.006	0.010	0.009
Disciplining students	0.007	0.009	0.010
Determining the amount of homework to be assigned	0.006	0.009	0.010

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.

Table B-2. Standard errors for table A-2: Percentage distribution of public school teachers by perceived level of autonomy and selected teacher and school characteristics: School years 2003–04, 2007–08, and 2011–12

Teacher and school characteristics	2003–04			2007–08			2011–12		
	Low	Mod-erate	High	Low	Mod-erate	High	Low	Mod-erate	High
Total	0.40	0.49	0.31	0.56	0.58	0.30	0.58	0.56	0.32
Teaching experience									
1–3 years	0.95	1.07	0.76	1.43	1.30	0.65	1.31	1.74	1.01
4–9 years	0.72	0.87	0.55	1.18	1.25	0.58	1.19	1.32	0.64
10–19 years	0.78	1.02	0.67	0.93	1.06	0.65	1.06	1.09	0.55
20 years or more	0.61	0.73	0.56	0.96	1.14	0.71	1.07	1.10	0.72
Age									
Less than 30 years	1.00	1.12	0.76	1.24	1.29	0.53	1.26	1.39	0.89
30–39 years	0.71	0.93	0.63	0.98	1.02	0.54	1.22	1.15	0.60
40–49 years	0.72	1.03	0.72	1.09	1.10	0.75	1.08	1.12	0.67
50 years or more	0.60	0.67	0.49	0.97	1.06	0.62	0.95	1.02	0.75
Race/ethnicity									
White, non-Hispanic	0.38	0.49	0.33	0.54	0.58	0.33	0.64	0.64	0.37
Black, non-Hispanic	1.36	1.50	0.98	2.08	1.89	1.24	2.85	2.84	2.11
Hispanic, regardless of race	2.25	2.42	1.57	3.57	3.31	1.34	2.23	2.12	1.51
Asian/Pacific Islander, non-Hispanic	3.06	2.48	1.77	3.95	4.39	3.39	4.41	4.85	3.27
American Indian/Alaska Native, non-Hispanic	2.78	3.88	2.87	4.91	5.72	3.80	6.94	7.13	4.55
Two or more races, non-Hispanic	4.80	5.24	5.42	3.70	4.15	2.93	6.04	5.65	1.95
General satisfaction teaching at this school									
Strongly satisfied	0.39	0.60	0.44	0.55	0.61	0.43	0.63	0.69	0.53
Somewhat satisfied	0.71	0.77	0.38	1.05	1.13	0.42	0.95	1.02	0.49
Somewhat or strongly unsatisfied	1.44	1.50	0.95	1.72	1.63	0.81	1.94	1.79	1.36
Primary teaching assignment									
Early childhood/general elementary	0.93	0.90	0.42	1.04	1.14	0.48	1.18	1.23	0.46
Special education	0.88	1.34	1.19	1.22	1.39	1.04	1.29	1.27	1.29
Arts/music	0.88	1.65	1.52	1.18	2.12	2.07	1.41	1.89	1.82
English/language arts	1.02	1.20	0.81	1.32	1.51	1.05	1.24	1.30	0.77
Mathematics	1.18	1.31	0.83	2.15	2.23	0.66	1.68	1.61	1.34
Natural sciences	1.29	1.71	1.12	1.12	1.42	0.95	1.72	1.77	1.10
Social sciences	1.10	1.40	1.19	1.66	1.67	0.86	2.02	1.84	0.78
Other	0.69	0.89	0.93	0.66	1.02	0.92	1.19	1.49	0.98

See note at end of table.

Table B-2. Standard errors for table A-2: Percentage distribution of public school teachers by perceived level of autonomy and selected teacher and school characteristics: School years 2003–04, 2007–08, and 2011–12—Continued

Teacher and school characteristics	2003–04			2007–08			2011–12		
	Low	Mod-erate	High	Low	Mod-erate	High	Low	Mod-erate	High
School level									
Elementary	0.56	0.65	0.42	0.84	0.86	0.46	0.83	0.87	0.48
Secondary	0.42	0.57	0.50	0.45	0.53	0.46	0.62	0.72	0.47
Combined	0.92	1.24	1.32	0.96	1.05	0.98	1.65	1.85	1.43
School classification									
Traditional public	0.41	0.50	0.32	0.58	0.59	0.30	0.57	0.58	0.34
Charter school	2.24	2.61	1.95	2.48	2.39	1.65	3.03	3.32	2.77
Minority enrollment									
Less than 20 percent	0.45	0.65	0.48	0.77	0.81	0.60	0.68	0.73	0.56
20–49 percent	0.82	0.84	0.57	0.98	1.08	0.59	1.07	1.11	0.63
50 percent or more	0.76	0.85	0.65	1.23	1.17	0.55	1.05	1.06	0.56
Percent of K–12 students who were approved for free or reduced-price lunches									
0–34 percent	0.51	0.64	0.41	0.70	0.77	0.53	0.89	0.87	0.58
35–49 percent	0.94	0.97	0.78	1.23	1.38	0.86	1.18	1.17	0.79
50–74 percent	0.96	1.14	0.83	1.25	1.17	0.71	1.29	1.28	0.73
75 percent or more	1.13	1.19	0.95	1.60	1.76	0.99	1.47	1.51	0.79
School size									
Less than 100 students	1.42	2.36	2.10	2.10	2.45	2.00	3.09	3.21	2.79
100–199 students	1.49	2.38	2.08	1.84	2.47	1.59	1.95	2.45	2.32
200–499 students	0.72	0.94	0.63	0.84	0.81	0.63	0.90	1.00	0.68
500–749 students	0.86	1.02	0.66	1.04	1.16	0.77	1.10	1.12	0.81
750–999 students	1.22	1.28	0.79	1.89	1.90	0.98	2.15	2.02	1.01
1,000 or more students	0.88	0.95	0.70	1.09	0.87	0.64	0.88	0.97	0.63
Community type									
City	0.87	0.92	0.69	1.43	1.32	0.71	1.34	1.25	0.99
Suburban	0.69	0.82	0.50	1.07	0.97	0.60	1.00	1.04	0.58
Town	0.83	1.38	0.96	1.12	1.42	0.93	1.23	1.40	0.99
Rural	0.54	0.68	0.65	0.87	0.93	0.74	0.82	0.88	0.62

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Public School Teacher Data File," 2003–04, 2007–08, and 2011–12.