

SASS Teacher Follow-Up Survey (TFS)

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

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1. OVERVIEW

The SASS Teacher Follow-Up Survey (TFS) is a survey of elementary and secondary school teachers who participated in the Schools and Staffing Survey (SASS) (see the SASS chapter for details on SASS). TFS is conducted for the National Center for Education Statistics (NCES) by the U.S. Census Bureau in the school year following the SASS data collection. TFS consists of a subsample of teachers who left teaching within the year after the SASS was administered and a subsample of those who continued teaching, including those who remained in the same school as in the previous year and those who changed schools.

Purpose

To measure the attrition rate for teachers, examine the characteristics of teachers who stay in the teaching profession and those who leave, obtain activity or occupational data for those who leave the position of a K–12 teacher, obtain current teaching assignment information for those who are still teaching, and collect data on attitudes about the teaching profession in general and job satisfaction in particular. TFS is designed to support estimates of public elementary, secondary, and combined school teachers and private school teachers at the national level.

Components

TFS is composed of two questionnaires: the Former Teacher Questionnaire, which collects information from sampled teachers who leave the K–12 teaching profession within the year after SASS; and the Current Teacher Questionnaire, which collects information from sampled teachers who currently teach students in any of grades prekindergarten through 12. Eligible survey respondents are teachers in public and private elementary and secondary schools in the 50 states and the District of Columbia.

Former Teacher Questionnaire. This questionnaire collects information from former teachers on their current occupation, primary activity, plans to remain in their current position, plans for further education, plans for returning to teaching, reasons for leaving teaching, possible areas of satisfaction or dissatisfaction with teaching, salary, marital status, number of children, and reasons for retirement, as well as any other information that may be related to attrition.

Current Teacher Questionnaire. This questionnaire obtains information from current teachers, including teachers who continued to teach in the same school as in the previous year and those who changed schools. It collects information on occupational status (full time, part time), primary teaching assignment by field, teaching certificate, level of students taught, areas of satisfaction or dissatisfaction, new degrees earned or pursued, expected duration in teaching, marital status, number of children, academic year base salary, time spent performing school related tasks, and effectiveness of the school administration. If the teacher is teaching in a different school than during the SASS administration, the questionnaire obtains information on the teacher's reasons for leaving the previous school.

TEACHER FOLLOW-UP SURVEY OF SCHOOL TEACHERS

TFS collected data on:

- Stayers
- Movers
- Leavers

Periodicity

TFS is a follow-up of selected teachers from the SASS teacher surveys and is conducted during the school year following the SASS administration. As a nationally representative subsample of public and private school K–12 teachers who participated in the previous year’s Schools and Staffing Survey (SASS), the TFS survey has been conducted seven times: in the 1988–89, 1991–92, 1994–95, 2000–01, 2004–05, 2008–09, and 2012–13 school years (following SASS administrations in the 1987–88, 1990–91, 1993–94, 1999–2000, 2003–04, 2007–08, and 2011–12 school years, respectively).

Data Availability

Information about the restricted-use data available for TFS through 2012–13 is located at <https://nces.ed.gov/surveys/sass/dataproducts.asp>.

2. USES OF DATA

Data from TFS are used for a variety of purposes by Congress, state education departments, federal agencies, private school associations, teacher associations, and educational organizations. TFS can be used to research issues related to teacher turnover. Leavers, movers, and stayers can be profiled and compared in terms of teaching qualifications, working conditions, attitudes toward teaching, job satisfaction, salaries, benefits, and other incentives and disincentives for remaining in or leaving the teaching profession. TFS also provides a measure of national teacher attrition in the various fields and updates information on the education, other training, and career paths of teachers. In addition, sampled teachers can be linked to SASS data to determine relationships between local district and school policies and practices, teacher characteristics, and teacher attrition and retention.

3. KEY CONCEPTS**Key Terms**

Some of the key terms used in TFS are described below. For descriptions of other terms, please refer to *Documentation for the 2012–13 Teacher Follow-up Survey* (Cox, Thomas, Simon, and Strizek, forthcoming).

Leavers. Teachers who left the teaching profession or teachers who were no longer teaching in any of grades pre-K–12 in the school year after the SASS administration (includes teachers whose status changed to short-term substitute, student teacher, or teacher aide).

Movers. Teachers who were still teaching in the school year after the SASS administration, but had moved to a different school.

Stayers. Teachers who were teaching in the same school in the year after the SASS administration as in the year of the SASS administration.

Itinerant teacher. An individual who teaches at more than one school; for example, a music teacher who teaches 3 days per week at one school and 2 days per week at another.

4. SURVEY DESIGN**Target Population**

The target population is the universe of elementary and secondary school teachers who teach in public and private schools in the 50 states and the District of Columbia, in schools that had any of grades K–12 during the school year of the last SASS administration. This population is divided into two components: those who left teaching after that school year (former teachers) and those who continued teaching (current teachers).

The TFS sample of teachers includes those who left the position of a K–12 teacher in the year after SASS (leavers). It also includes those who continued to teach students in any of grades pre-K–12 or in comparable ungraded levels, including teachers who remained in the same school as in the previous year (stayers) and those who changed schools (movers). Prekindergarten is included so that sampled teachers who change assignments from teaching students in any of grades K–12 to teaching only prekindergarten students would not be considered leavers.

In SASS, the sampling frame for public schools is an adjusted version of the NCES Common Core of Data (CCD), and the sampling frame for private schools is a modified version of the NCES Private School Universe Survey (PSS). The sampling frame for the SASS teacher questionnaire consists of lists of teachers provided by schools in the SASS sample. A teacher is defined as a staff member who taught a regularly scheduled class to students in any of grades K–12 or comparable ungraded levels.

Sample Design

TFS surveys a sample of teachers who completed interviews in the previous year’s SASS. The TFS sample is a stratified sample that is allocated to allow comparisons of teachers by five variables: status (stayers, movers, leavers, and unknown); school type (traditional public, public charter, and private); experience (new and experienced); grade level (elementary, middle, and secondary); and race/ethnicity (White, non-Hispanic, Black, Hispanic, and all other races/ethnicities). In the 2012–13 TFS administration, all responding SASS teachers in public schools who

indicated that their first year of teaching was 2011 or 2012 were included in the sample. All other SASS responding teachers were stratified by the five variables in the following order: school sector, teacher status, experience, teacher's grade level, and race/ethnicity.

Within each TFS stratum, teachers with completed interviews in SASS are sorted by a measure of size (the SASS teacher initial basic weight, which is the inverse of the probability of selection prior to any corrections identified during data collection), main subject taught as reported by the teacher in SASS (i.e., special education, general elementary, mathematics, science, English/language arts, social studies, vocational/technical, and other), Census region, SASS private school affiliation stratum (for private school teachers only), school locale (based on the 1990 Census geography), school enrollment, and SASS teacher control number.

After teachers are sorted using the above variables, they are selected within each stratum using a systematic probability proportional to size (PPS) sampling procedure. Any teacher with a measure of size greater than the sampling interval is included in the sample with certainty (i.e., automatically included). Since TFS selection probabilities are not conditioned on anything, the selected sample sizes equal the allocated sample size.

Data Collection and Processing

The 2012–13 TFS data collection was an online collection, followed by e-mail and telephone reminders, a hard-copy mailing, and telephone follow-up. The U.S. Census Bureau was the data collection agent.

Reference dates. Most data items refer to teacher status at the time of questionnaire completion. Some items refer to the past school year, the past 12 months, or the next school year.

Data collection. In the fall of the year the survey is administered, the Census Bureau mails a Teacher Status Form to each school that had at least one teacher who participated in the previous year's SASS. On this form, the school principal (or other knowledgeable staff member) is asked to report the current occupational status of each teacher listed by indicating whether that teacher (1) is still at the school in a teaching or nonteaching capacity; or (2) has left the school to teach elsewhere or to enter a nonteaching occupation. If school staff indicates that a sample teacher has moved, and the teacher did not provide contact information on his or her SASS questionnaire, the Census Bureau tries to obtain the correct home address from the U.S. Postal Service.

Data collection for the 2012–13 TFS began as part of a sample selection operation in the fall of 2012 with the

mailing of the Teacher Status Form to each school that had at least one teacher who had completed a Teacher Questionnaire in the 2011–12 SASS.

Data collection activities for current and former teachers began in January 2013. Initial contact included a letter to sampled teachers inviting their participation in TFS using an internet instrument; an e-mail to those sampled teachers who provided e-mail addresses inviting their participation in TFS; and, for Amish and Mennonite teachers, an invitation letter with a paper questionnaire. Following these initial contacts, a reminder letter and intermittent e-mails were sent to teachers who had not yet returned a completed questionnaire. Telephone follow-up began in February 2013 and was followed by additional reminder e-mails (six total) and second, third, and fourth reminder letters. The third and fourth reminder letters contained paper questionnaires. Reminder letters were also sent to teachers who had partially completed an online questionnaire, encouraging them to finish the survey. Data collection closed in July 2013.

Editing. Surveys undergo several stages of editing. TFS data that were provided on hard-copy versions of questionnaires are converted from paper to electronic format using manual data keying. All keyed entries are 100 percent verified by the keying staff, meaning that each field is keyed twice and the results are compared automatically for discrepancies and, subsequently, verified. All survey data are then reformatted into SAS datasets in order to begin the extensive preliminary data review process. During this stage, analysts split the TFS data into two files: a former teacher file (for leavers) and a current teacher file (for stayers and movers).

The next step is to make a preliminary determination of each case's interview status recode (ISR) value; that is, whether it is an interview, a noninterview, or out-of-scope for the survey. Records classified as interviews are submitted to a series of computer edits: range checks, consistency edits, and blanking edits. Next, the records undergo a final edit to determine whether the case is eligible to be included in the survey and, if so, whether sufficient data have been collected for the case to be classified as a completed interview. A final ISR value is then assigned to each case as a result of this edit.

Estimation Methods

Estimates from TFS sample data are produced using weighting and imputation procedures.

Weighting. The general purpose of weighting is to scale up the sample estimates to represent the target survey population. In TFS, the steps for weighting types of respondents are similar to those used for SASS. For TFS, a base weight (the inverse of the sampled teacher's

probability of selection) is used as the starting point. Then, a weighting adjustment is applied that reflects the impact of the SASS teacher weighting procedure. Next, a nonresponse adjustment factor is calculated and applied using information known about the respondents from the sampling frame data. Finally, a ratio adjustment factor is calculated and applied to the sample to adjust the sample totals to frame totals in order to reduce sampling variability. The product of these factors is the final weight for TFS.

Imputation. In all administrations of TFS, all items missing values are imputed for records classified as interviews. In order to fill these items with data, questionnaires are put through three independent stages of imputation. The first stage involves using items from the same TFS questionnaire or items from the corresponding SASS school or teacher questionnaire to impute the missing data. In the second stage, any remaining unanswered items are imputed using “hot-deck” imputation (in which donor records are established and used to impute data). In the third and final stage, any remaining unanswered items are imputed clerically by Census Bureau analysts. The third stage is necessary when there is no available donor or the value imputed by computer is inconsistent with values in other items.

Future Plans

The National Teacher and Principal Survey (NTPS) is a redesign of the Schools and Staffing Survey (SASS), which the National Center for Education Statistics (NCES) conducted from 1987 to 2011. The design of the NTPS is a product of three key goals coming out of the SASS program: flexibility, timeliness, and integration with other Department of Education collections. The NTPS collects data on core topics including teacher and principal preparation, classes taught, school characteristics, and demographics of the teacher and principal labor force every two years. In addition, each administration of NTPS contains rotating modules on important education topics such as: professional development, working conditions, and evaluation. This approach allows policy makers and researchers to assess trends on both stable and dynamic topics. The NTPS utilizes primarily internet and paper data collection instruments.

Although the NTPS will have a different structure and sample than previous SASS administrations, the focus remains on schools and their teachers and principals. The content of the 2011–12 SASS forms the basis of the NTPS content, though many questions will be shifted to different questionnaire instruments or will be answered through the use of extant data sources. Cross sectional analysis of trends is possible for SASS items that have been maintained in NTPS. TFS will be administered to a

sample of teachers who completed the NTPS in the previous year.

5. DATA QUALITY AND COMPARABILITY

Sampling Error

Because the TFS sample is a subsample of the SASS teacher sample, the SASS teacher replicate weights are used to derive the TFS replicate weights. (See the discussion of sampling error and variance estimation for SASS in the SASS chapter.) The base weight for each TFS teacher is multiplied by each of the SASS replicate weights divided by the SASS teacher full-sample base weight for that teacher. To calculate the 88 replicate weights, which should be used for variance calculations, these TFS replicate basic weights are processed through the remainder of the TFS weighting system.

Nonsampling Error

Coverage error. There is a potential for bias to be introduced into TFS because the TFS frame only includes teachers who responded to SASS.

Nonresponse error.

Unit nonresponse. The weighted unit response rate for public school teachers who completed the Current Teacher Questionnaire for the 2012–13 TFS was 81 percent. The weighted unit response rate for public school teachers completing the Former Teacher Questionnaire was slightly lower (75 percent).

The overall response rate represents the response rate to the survey, taking into consideration each stage of data collection. For a teacher to be eligible for TFS, it was necessary to have received the Teacher Listing Form from the school during the previous year’s SASS data collection, which provided a sampling frame for teachers at that school, and for the teacher to have responded to the SASS teacher questionnaire.

Item nonresponse. Item response rates indicate the percentage of respondents who answered a given survey question or item. The weighted TFS item response rates are produced by dividing the number of sampled teachers who responded to an item by the number of sampled teachers who were eligible to answer that item, and then adjusting those rates by the final weight.

Measurement error. Reinterviews were conducted for the purpose of measuring response variance in the 1994–95 TFS. The reinterviews were conducted through two reinterview questionnaires—one for mail cases and another for telephone cases. Each questionnaire contained a subset of questions from the original questionnaire. Seventy-eight percent of the questions

evaluated displayed high response variance; only 5 percent displayed low response variance. (All but one of the 54 questions on teaching methods had moderate or high response variance.) This reinterview study again confirmed that “mark all that apply” questions tend to be problematic. See *Response Variance in the 1994–95 Teacher Follow-up Survey* (Bushery et al. 1998).

Data Comparability

Care must be taken in estimating change over time in a TFS data element, because some of the measured change may not be attributable to a change in the educational system, but due to changes in the sampling frame, questionnaire item wording, or other changes. For example, the definitions of the locale codes based on the U.S. Census were revised in 2000 and again in 2003. Changes in how schools’ locales are categorized over

time may account for at least some changes that are noted from previous administrations. This impacts the urbanicity variables included in the data files, which are based on the 2000 Census definitions for locale codes.

Additionally, although previous TFS release reports have included information on teachers who taught in public or private schools during the SASS base-year, only public school teachers are included for 2012–13 TFS reporting due to unprecedented low response rates among private school teachers; private school teacher responses were dropped from the 2012 TFS Current and Former Teacher data files. For further information on the comparability of data elements, see *Documentation for the 2012–13 Teacher Follow-up Survey* (Cox, Thomas, Simon, and Strizek, forthcoming).

TFS-1. Base-weighted response rates for SASS teacher data files and TFS current teacher data file: 2011–12 and 2012–13

Sector	Base-weighted 2011–12 SASS Teacher Listing Form response rate	Base-weighted 2011–12 SASS teacher data file response rate ¹	Base-weighted 2012–13 TFS current teacher data file response rate			Overall base-weighted 2012–13 TFS current teacher data file response rate		
			Total	Stayer	Mover	Total	Stayer	Mover
Total	79.6	77.7	81.3	81.6	77.9	50.3	50.5	60.6

¹Figures from SASS reflect public school teacher totals to be consistent with TFS file totals, which only contain public school teacher data.

NOTE: The public sector includes teachers from traditional public and public charter schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public and Private School Teacher Documentation Data Files,” 2011–12, and Teacher Follow-up Survey (TFS), “Former Teacher Documentation Data File,” 2012–13.

TFS-2. Base-weighted response rates for SASS teacher data files and TFS former teacher data file: 2011–12 and 2012–13

Sector	Base-weighted 2011–12 SASS Teacher Listing Form response rate	Base-weighted 2011–12 SASS teacher data file response rate ¹	Base-weighted 2012–13 TFS former teacher data file response rate		Overall base-weighted 2012–13 TFS former teacher data file response rate
			Total	Mover	
Total	79.6	77.7		75.0	46.4

¹Figures from SASS reflect public school teacher totals to be consistent with TFS file totals, which only contain public school teacher data.

NOTE: The public sector includes teachers from traditional public and public charter schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), “Public and Private School Teacher Documentation Data Files,” 2011–12, and Teacher Follow-up Survey (TFS), “Former Teacher Documentation Data File,” 2012–13.

6. CONTACT INFORMATION

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7. METHODOLOGY AND EVALUATION REPORTS

General

- Bobbitt, S.A., Faupel, E., and Burns, S. (1991) *E.D. TAB: Characteristics of Movers, Leavers, and Stayers: Results from the Teacher Followup Survey, 1988-89* (NCES 91-128). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=91128>
- Bobbitt, S.A., (1992) *Data File User's Manual: SASS Teacher Follow-up Survey (TFS) 1988-89* (NCES 92-058). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=92058>
- Bobbitt, S.A., Leich M.C., Whitener, S.D., and Lynch, H.F. (1994) *E.D. TAB: Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Follow-Up Survey, 1991-92* (NCES 94-337) National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=94337>
- Broene, P. (1991a.) *User's Manual: 1987-88 Schools and Staffing Survey - Public School Administrator Questionnaire Data* (NCES 91-137). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=91137>
- Broene, P. (1991b.) *User's Manual: 1987-88 Schools and Staffing Survey - Public School Data* (NCES 91-136). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=91136>
- Cox, S., Parmer, T., Tourkin, S., Warner, T., and Lyter, D.M. (2007). *Documentation for the 2004-05 Teacher Follow-up Survey* (NCES 2007-349). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007349>
- Cox, S., Parmer, R., Strizek, G., and Thomas, T. (2016). *Documentation for the 2011-12 Schools and Staffing Survey* (NCES 2016-817). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2016817>
- 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). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014356>
- Goldring, R., Taie, S., and Riddles, M. (2014). *Teacher Attrition and Mobility: Results From the 2012-13 Teacher Follow-up Survey* (NCES 2014-077). U.S. Department of Education. Washington, DC: National Center for Education Statistics. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014077>
- Graham, S., Parmer, R., Chambers, L., Tourkin, S.C., and Lyter, D.M. (2011) *Documentation for the 2008-09 Teacher Follow-up Survey* (NCES 2011-304). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011304>
- Gruber, K.J., Rohr, C.L., and Fondelier, S.E. (1994). *1990-91 Schools and Staffing Survey: Data File User's Manual Volumes I-IV: Public Use Codebook and Bureau of Indian Affairs Codebooks* (NCES 93-144). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=93144>
- Gruber, K.J., Rohr, C.L., and Fondelier, S.E. (1996). *1993-94 Schools and Staffing Survey: Data File*

- User's Manual, Volume I: Survey Documentation* (NCES 96-142). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=96142>
- Keigher, A. (2010). *Teacher Attrition and Mobility: Results From the 2008–09 Teacher Follow-up Survey* (NCES 2010-353). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010353>
- Luekens, M.T., Lyter, D.M., and Fox, E.E. (2004). *Teacher Attrition and Mobility: Results from the Teacher Follow-up Survey, 2000–01* (NCES 2004–301). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2004301>
- Marvel, J., Lyter, D.M., Peltola, P., Strizek, G.A., and Morton, B.A. (2006). *Teacher Attrition and Mobility: Results from the 2004–05 Teacher Follow-up Survey* (NCES 2007–307). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007307>
- 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). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007337>
- Tourkin, S.C., Pugh, K.W., Fondelier, S.E., Parmer, R.J., Cole, C., Jackson, B., Warner, T., and Weant, G. (2004). *1999–2000 Schools and Staffing Survey (SASS) Data File User's Manual* (NCES 2004-303). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2004303>
- Tourkin, S.C., Thomas, T., Swaim, N., Cox, S., Parmer, R.J., Jackson, B., Cole, C., and Zhang, B. (2010). *Documentation for the 2007–08 Schools and Staffing Survey* (NCES 2010-332). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010332>
- Whitener, S.D. (1994). *1991–92 SASS Teacher Follow-up Survey Data File User's Manual Public-Use Version* (NCES 94-331). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010332>
- Whitener, S.D. (1994). *1991–92 SASS Teacher Follow-up Survey Data File User's Manual Restricted-Use Version* (NCES 94-478). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=94331>
- Whitener, S.D., Gruber, K.J., Lynch, H., Tingos, K., Perona, M., and Fondelier, S. (1997). *Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Followup Survey: 1994–95* (NCES 97-450). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=97450>
- Whitener, S.D., Gruber, K.J., Rohr, C., and Fondelier, S. (1998). *1994–95 Teacher Follow-up Survey, Data File User's Manual Public-Use Version* (NCES 98-232). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=98232>
- Whitener, S.D., Gruber, K.J., Rohr, C.L., and Fondelier, S.E. (1999). *1994–95 Teacher Follow-up Survey, Data File User's Manual Restricted- Use Codebook* (NCES 1999-14). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=199914>

Data Quality and Comparability

- Bushery, J.M., Schreiner, I.D., and Newman-Smith, A. (1998). *Response Variance in the 1994–95 Teacher Follow-up Survey* (NCES 98-13). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=9813>

Jenkins, C.R., and Wetzel, A. (1995). *The Results of the 1991–92 Teacher Follow-up Survey (TFS) Re-interview and Extensive Reconciliation* (NCES 95-10). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=9510>

Salvucci, S., Walter, E., Conley, V., Fink, S., and Newman-Smith, A. (1997). *Measurement Error Studies at the National Center for Education Statistics* (NCES 97-464). National Center for Education Statistics, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=97464>