

Technical Notes—*Women, Minorities, and Persons with Disabilities in Science and Engineering: 2017*

The data in this report come from surveys conducted by the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF), other federal agencies, and nonfederal organizations. Users should take great care when comparing survey data from these different sources. Differences in definitions, survey procedures, and phrasing of questions, among other things, make these data less than strictly comparable. Efforts have been made to maintain consistency throughout these tables, but it has sometimes been necessary, for accuracy, to use distinct terminology that does not match that used in other tables.

Reporting Categories

Racial and Ethnic Information

The collection and reporting of race and ethnicity data pose several problems. First, both the naming of population subgroups and their definitions have changed over time. Second, many of the groups of particular interest are quite small, so it is difficult to measure them accurately without larger samples or surveys of the entire population of interest. In some instances, sample surveys may not have had sufficient sample size to permit the calculation of reliable racial or ethnic population estimates for all groups; consequently, data are not shown for some groups. The Census Bureau's Current Population Survey, for example, does not provide data on unemployment among American Indians. Third, data on race and ethnicity are often based on self-identification. Fourth, it is easy to overlook or minimize heterogeneity within racial or ethnic subgroups when only a single statistic is estimated for their entire population.

Office of Management and Budget's Categories and Guidelines

In October 1997, the Office of Management and Budget (OMB) announced new government-wide standards for the collection of data on race and ethnicity (https://www.whitehouse.gov/omb/fedreg_1997standards/) that became effective 1 January 2003. OMB specified the following categories and definitions of racial and ethnic groups:

- Black or African American: A person having origins in any of the black racial groups of Africa.
- American Indian or Alaska Native: A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
- Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent; for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
- Native Hawaiian or Other Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific islands.

- White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
- Hispanic or Latino: A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

Respondents can also select one or more racial designations, and those who do are classified under “more than one race.”

The Department of Education published final guidance in the Federal Register on 19 October 2007 (72 Fed. Reg. 59267) to transition to the new OMB standards for reporting race and ethnicity. Previously, the Department of Education’s National Center for Education Statistics (NCES) had identified mutually exclusive racial and ethnic groups as white, black, Hispanic, Asian or Pacific Islander, and American Indian or Alaska Native. In 2008, NCES changed race and ethnicity reporting for degree completion data and for enrollment data. For the degree completion data, reporting in the new categories became mandatory for the 2011–12 data collection (i.e., 2011 data). For the fall enrollment data, reporting in the new categories became mandatory for the 2010–11 data collection (i.e., 2010 data). However, institutions were not required to update the race and ethnicity data of individuals who were already in their systems. In this report, the racial and ethnic groups detailed in Integrated Postsecondary Education Data System (IPEDS) tables, which run through 2014, incorporate OMB’s new race and ethnicity reporting standards for all years for which data are provided. For more information, see <http://www2.ed.gov/policy/rschstat/guid/raceethnicity/index.html>. In this report, racial and ethnic information is shown only for U.S. citizens and permanent residents in NCES data, graduate enrollment data, and pilot data on early career doctorate holders.

Minority-Serving Institutions

High-Hispanic-enrollment institutions are nonprofit public and private institutions of higher education whose full-time equivalent (FTE) enrollment of undergraduate students is at least 25% Hispanic. The FTE enrollment of Hispanic students is determined by enrollment data that institutions reported to the fall 2013 IPEDS survey conducted by NCES. NCES determined FTE enrollment by estimating that approximately three part-time students are equivalent to one full-time student. Because IPEDS does not collect part-time credit hour information, the FTE numbers are only an approximation. The list includes only nonprofit public and private institutions of higher education.

Historically black colleges and universities (HBCUs) are academic institutions listed by the White House Initiative on Historically Black Colleges and Universities. The Higher Education Act of 1965, as amended, defines an HBCU as “any historically black college or university that was established prior to 1964, whose principal mission was, and is, the education of black Americans, and that is accredited by a nationally recognized accrediting agency or association determined by the Secretary [of Education] to be a reliable authority as to the quality of training offered or is, according to such an agency or association, making reasonable progress toward accreditation.” See <http://www.ed.gov/edblogs/whhbcu/one-hundred-and-five-historically-black-colleges-and-universities/>.

Tribal colleges are 32 fully accredited academic institutions on a list maintained by the White House Initiative on Tribal Colleges and Universities. These institutions are included in the “Tribal Colleges” category in the basic classification scheme of the 2005 Carnegie Classification of Institutions of Higher Education. See <http://carnegieclassifications.iu.edu/>.

Information about People with Disabilities

For several reasons, data on people with disabilities have limitations. First, the operational definitions of disability may vary across a wide range of physical and mental impairments, and they may not be comparable. The Americans with Disabilities Act of 1990 (ADA) encouraged progress toward standard definitions. Under ADA, an individual is considered to have a disability if he or she has a physical or mental impairment that substantially limits one or more of his or her major life activities, has a record of such impairment, or is regarded as having such impairment. ADA also contains definitions of specific disabilities.

Second, data on disabilities frequently are not included in comprehensive institutional records (e.g., in registrars' records in institutions of higher education). If included at all, such data may be kept only in confidential files at an office responsible for providing special services to students. Institutions of higher education are unlikely to have information regarding students with disabilities who have not requested that they be provided with special services related to their disabilities. In elementary or secondary school programs receiving funds to provide special education, however, statistics on all students identified as having special needs are centrally available.

Third, information about people with disabilities that is gathered from surveys is often obtained from self-reported responses. Typically, respondents are asked to state whether they have any specified physical, mental, or sensory impairment or limitation in order to classify them as having a disability. Resulting data therefore reflect individual perceptions of their functioning rather than more objective measures of functioning that use standardized criteria such as those used in clinical studies of disability.

Variation in estimates of the proportion of the undergraduate student population with disabilities is evidence of the limitations of these data. Self-reported data on the undergraduate student population, collected through a survey to ascertain patterns of student financial aid, suggest that about 10% of this population have some form of disability. Estimates from census surveys of higher education institutions, in contrast, place the estimate much lower, between 1% and 5%. It is difficult to ascertain whether this discrepancy is the result of self-perception, incomplete reporting, disabilities that are not evident, differing definitions, or all of these effects.

Sources of data on people with disabilities cited in this report include the National Postsecondary Student Aid Study (NPSAS), conducted by NCES, and the National Survey of College Graduates (NSCG) and the Survey of Earned Doctorates (SED), both conducted by NCSES. These sources are described in more detail later in this appendix; the following is a brief description of how each source treats the issue of disability.

- NPSAS (2012) asked students whether they had any of the following conditions lasting 6 months or more: being blind or having serious difficulty seeing even when wearing glasses; being deaf or having serious difficulty hearing; having serious difficulty

concentrating, remembering, or making decisions because of a physical, mental, or emotional condition; or having serious difficulty walking or climbing stairs.

- NSCG asks the degree of difficulty—none, slight, moderate, severe, or unable to do—an individual has in seeing (with glasses or contact lenses), hearing (with hearing aid), walking without assistance, lifting 10 pounds or more, or concentrating, remembering, or making decisions. Respondents who answered “moderate,” “severe,” or “unable to do” for any activity are classified as having a disability.
- Prior to 2010, SED asked if the respondent had a disability and then asked the respondent to mark which of the following categories describe the disability or disabilities: blind or visually impaired, deaf or hard of hearing, physical or orthopedic disability, learning or cognitive disability, vocal or speech disability, and other disability. In 2010, the questions about disability were revised and respondents were asked to mark whether or not they had each of the disabilities listed above. Since 2011, SED questions about disabilities have been the same as those of the NSCG.

Primary Data Sources

This section provides summary descriptions of primary data sources and links to more detailed survey information.

Primary NSF Sources

The following sources from NCSES were used for data tables in this publication. Published data tables from these surveys can be accessed on the NCSES website at <https://www.nsf.gov/statistics/>. In addition, researchers may access data directly from the Scientists and Engineers Statistical Data System (SESTAT) Data Tool or the WebCASPAR database system, both of which can also be accessed from the NCSES website.

Survey of Earned Doctorates

The Survey of Earned Doctorates (SED) is an annual census of individuals who earned a research doctorate from an accredited U.S. academic institution. The most common research doctorate degree is the doctor of philosophy (PhD). Recipients of professional degrees, such as the juris doctor (JD) and doctor of medicine (MD) are not included in SED. Data are collected directly from individual doctorate recipients contacted through their university. Responses were gathered using either a Web-based or paper questionnaire. The recipients are asked to provide information about their field of study, educational history, demographic characteristics, and postgraduate plans for further work and study. Since the survey’s inception in 1957, more than 90% of the annual cohort of doctorate recipients has typically responded to the questionnaire each year.

For individuals who do not respond to SED, data that are available from public sources (e.g., field of study), are added to the file. No adjustments are made for nonresponse, and no imputation is used for missing items among respondents. The data for a given year include all doctorates awarded in the 12-month period ending on 30 June of that year.

SED is sponsored by six federal agencies: NSF, the National Institutes of Health, the Department of Education, the National Endowment for the Humanities, the Department of Agriculture, and the National Aeronautics and Space Administration. Further information about SED can be found at <https://nsf.gov/statistics/srvydoctorates/>.

Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS)

The Survey of Graduate Students and Postdoctorates in Science and Engineering, more commonly referred to as the Graduate Students Survey (GSS), is an annual census of all U.S. academic institutions granting research-based master's degrees or doctorates in science, engineering, and selected health fields as of fall of the survey year. The survey, sponsored by NSF and the National Institutes of Health, collects the total number of graduate students, postdoctoral appointees (postdocs), and doctorate-level nonfaculty researchers (NFRs) by demographic and other characteristics, such as source of financial support. Results are used to assess shifts in graduate enrollment and postdoctoral appointments and trends in financial support.

The survey collects data from institutions' branch campuses, affiliated research centers, medical schools, schools of nursing, and schools of public health. The 2014 survey covered 706 graduate institutions. Data are collected separately for each eligible organizational unit (academic department or program, research center, or health facility).

Approximately 99% of institutions and affiliated units respond to the survey. Missing data for nonresponding units are imputed by using prior years' data, when available, or by using data provided from similar units at a peer institution.

In 2014, the survey frame was updated following a comprehensive frame evaluation study that identified potentially eligible but not previously surveyed U.S. academic institutions. A total of 151 newly eligible institutions were added, and two private for-profit institutions offering mostly practitioner-based graduate degrees were removed as no longer eligible. For more information, see <https://www.nsf.gov/statistics/srvygradpostdoc/#tabs-3&rSR>.

In 2011, a number of changes were made to the GSS field taxonomy based on the 2010 Department of Education Classification of Instructional Programs codes; however, impact on overall data was minimal. See appendix A, "Technical Notes," in *Graduate Students and Postdoctorates in Science and Engineering: Fall 2011* for additional information about the 2011 GSS field taxonomy updates (<https://nsf.gov/statistics/nsf13331>).

In 2010, the postdoc section of the survey was expanded and significant effort was made to ensure that appropriate personnel were providing postdoc and NFR data (for more information, see <https://www.nsf.gov/statistics/infbrief/nsf13334/> and <https://www.nsf.gov/statistics/2015/ncses15201/>). As a result, the increased number of postdocs and NFRs from 2009 to 2010 may represent real growth in postdocs and NFRs, as well as improved data collection.

In 2007, some GSS-eligible fields were reclassified and newly eligible fields were added, as the survey was redesigned to improve coverage and coding of GSS-eligible units. Communication as well as family and consumer sciences and human sciences were added to the survey as science

fields. Multidisciplinary or interdisciplinary studies, which may have been reported under other fields, was also added as a separate science field. Architecture, which had previously been reported under civil engineering, was reclassified as a separate field under engineering. Neuroscience, which had previously been reported under the health field neurology, was reclassified as a science field. Survey respondents were also asked to review and update each organizational unit's assigned field of study. As a result, after 2006, survey respondents reassigned students in some units.

Due to these methodological changes, care should be used when assessing trends within the GSS data.

Reporting of race and ethnicity since 2008 is likely to have been affected by changes in reporting in IPEDS. Starting in 2008, IPEDS respondents were asked to use a new race and ethnicity classification that included a category for persons who are not Hispanic, a category for persons who identify with two or more races, and a category for Native Hawaiians and Other Pacific Islanders, separate from Asians. The new classification was optional in 2008 and 2009 IPEDS but mandatory in 2010, and it may have contributed to a significant increase in GSS reporting of "Not Hispanic or Latino, More than one race" within the GSS data.

Further information about GSS can be found at <https://www.nsf.gov/statistics/srvygradpostdoc/>.

National Survey of College Graduates

The National Survey of College Graduates (NSCG) is a longitudinal biennial survey conducted since the 1970s that provides data on the nation's college graduates, with a particular focus on those in the science and engineering workforce. The survey samples individuals who are living in the United States during the survey reference week, have at least a bachelor's degree, and are under the age of 76. This survey is a unique source for examining various characteristics of college-educated individuals, including occupation, work activities, salary, the relationship of degree field and occupation, and demographic information.

The 2015 NSCG includes over 91,000 respondents (69% unweighted response rate), representing a population of about 58 million college graduates. Of these college graduates, an estimated 31 million are classified as scientists and engineers. These are individuals with a bachelor's or higher level degree in an S&E or S&E-related field of study or college graduates in any field who are employed in an S&E or S&E-related occupation. Individuals not included in the survey frame for the 2015 NSCG are U.S. educated scientists and engineers earning degrees after 31 December 2013 and foreign-educated scientists and engineers who came to the United States after 31 December 2013.

NSCG classifies the following broad categories as S&E occupations: computer and mathematical scientists, life and related scientists, physical and related scientists, social and related scientists, and engineers. Postsecondary teachers are included within each of these groups. The following are considered S&E-related occupations: health and related occupations; S&E managers; S&E precollege teachers; S&E technicians and technologists, including computer programmers; and other S&E-related occupations, such as architects and actuaries. All other occupations are non-S&E occupations. Among the largest are non-S&E managers; non-S&E teachers; social services

and related occupations; and sales and marketing occupations. Further information on NSCG can be found at <https://www.nsf.gov/statistics/srvygrads/>.

Previously, this publication used data from SESTAT, which integrated data from two NCSES surveys—the Survey of Doctorate Recipients (SDR), discussed below, and NSCG. NSCG represented the large majority (97%) of the integrated data.

Early Career Doctorates Survey

The Early Career Doctorates Survey (ECDS) was developed to gather in-depth information about postdocs and other doctorate recipients earning their first doctorate within the past 10 years of the survey. A methodological study was completed in spring 2013, a pilot study was completed in fall 2015, and a full-scale survey began in fall 2016. The survey covers both U.S. and non-U.S. degreed individuals working in U.S. academic institutions, federally funded research and development centers, or the National Institutes of Health Intramural Research Program. The survey collects information on demographics; professional activities and achievements; work-life balance; mentoring, training, and research opportunities; and career plans and paths. Selected results from the ECDS pilot study are presented in theme 7 in this report's digest, replacing a previous theme on academic employment that presented data from the SDR (described below).

Because the ECDS pilot study did not stratify on race and ethnicity, these data have limitations. Data on race and ethnicity were missing for about 15% of respondents, and these data were missing at about the same rate for both U.S. citizens (16%) and non-U.S. citizens (14%). Although the pilot study collected data on all of OMB's race and ethnicity categories, in this report data are presented together for American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and respondents who selected more than one race.

Data on fields of doctorate degree differ depending on the source. Specifically, ECDS data includes health doctorates within the other broad fields of science, but other sources in the digest do not include health doctorates within field of degree.

Further information about the ECDS can be found at <https://www.nsf.gov/statistics/srvyecd/>.

Survey of Doctorate Recipients

The Survey of Doctorate Recipients (SDR) is a longitudinal biennial survey conducted since 1973 that provides demographic and career history information about individuals with a research doctoral degree in a science, engineering, or health (SEH) field from a U.S. academic institution. The survey follows a sample of individuals with SEH doctorates throughout their careers from the year of their degree award until age 76. The panel is refreshed each survey cycle with a sample of new SEH doctoral degree earners. Results are used to make decisions related to the educational and occupational achievements and career movement of the nation's doctoral scientists and engineers.

The 2015 SDR features a substantial sample expansion. In 2015, the SDR sample size was increased from 47,078 cases in 2013 to 120,000 cases. The main objective of this expansion is to enable richer analysis by detailed field of doctoral degree, including more reliable estimates of employment outcomes by the fine field of degree taxonomy used in SED. The expanded sample

also will maintain if not improve the existing estimation capabilities associated with analytical domains defined by various demographic characteristics.

Further information on the SDR is available at <https://www.nsf.gov/statistics/srvydoctoratework/>.

Primary Non-NSF Sources

The following non-NSF sources were used for data tables in this report.

The Integrated Postsecondary Education Data System Survey: Fall Enrollment, Completions, and Institutional Characteristics

National Center for Education Statistics, Department of Education (<https://nces.ed.gov/ipeds>)

Since 1986, the Integrated Postsecondary Education Data System (IPEDS) has surveyed all postsecondary institutions, including universities and colleges and the institutions that offer technical and vocational education. The completion of all IPEDS surveys is mandatory for all institutions that participate in or are applicants for participation in any federal financial assistance program authorized by Title IV of the Higher Education Act of 1965, as amended. IPEDS comprises several integrated component surveys. These surveys obtain information about types of institutions where postsecondary education is available, student participants, fall enrollments, programs offered and completed, graduation rates, and the human and financial resources involved in the delivery of postsecondary education. In this report, data are primarily drawn from the IPEDS Fall Enrollment Survey and the IPEDS Completions Survey, which is administered to all institutions offering degrees at the bachelor's degree level and above, 2-year institutions, and less-than-2-year institutions.

NCES changed degree-level categories in the IPEDS Completions Survey in fall 2008, but reporting in the new categories was optional for 2008 and 2009 data. Reporting in the new degree-level categories was mandatory for the 2010–11 (2010 data) IPEDS Completions collection. Before 2008 the post-baccalaureate degree categories were “master’s,” “first professional,” and “doctor’s.” With the 2008 changes, the category “first professional” degree is no longer used. Programs and awards in that category (e.g., medicine, law, pharmacy, and theology) are now reclassified as either master’s degrees or as one of three types of doctor’s degrees: doctor’s–research/scholarship, doctor’s–professional practice, or doctor’s–other. Numbers reported here for 2008 and 2009 doctoral degrees combine doctor’s degrees reported by institutions using the pre-2008 reporting categories and doctor’s–research/scholarship degrees reported by institutions using the 2008 reporting categories. Data for 2010 include only doctorates reported as doctor’s–research/scholarship.

Through 1995, IPEDS reports were concerned primarily with the subset of postsecondary institutions that were accredited at the college level by an agency recognized by the Secretary, Department of Education. The *Women, Minorities, and Persons with Disabilities in Science and Engineering* report presented degree counts from this same subset of institutions. Beginning with 1996 data, NCES categorized the postsecondary institutional universe on the basis of degree-granting status as well as eligibility for Title IV federal financial aid (based on a list of eligible institutions maintained by the Department of Education's Office of Postsecondary Education).

This change expanded the types of institutions whose data appear in NCES reports to include for-profit and online institutions. NCES chose to retain the earlier, less inclusive institutional coverage criterion for the data in the *Women, Minorities, and Persons with Disabilities in Science and Engineering* report. As a result, beginning with the 1996 edition, the degree counts presented in the *Women, Minorities, and Persons with Disabilities in Science and Engineering* report diverged from the degree counts reported by IPEDS. Beginning in 2009, the *Women, Minorities, and Persons with Disabilities in Science and Engineering* report adopted the more inclusive institutional coverage of the IPEDS reports, and the degree counts from 2000 forward are now based on the larger set of institutions.

The National Postsecondary Student Aid Study

National Center for Education Statistics, Department of Education (<https://nces.ed.gov/surveys/npsas/>)

The National Postsecondary Student Aid Study (NPSAS) was established by NCES to collect information about financial aid allocated to students enrolled in U.S. postsecondary institutions. NPSAS was first administered in the fall of the 1986–87 academic year. NCES conducted subsequent cycles of NPSAS during the academic years of 1989–90, 1992–93, 1995–96, 1999–2000, 2003–04, 2007–08, and 2011–12.

The 2011–12 NPSAS (NPSAS:12) is a nationally representative sample survey of undergraduate and graduate students enrolled any time between 1 July 2011 and 30 June 2012 in institutions eligible to participate in federal financial aid programs. The NPSAS:12 sample consisted of about 95,000 undergraduate and 16,000 graduate students attending approximately 1,500 Title IV postsecondary institutions in the 50 states and the District of Columbia. The sample represented approximately 26 million undergraduate and 4 million graduate students enrolled in postsecondary education at any time during the survey period. The weighted response rate at the institutional level was 87% and at the student level was 91%.

The data collected for NPSAS:12 were obtained from multiple sources, including the following:

- Student records from information provided in the student financial aid records and other institutional sources.
- Student interviews based on a multimodal survey that was either self-administered through the Web or through a computer-assisted telephone interview.
- Department of Education’s Central Processing System: A database containing data from the Free Application for Federal Student Aid forms (FAFSA).
- Department of Education’s National Student Loan Data System (NSLDS): A database of Title IV federal grant and loan funding.
- IPEDS: NCES database of descriptive information about individual postsecondary institutions.

Current Population Survey

Bureau of Labor Statistics, Department of Labor (<https://www.bls.gov/cps/>)

The Current Population Survey (CPS) is a monthly household survey conducted by the Census Bureau for the Bureau of Labor Statistics. It provides data on employment and unemployment by age, sex, race, and a variety of other characteristics. CPS gathers information from approximately 60,000 households through personal and telephone interviews. Basic labor-force data are gathered monthly; data on special topics are gathered in periodic supplements. Consecutive monthly estimates are often averaged to produce quarterly or annual average estimates. Monthly response rates are generally above 90%.

Survey of Engineering and Technology Enrollments

Engineering Workforce Commission, American Association of Engineering Societies
(<http://www.aaes.org/aaes-engineering-workforce-commission>)

The Engineering Workforce Commission (EWC) annually conducts surveys of engineering and engineering technologies enrollments in more than 600 institutions, including all of those with curricula approved by the Accreditation Board for Engineering and Technology (ABET). EWC counts the number of students studying for engineering degrees at all ABET-accredited engineering schools throughout the United States and also some schools that are not ABET-accredited for a variety of reasons unique to each school (e.g., some schools are in the process of obtaining ABET accreditation; others have simply asked to be included in the survey). The fall 2008 enrollments survey obtained responses from about 85% of the schools. Data for nonrespondent schools were imputed.

Enterprise Human Resources Integration Statistical Data Mart

Office of Personnel Management (<https://www.fedscope.opm.gov/>)

The Office of Personnel Management (OPM) provides estimates of federally employed scientists and engineers through its Enterprise Human Resources Integration Statistical Data Mart (EHRI-SDM). The data cover most executive branch agencies and some legislative and judicial branch agencies. Coverage is limited to federal employees with at least a bachelor's degree and is subject to change over time. For example, the State Department stopped providing data on Foreign Service personnel in 2006 and stopped providing all data in 2015. More information on OPM's estimates of federally employed scientists and engineers is available at <http://www.opm.gov/feddata/guidance.asp>.

Sampling and Nonsampling Errors

The data from all of the sources used for this report are subject to error. Survey accuracy is determined by the joint effects of sampling and nonsampling errors. Sampling errors arise because estimates based on a sample differ from figures that would have been obtained if a complete population had been surveyed. The sample selected for any particular survey is only one of a large number of possible samples of the same size and design that could have been selected. Even if all other aspects of the survey remained fixed, such as the questionnaire and instructions, the estimates from each sample would differ. This variability, termed *sampling*

error, occurs by chance and is measured by the standard error associated with a particular estimate.

The standard error of a sample survey estimate measures the precision with which an estimate from one sample approximates the true population value, and it can be used to construct a confidence interval for a survey parameter to assess the accuracy of the estimate. See <https://www.nsf.gov/statistics/srvygrads/> for more information about data from NSCG, <https://www.bls.gov/cps/documentation.htm> for CPS design and methodology, and <http://nces.ed.gov/pubs2013/2013165.pdf> for information on standard errors for NPSAS data.

Nonsampling errors can arise from design, reporting, and processing errors, as well as from errors due to nonresponses or faulty responses. Nonsampling errors include respondent-based events, such as some respondents interpreting questions differently from other respondents, respondents making estimates rather than giving actual data, and respondents being unable or unwilling to provide complete, correct information. Errors can also arise during the processing of responses, such as during recording and keying. Nonsampling errors are difficult to measure and estimates of nonsampling errors are not available for data in this report.