

Characteristics of Recent Science and Engineering Graduates, 2010

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Technical Notes

The National Survey of Recent College Graduates (NSRCG) provides information on recent recipients of bachelor's and master's degrees in science, engineering, and health (SEH) fields. The NSRCG was discontinued after the 2010 survey cycle. These technical notes include information on the target population, sample design, data collection, response rates, data editing, imputation, weighting, and variance estimation (reliability) for the 2010 NSRCG. Technical tables provide response rates (technical table B-1) and crosswalks between education and occupation codes and fields of study and occupations reported in the tables (technical tables B-2, B-3, and B-4).

Survey Overview

The NSRCG is sponsored by the National Science Foundation's (NSF's) National Center for Science and Engineering Statistics (NCSES). Originally known as the New Entrants Survey, it has been conducted every 2–3 years since 1974. The purpose of the NSRCG is to provide high-quality data on the demographic, educational, and employment characteristics of recent recipients of bachelor's and master's degrees in SEH fields. The NSRCG is closely coordinated with the National Survey of College Graduates and the Survey of Doctorate Recipients. Results from the three surveys are integrated into the Scientists and Engineers Statistical Data System (SESTAT, <http://www.nsf.gov/statistics/sestat/>), which provides information about the demographic, educational, and employment characteristics of scientists and engineers in the United States. Mathematica Policy Research, under NSF Contract Number NSF/SRS1038466, prepared the tables and report copy.

Target Population and Sample Design

The target population for the 2010 NSRCG was all individuals who meet both of the following criteria:

- Awarded a bachelor's or a master's degree in an SEH field from an eligible college or university in the United States or one of its territories between 1 July 2007 and 30 June 2009
- Noninstitutionalized, age 75 or younger, and living in the United States or one of its territories on the survey reference date of 1 October 2010

All postsecondary institutions in the United States that conferred at least one bachelor's or master's degree in an SEH field between 1 July 2007 and 30 June 2009 (academic years 2008 and 2009) were eligible to participate in the 2010 NSRCG survey.

The NSRCG sample is drawn from a two-stage process. In the first stage, a sample of institutions is selected; in the second stage, a sample of graduates is selected from lists of bachelor's- and master's-degree graduates provided by the sampled institutions. The sample frame of institutions for inclusion in the first stage was obtained from the Integrated Postsecondary Education Data System (IPEDS) database maintained by the National Center for Education Statistics (NCES). For the 2010 NSRCG, the first-stage institution sample frame consisted of 2,168 eligible U.S. postsecondary institutions.

Stage one. The first stage of the sample was selected with probability proportional to size (PPS). The composite size measure was related to the number of eligible graduates, controlling for sample size domains defined by degree level, major field of study, sex, race, and ethnicity. Institutions that produce large numbers of bachelor's and master's degree graduates were selected with certainty, and the measure of size was adjusted to increase the probability of selection of graduates from minority-serving institutions. All 300 institutions selected in the first stage of sampling for the NSRCG in 2003 also were used to represent the first stage of sampling in the subsequent 2006, 2008, and 2010 NSRCG. However, after the 2006 NSRCG, 2 of the 300 institutions became ineligible for the 2008 NSRCG because they no longer conferred degrees in eligible SEH fields. To reflect the population of institutions newly eligible for the NSRCG since the 2006 survey round, a supplemental sample of 4 schools was selected from among 295 newly eligible stage 1 institutions and added to the existing sample of 298 institutions for a total of 302 institutions in the 2008 NSRCG. In the 2010 NSRCG, 2 of the 302 schools in the 2008 first-stage sample merged into a single institution. Therefore, another institution was sampled from among 171 newly eligible institutions for the 2010 NSRCG.

Sampled institutions were asked to provide a list of all students who graduated with a master's or bachelor's degree in selected SEH fields during the previous 2 academic years—2008 and 2009. Using these graduate lists, the 2010 NSRCG graduate sampling frame was then constructed, following four steps: (1) processing each institution's list of SEH graduates, verifying eligibility; (2) merging the graduate lists from all of the institutions; (3) de-duplicating multiple degrees; and (4) imputing missing information for the sampling variables. At the end of this process, the sampling frame consisted of 850,061 unique graduate records from the 290 institutions that responded to the 2010 NSRCG.

Stage two. The second stage entailed sampling 18,000 bachelor's- or master's-degree recipients with eligible degrees from the sampled institutions. The 2010 NSRCG second-stage sample was designed to provide statistically reliable national estimates for sampling domains defined by degree level, major field of study, sex, race, and ethnicity. A total of 222 domains were defined, based on three race and ethnicity groups, by sex and by 20 major fields for bachelor's-degree recipients, plus three race and ethnicity groups, by sex and by 17 major fields for master's-degree recipients, each with a specified minimum effective sample size of 40 graduates (see technical table B-4 for degree fields used in sampling).

The *2010 National Survey of Recent College Graduates Methodology Report* (available on request) contains a more detailed discussion of the 2010 NSRCG sample design.

Data Collection and Response Rates

The two-stage data collection for the 2010 NSRCG was conducted by Mathematica Policy Research, under contract with NCSES. The first-stage data collection began with contacting the 302 sampled institutions to obtain lists of their SEH graduates for academic years 2008 and 2009. Of the 302 sampled institutions, 290 provided lists of graduates, and 12 refused (a response rate of 96%); 276 of the 290 responding institutions subsequently provided contact information for sampled graduates. Of the 14 remaining institutions, 9 institutions provided the names of graduates along with the sampling variables; these graduates were subject to immediate, intensive locating procedures. Working closely with Mathematica, the final 5 institutions conducted their own mailings using Mathematica-provided materials and protocols. For graduates with missing or inaccurate address information, intensive searches were conducted using subscription-based databases, Internet search engines, social and professional networking sites, and computer-assisted telephone interviewing (CATI).

Data Collection

The 2010 second-stage graduate survey data collection procedures were changed as a result of outcomes from the randomized, postpaid-incentive experiment conducted during the 2008 NSRCG that sought to increase sampled respondents' participation by the Web. Although the 2010 procedures still used three data collection modes—paper, the Web, and CATI—the Web accounted for 92% of all the 2010 graduate survey completed questionnaires, compared to 66% for the completed 2008 NSRCG graduate survey questionnaires.

NSF provided the final, printed mail questionnaire and the guidelines for programming the electronic survey instruments. The guidelines, adapted from the paper instrument, specify question wording, routing, and edit checks to ensure that responses to the CATI interview and Web instruments are logically consistent and within range.

The 2010 NSRCG collected detailed information for the reference week of 1 October 2010 on four major topic areas: education, employment, other work-related experiences, and demographics. Several questions, considered key for data analyses by NSF, were classified into two groups: (1) *critical complete* items, and (2) *critical callback* items. In the case of the former, a questionnaire could not be counted as complete if any of the questions covering working or looking for work status, occupational title, occupational description, or resident status in the United States were left unanswered by the respondent. For questions identified as critical callback items, respondents received a CATI callback if any of these questions contained missing or inconsistent information. Critical callback items included questions that collected birth date (month and/or year), additional degree information, additional information for the classification of the respondent's principal occupation, weekly hours worked, work activities for the respondent's principal job, and contact information.

The 2010 NSRCG included a prefield mailing and two large-scale survey mailings, and also numerous reminder mailings and e-mails, both prior to and following the initiation of CATI follow-up contacts. The prefield mailing, with accompanying e-mail, gave sample members advance notice of the upcoming survey and also provided address updates from the U.S. Postal Service. The first large-scale mailing, which offered only a Web response mode, requested participation in the study and offered respondents a \$20 postpaid incentive. A letter thanking

persons for participating and reminding them to complete the survey and accompanying e-mail from NSF were mailed approximately 1 week after that first mailing. The second large-scale mailing to all nonrespondents was sent about 5 weeks later. This second large-scale mailing added a paper response mode option. The mailing included a paper questionnaire, business-reply envelope, and instructions for completing the survey on the Web. The incentive offer also changed with the second mailing. A \$20 postpaid incentive was retained for paper and CATI completes, but the incentive was increased to \$30 if the respondents completed the Web questionnaire. The two large-scale mailings also included a list of frequently asked questions and a toll-free helpline number.

Beginning 1 week after the second mailing, additional postcards, letters, and reminder e-mails were sent to nonrespondents on a roughly biweekly schedule until the data collection ended. Cases with missing critical items or issues with sample person verification were referred to the CATI callback team for data retrieval.

Response Rates

In the first stage of sampling, 290 of 302 sampled institutions agreed to participate in the survey. This corresponds to an unweighted response rate of 96.0% and a weighted response rate of 95.7%. At the second stage of sampling, 15,351 of the 18,000 sampled graduates were able to be located (85.3%), and 2,649 (14.7%) were not. Of the 15,351 located graduates, 80.3% (12,326 cases) responded and completed the survey, 6.2% (957 cases) were determined to be ineligible, and 13.5% (2,068 cases) did not respond. Of the 2,068 located cases that did not respond, 618 refused, and the effort to get a response ended for the remaining 1,450 cases, so their eligibility status remained unknown.¹ Of those determined to be ineligible, 735 cases (76.8%) were due to their living outside of the United States during the reference period. Response rates, by degree level, are summarized in technical table B-1.

The overall unweighted graduate response rate was 73.1%; the overall weighted graduate response rate was 72.6%. Considering both stages of sampling, the overall unweighted survey response rate for the 2010 NSRCG was 70.1%, and the corresponding weighted response rate was 69.5%.²

Data Editing and Coding

Returned questionnaires were opened by trained staff from Mathematica Policy Research who reviewed the questionnaires to identify incomplete surveys and cases that had missing critical callback items. A computer-assisted data entry instrument was used to convert information from returned mail questionnaires into electronic records. All data entered from mail questionnaires were subject to verification and quality control. Missing critical items from both Web and mail questionnaires were forwarded for telephone follow-up. Prior to computer data processing, data files with questionnaires completed in each of the three modes and the coding databases were reformatted and standardized into a single database.

Coding was conducted in several stages. First, autocoding programs developed by the U.S. Census Bureau were applied to education, occupation, and other (specify) verbatim responses included in the NSRCG. Second, geocoding was applied to identify the location of educational institutions and employers. Third, the U.S. Census Bureau conducted the IPEDS autocoding for

unique identification of schools and fields of study reported by NSRCG respondents. Verbatim responses that could not be autocoded by the autocoding programs were manually coded by trained staff from Mathematica Policy Research. This process was subject to a quality control procedure, and difficult cases were referred to expert coders in the appropriate areas. All variables were converted to standardized formats and subject to final checks, according to SESTAT guidelines.

Imputation of Missing Data

Missing values for some critical complete items, such as U.S. residency, were deduced by logical imputation. If a missing value for one of the critical complete items could not be deduced by logical imputation, the questionnaire was classified as a nonresponse. All other questions with missing responses were subject to imputation. Logical imputation was carried out at the editing stage. Statistical imputation techniques were implemented following machine editing to address remaining item nonresponse.

To maintain consistency with previous years and other SESTAT surveys, hot-deck imputation was used as the primary statistical imputation method. Class and sorting variables were determined for each survey response item through multiple regression analysis. Cold-deck imputation was used for a few demographic variables, such as birth date, race, ethnicity, and sex. The order of imputation was as follows: demographic information, education background, employment situation, and other work-related experiences. All items with imputed values were subject to multiple quality checks.

Item response rates were calculated as the number of respondents who answered a given item divided by the number of respondents for whom the item was applicable (eligible records). Item nonresponse for key employment items—such as employment status, sector of employment, and primary work activity—ranged from 0.0% to 1.6%. Employment-related data, such as reasons for not working or salary, had item nonresponse rates between 1.8% (for not working because respondent is a student) and 6.3% (for annualized salary). Items regarding personal demographic data—such as marital status, citizenship, race, ethnicity, and functional limitations—had item nonresponse rates ranging from 2.03% (for both marital and citizenship status) to 17.62% (for country of foreign citizenship).

Weighting

To produce national estimates from the NSRCG, sampling units were weighted to account for unequal selection probabilities and nonresponse and also to align the sample with known population characteristics derived from IPEDS.

Each graduate was assigned an unconditional sampling weight by multiplying the nonresponse-adjusted, institution-level sampling weight from the first stage of sampling with the graduate-level, conditional sampling weight from the second stage of sampling. This weight was then adjusted for any additional duplicates, followed by an adjustment for graduate-level nonresponse. A multiplicity adjustment was then made to the nonresponse-adjusted weight to account for multiple chances of selection for graduates with multiple eligible degrees reported during data collection. The weights were raked by key variables to ensure that total count estimates calculated with the weights agreed with the known population totals of recent college

graduates available from IPEDS.³ Any extreme weights were then trimmed, and a final raking adjustment was performed.

Reliability of Estimates

The survey estimates provided in these data tables are subject to both sampling errors and nonsampling errors. Sampling error occurs because the estimates are based on a sample of individuals in the population rather than on the entire population; hence, estimates are subject to sampling variability. In addition to sampling errors, survey estimates are subject to nonsampling errors, which can result from survey nonresponse, coverage errors, reporting errors, and data processing errors.

Sampling Errors

Sampling error is measured by the variance, or standard error, of the survey estimate. The variance estimation accounts for the multistage stratified-probability sampling design and weight-adjustment procedures, and both the direct method of jackknife replication and the indirect method of generalized variance functions (GVFs) can be used for variance estimation.

Using the jackknife method, replicate weights were constructed for calculating standard errors for the estimates in the data tables. The jackknife method is a resampling technique that estimates the standard errors of the estimates based on the variation of estimates calculated from subsamples of the data. For the 2010 NSRCG, 188 replicate weights were constructed and used to produce variance estimates.

For a limited set of statistics and domains of estimation, users may use a GVF for quick and simple calculation of standard errors. Estimated parameters of the GVF (variance model) are available for estimating variances of totals and percentages for a number of specified domains (available on request).

Nonsampling Errors

Quality-assurance procedures included throughout the various stages of data collection and data processing reduced the possibilities for nonsampling error. Sources of nonsampling error include (1) *nonresponse error*, which arises when the characteristics of respondents differ systematically from nonrespondents; (2) *measurement error*, which occurs when the variables of interest cannot be measured precisely; (3) *coverage error*, which arises when some members of the target population are excluded from the frame and thus do not have a chance to be selected for the sample; (4) *respondent error*, which occurs when respondents provide incorrect data; and (5) *processing error*, which can arise at the point of data editing, coding, or data entry. The analyst should be aware of potential nonsampling errors, but these errors are more difficult to detect and quantify than sampling errors.

Changes in the Survey

2010. For raking domains based on race and ethnicity, IPEDS race and ethnicity categories were collapsed into four categories: (1) white, not Hispanic; (2) Asian, Native Hawaiian or Other Pacific Islander, and persons reporting more than one race who are not Hispanic; (3) Hispanic (of any race), black or African American and American Indian or Alaska Native who are not Hispanic; and (4) Nonresident Alien (i.e., foreign-born temporary resident, non-U.S. citizen).

Resident Aliens (i.e., foreign-born non-U.S. citizen, permanent residents) are included in categories one, two, and three. The computation of control totals for these four race and ethnicity raking groups during the weighting process changed between 2008 and 2010 in terms of how the IPEDS counts from the unknown category were distributed to these four raking groups. In the 2008 NSRCG raking, all IPEDS counts from the unknown race and ethnicity category were counted toward the control total for the second domain—namely, Asian, Native Hawaiian or Other Pacific Islander, and persons reporting more than one race who are not Hispanic. In the 2010 raking, IPEDS counts for unknown race and ethnicity were redistributed to these four domains within each cohort and degree level, proportional to the distribution of reported race and ethnicity among those respondents with missing race and ethnicity data on the frame. Thus, compared with the 2008 method, the method used in 2010 will result in smaller control totals for the second raking domain because the proportion of unknown race and ethnicity responses is higher in the IPEDS data than in the NSRCG.

2006. In all survey cycles except 2006, data were collected on graduates with bachelor's and master's degrees earned in the preceding 2 academic years. However, in 2006, data were collected from graduates in 3 academic years—2003, 2004, and 2005—with a total sample of 27,000 graduates. In addition, beginning with the 2003 survey cycle, the scope of the NSRCG coverage was expanded to include graduates with bachelor's and master's degrees in health fields as well as in science and engineering (S&E) fields. Therefore, estimates from the 2003, 2006, 2008, and 2010 NSRCG cannot be compared directly with the 2001 or earlier NSRCG results unless respondents to the 2003, 2006, 2008, and 2010 NSRCG with health degrees are excluded from the data comparisons.

2003. In years prior to 2003, data on employed recent graduates were presented in only two categories: employment in S&E occupations, and employment in non-S&E occupations. Beginning in 2003, to further break down those employed in non-S&E occupations, a third category of S&E-related occupations was added. S&E-related occupations include health occupations, S&E managers, S&E precollege teachers, S&E technicians and technologists, and other S&E-related occupations, such as architects and actuaries.

1993. Care must be taken when comparing results from the 1990s surveys to those from the 1980s surveys due to significant changes made in 1993. During the 1993 cycle, the SESTAT surveys, including the NSRCG, underwent considerable revision in several areas, including survey eligibility, data collection procedures, questionnaire content and wording, and data coding and editing procedures. The *1993 National Survey of Recent College Graduates Methodology Report* (available on request) contains a more detailed discussion of these changes.

Changes in the Questionnaire

SESTAT questionnaires, of which the NSRCG is one, have a large set of core data items that are retained from one survey round to another and that support trend comparisons. For further

support of trend comparisons, questionnaire changes tend to be minimal. The following changes were made in the 2010 questionnaire.

- Deleting the following questions from the 2008 NSRCG questionnaire:
 - Section A – Education Background
 - A4 (time periods recent graduates took courses at community colleges)
 - A5 (reasons recent graduates took community college courses)
 - A6 (two most important reasons from A5)
 - Section B – Employment Situation
 - B32 (whether a second job was held during the reference week)
 - B33 (title of the second job held during the reference week)
 - B34 (what kind of work the recent graduate was doing on the second job)
 - B35 (job category for the second job)
 - B36 (how closely related the second job was to the graduate's highest degree)
- Adding the following questions to the 2010 NSRCG questionnaire:
 - Section A – Education Background
 - A13 (whether any school-related costs for courses taken during the reference period were paid for by an employer)
 - Section B – Employment Situation
 - B27 (degree of satisfaction with nine aspects of primary job, including salary, benefits, job security, job location, and intellectual challenge)
 - B34 (benefits available, including health insurance, pension plan, a profit-sharing plan, and paid vacation, sick, or personal days)
 - B36 (which federal agencies or departments supported the work of graduates in 2009)
 - Section C – Other Work-Related Experiences
 - C4 (professional society or association meetings or professional conferences attended in the last 12 months)
 - C5 (number of professional associations to which the graduate belongs)
 - C6 (extent to which with nine job characteristics are important, including salary, benefits, job security, job location, and intellectual challenge)
 - Section D – Demographic Information
 - D11 (type of visa held by temporary U.S. visa holders)
 - D13 (when non-U.S. citizens first came to the United States for 6 months or longer)
 - D14 (type of visa held during first visit of 6 months or longer to the United States)
 - D15 (factors leading to the decision to first come to the United States)
 - D16 (two most important factors in D15)
 - D17 (dual citizenship)
- Modifying the following questions for the 2010 NSRCG questionnaire:
 - Five questions were modified between 2008 and 2010, per NSF:
 - B33 – "Chronic illness or disability" was eliminated as a response option.
 - D10 – Graduates reporting a permanent U.S. resident visa (Green Card) were asked in what year they obtained this permanent visa.

- D20 – This was modified from two questions on the 2008 NSRCG into a single item: "Are you of Hispanic, Latino, or Spanish origin?" Response options allowed for a "no" response or a selection of origin, if applicable.
- D21 – This was modified from "What is your racial background?" on the 2008 questionnaire to "What is your race?" on the 2010 questionnaire.
- D24 – A response option was added (Difficulty with Concentrating, Remembering, or Making Decisions).

Comparisons with IPEDS Completions Data

IPEDS Completions data report the number of degrees awarded by all major fields of study along with estimates by sex and race or ethnicity.

Although the first stages of both the NSRCG and IPEDS Completions collect similar degree completion data from postsecondary institutions, their target populations differ in their coverage. IPEDS estimates the number of degrees awarded as a measure of output from the postsecondary educational system and can include the same person with more than one degree completion. In contrast, the NSRCG estimates the number of graduates with one or more SEH degrees from the most-recent academic years. These differences in coverage between the two surveys can affect comparisons of estimates as follows:

- The IPEDS data file represents a count of degrees awarded, whereas the NSRCG represents graduates (persons). If a person receives more than one degree, institutions are instructed to report each degree separately in IPEDS. In the NSRCG, each person is counted only once.
- The NSRCG includes only people who were residing in the United States during the survey reference week. Individuals who received degrees during the years covered by the survey but resided outside the United States during the reference week appear in IPEDS counts but not in NSRCG counts.
- The NSRCG includes only major fields of study that meet the specific SESTAT definition of SEH, whereas IPEDS includes all fields. The SESTAT field codes were designed to map primarily to the six-digit Classification of Instructional Program (CIP) codes used in IPEDS. However, published reports from the two studies may group the specific field codes differently for reporting purposes. Therefore, when comparing the NSRCG estimates in this report to IPEDS, care must be taken to select and group the IPEDS estimates according to the NSRCG field definitions. For example, the NSRCG reporting category of computer and information sciences does not include computer programming or data-processing technology; these fields are included in this category in the NCES *Digest of Education Statistics* (<http://nces.ed.gov/programs/digest/d10/>). In addition, several NSRCG reporting categories include fields classified as multi-interdisciplinary studies in IPEDS. IPEDS and NSRCG definitions for the social and related sciences reporting category vary more than for any other reporting category. The IPEDS category for social sciences includes history, whereas the NSF category excludes it.

- The IPEDS data reflect degree and other information submitted by institutions from administrative records, whereas the NSRCG represents reports from individual graduates collected in interviews. Often, estimates differ when the mode of data collection and the respondents differ.
- IPEDS is a census of postsecondary institutions; the NSRCG is a sample survey. As a result, NSRCG estimates include the sampling error inherent in all sample surveys.
- The NSRCG collects data from graduates using the new Office of Management and Budget race and ethnicity categories, whereas IPEDS had not adopted these race and ethnicity categories as of 2010.
- Changes in the codes used for collecting degree-completion data on race and ethnicity must be taken into account when looking at estimates by race and ethnicity. Before the 1995 academic year, IPEDS collected race and ethnicity data only by broad, two-digit CIP code fields and not by the specific six-digit CIP fields needed to identify the SEH fields as defined by the NSRCG. Therefore, it is not possible to obtain IPEDS race and ethnicity data that precisely match the SEH population as defined by NSRCG for the academic years before 1995. For example, the two-digit CIP for social sciences and history includes history, which is not an SEH field, but does not include some SEH fields, such as agricultural economics and public policy analysis, that are included in the NSF category for social and related sciences.

NSRCG and IPEDS estimates are consistent, however, when appropriate adjustments for these differences are made. For example, the proportional distributions of graduates by field of study are nearly identical, and the numerical estimates are similar. More information on the comparison of NSRCG and IPEDS estimates is available in the document *A Comparison of Estimates in the NSRCG and IPEDS*, available on request from the NSRCG survey manager.

Definitions and Explanations

Analytical domain. A combination of respondent characteristics defining a group for which estimates are calculated.

Degree level. Domains are defined by degree level: bachelor's or master's.

Educational institutions. Includes elementary and secondary schools, 2-year and 4-year colleges and universities, medical schools, university-affiliated research organizations, and all other educational institutions.

Government. Includes local, state, and federal government, as well as military and commissioned corps.

Integrated Postsecondary Education Data System (IPEDS). An integrated system of surveys designed to collect information on the number and types of degrees awarded by U.S. postsecondary institutions and also characteristics of degree recipients.

Labor force. Includes individuals working full or part time as well as those not working but seeking work or on layoff. It is a sum of the employed and the unemployed.

Major field of study. Derived from the field of degree, as specified by the respondent and classified into the SESTAT education codes (see technical tables B-2 and B-4).

Non-U.S. citizen. Non-U.S. citizen includes permanent residents and those on a temporary visa.

Occupation. Derived from responses to several questions on the type of work primarily performed by the respondent. The occupational classification into the SESTAT occupation codes was based on the respondent's principal job held during the survey reference week or last job held, if not employed in the reference week (see technical table B-3).

Primary work activity. The activity that occupied the most time on the respondent's job. In reporting the data, those who reported applied research, basic research, development, or design work were grouped together in "research and development." Those who reported accounting, finance or contracts, employee relations, quality or productivity management, sales and marketing, or managing and supervising were grouped into "management, sales, administration." Those who reported production, operations, maintenance, professional services, or other activities were grouped into "other."

Principal job status. Principal job status (full time or part time) is based on the number of hours usually worked on the principal job during a typical week. Employed graduates who worked 35 hours or more per week on their principal job are classified as full time, and all other employed graduates are classified as part time.

Private industry and business. Includes all private for-profit and private not-for-profit companies, businesses, and organizations, except those reported as educational institutions. It also includes persons reporting that they were self-employed.

Race and ethnicity. Ethnicity is defined as Hispanic or Latino or not Hispanic or Latino. Values for those selecting a single race include American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, and white. Those persons who report more than one race and who are not of Hispanic or Latino ethnicity also have a separate value.

Relationship between occupation and degree fields. The relationship between field of occupation and major field of degree was examined only at the broad level. For example, an individual with a physics bachelor's degree working in chemistry is considered to have an occupation and degree in the same broad field, but an individual with a computer sciences bachelor's degree working in an engineering occupation is considered to have an occupation in a broad field that differs from that of the degree.

Salary. Salary data reported in the data tables are for principal job only. *Full-time employed* are those who were not *self-employed* (either incorporated or not incorporated), whose principal job was not less than 35 hours per week, and who were not full-time students during the survey reference week. Self-employed persons and full-time students are excluded from salary data.

Science and engineering (S&E) occupation. S&E occupations include S&E postsecondary teachers; S&E-related occupations include health-related occupations. For detail, see technical table B-3.

Science, engineering, and health (SEH) field. Biological, agricultural, and environmental life sciences; computer and information sciences; mathematics and statistics; physical and related sciences; psychology; social and related sciences; engineering; health. For detail, see the codes used in major degree fields and sampling fields in technical table B-4.

Scientists and Engineers Statistical Data System (SESTAT). This system integrates data from the Survey of Doctorate Recipients, the National Survey of College Graduates, and the National Survey of Recent College Graduates (<http://www.nsf.gov/statistics/sestat/>).

Type of employer. The sector of employment in which the respondent was working on his or her primary job held during the survey reference week.

Unemployed. The unemployed are those who were not working during the survey reference week and were seeking work or were on layoff from a job.

¹ In 2010, break-offs during the introduction and refusals from unknown persons were reclassified from being "located" to being "not located" cases. As a result, the number of refusals cited above (618) only includes refusals from located sample members. If refusals from both "located" cases and "not located" cases (i.e., break-offs during the introduction and refusals from unknown persons) are summed, the total number of refusals is 901.

² When the overall response rates were below 80%, the nonresponse bias study was conducted using the 2003 and 2006 NSRCG data ("Summary of National Survey of Recent College Graduates [NSRCG] Nonresponse Bias Analysis," memorandum from D Jang to K Kang, 25 February 2009).

³ Before raking, the following adjustments were carried out to account for discrepancies between the NSRCG and IPEDS. First, the IPEDS reporting unit is "degrees awarded," whereas the NSRCG reporting unit is "graduates with degrees." To account for this difference, we converted NSRCG data with "graduate" as the unit to degree-level data, with multiple records for a case having multiple degrees in eligible fields. Second, IPEDS reflects the number of degrees awarded to all graduates, whereas the NSRCG represents a subset of graduates that excludes those who were either living outside the United States on the survey reference week, age 76 or older, deceased, institutionalized, or terminally ill on the survey reference date. Therefore, the NSRCG-eligible degrees were matched to the IPEDS adjusted total counts.