

Technical Notes

Dropout Prevention Services and Programs

Data Disclosure Warning

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Data perturbations were conducted on some background data to preclude identification of individuals and institutions.

Fast Response Survey System

The Fast Response Survey System (FRSS) was established in 1975 by the National Center for Education Statistics (NCES), U.S. Department of Education. FRSS is designed to collect issue-oriented data within a relatively short time frame. FRSS collects data from state education agencies, local education agencies, public and private elementary and secondary schools, public school teachers, and public libraries. To ensure minimal burden on respondents, the surveys are generally limited to three pages of questions, with a response burden of about 30 minutes per respondent. Sample sizes are relatively small (usually about 1,200 to 1,800 respondents per survey) so that data collection can be completed quickly. Data are weighted to produce national estimates of the sampled education sector. The sample size permits limited breakouts by classification variables. However, as the number of categories within any single analysis variable increases, the sample size within categories decreases, which results in larger sampling errors for the breakouts by analysis variables.

Sample and Response Rates

The sample for the FRSS survey of *Dropout Prevention Services and Programs* consisted of 1,200 public school districts in the 50 states and the District of Columbia. The nationally representative sample was selected from the 2008–09 NCES Common Core of Data (CCD) Local Education Agency (School District) Universe file, which was the most current file available at the time of selection. The sampling frame included 13,563 regular public school districts. For purposes of this study, “regular” school districts included any local school district that was not a component of a supervisory union (i.e., Education Agency type 1 on the CCD) or was a local school district component of a supervisory union sharing a superintendent and administrative services with other local school districts (i.e., Education Agency type 2 on the CCD). Excluded from the sampling frame were districts in the outlying U.S. territories and districts with no enrollments or missing enrollments.

To select the sample, the sampling frame was stratified by the instructional level of the schools operated by the district and enrollment size class. Information about instructional level of the schools in the district was obtained from the 2008–09 CCD public school universe file. Elementary districts were those with only elementary schools, while unified/secondary districts included at least one secondary school. Within the two categories of instructional level, the sample was allocated to size strata in rough proportion to the aggregate square root of the enrollment in the stratum. To improve the representativeness of the sample, an implicit stratification was induced by sorting the districts within each stratum by community type¹ and region prior to sampling. Within each stratum, districts were selected systematically and with equal probabilities.

Questionnaires and cover letters were mailed to the superintendent of each sampled school district in September 2010. The letter introduced the study and requested that the questionnaire be completed by the person most knowledgeable about dropout prevention services and programs in the district. Respondents were offered the option of completing the survey via the web or by mail. Telephone follow-up for survey nonresponse and data clarification was initiated in October 2010 and completed in January 2011.

Of the 1,200 districts in the sample, 5 districts were found to be ineligible for the survey because they were administrative entities only that did not operate any schools. For the eligible districts, the response rate was 91 percent (1,086 responding districts divided by the 1,195 eligible districts in the sample). The weighted response rate was 89 percent. Of the districts that completed the survey, 61 percent completed it via the web, 27 percent completed it by mail, 7 percent completed it by fax or email, and 5 percent completed it by telephone.

Although item nonresponse was very low (less than 1 percent for any item), missing data were imputed for the items with a response rate of less than 100 percent. Table 1 shows the weighted percent of districts with imputed data for each questionnaire item. The missing items were all categorical data, such as whether districts work with churches or community organizations to address the needs of students at risk of dropping out. The missing data were imputed using a “hot-deck” approach to obtain a “donor” district from which the imputed values were derived. Under the hot-deck approach, a donor district that matched selected characteristics of the district with missing data (the recipient district) was identified. The matching characteristics included community type, geographic region, district enrollment size, and high and low grades offered in the district. In addition, relevant questionnaire items were used to form appropriate imputation groupings. Once a donor was found, it was used to obtain the imputed values for

¹ The community type variable is based on the urban-centric district locale variable from the 2008–09 CCD (ULOCAL08), discussed further in the Definitions of Selected Analysis Variables section of this report.

the district with missing data. The imputed values were the corresponding values from the donor district. Imputation flags are included in the data.

Table 1. Weighted percent of districts with imputed data, by questionnaire item: School year 2010–11

Questionnaire item		Percent imputed (weighted)
Question 1. Are any of the following services or programs offered specifically to address the needs of students at risk of dropping out of school in any of the schools in your district?		
Q1aa	Tutoring in elementary school.....	0.12
Q1ab	Tutoring in middle/junior high school.....	0.27
Q1ba	Summer school to prevent grade retention in elementary school.....	0.12
Q1bb	Summer school to prevent grade retention in middle/junior high school.....	0.06
Q1ca	Remediation classes in elementary school.....	0.15
Q1cb	Remediation classes in middle/junior high school.....	0.09
Q1da	Guided study hall/academic support period in elementary school.....	0.18
Q1db	Guided study hall/academic support period in middle/junior high school.....	0.06
Q1ea	Alternative schools or programs in elementary school.....	0.17
Q1eb	Alternative schools or programs in middle/junior high school.....	0.16
Q1fa	After-school programs specifically to address the needs of students at risk of dropping out in elementary school.....	0.33
Q1fb	After-school programs specifically to address the needs of students at risk of dropping out in middle/junior high school.....	0.06
Question 3. Please indicate in part 1 whether the following educational options are available to students in your district. For each option you mark as available, please indicate in part 2 how many students at risk of dropping out participate.		
Q3a2	Part 2: Career/technical high school (including regional career/technical high schools).....	0.02
Q3b2	Part 2: Career/technical courses at a regular high school.....	0.02
Q3c2	Part 2: Dual enrollment in postsecondary courses with a career/technical focus.....	0.03
Q3d2	Part 2: Dual enrollment in postsecondary courses with an academic focus (e.g., English, math, foreign languages).....	0.20
Q3e2	Part 2: Work-based learning (e.g., internships/apprenticeships).....	0.13
Question 5. When a student who is at risk of dropping out is transitioning from a school at one instructional level to a school at a higher instructional level (e.g., from middle school to high school), is information regularly provided to the receiving school about the unique needs of that student?		
Q5	Information regularly provided to the receiving school about unique needs of that student.....	0.42
Question 6. Are the following supports used in any of the schools in your district to help students transition from a school of one instructional level to a school at a higher instructional level (e.g., from middle school to high school)?		
Q6aa	Assign all students a student mentor upon entry into the new school: elementary to middle/junior high school.....	0.12
Q6ba	Assign all students an adult mentor upon entry into the new school: elementary to middle/junior high school.....	0.12
Q6ca	Offer an advisement class for all students during the first year at the new school: elementary to middle/junior high school.....	0.12

See notes at end of table.

Table 1. Weighted percent of districts with imputed data, by questionnaire item: School year 2010–11

Questionnaire item		Percent imputed (weighted)
Question 7. Are any of the following types of mentors used in any of the schools in your district specifically to address the needs of students at risk of dropping out?		
Q7aa	Student mentors in elementary school	0.12
Q7ab	Student mentors in middle/junior high school	0.06
Q7ba	Student counselors, teachers, or school administrators who formally mentor students in elementary school	0.12
Q7bb	Student counselors, teachers, or school administrators who formally mentor students in middle/junior high school	0.06
Q7ca	Adult mentors employed by the district whose only job is to mentor students in elementary school.....	0.12
Q7cb	Adult mentors employed by the district whose only job is to mentor students in middle/junior school.....	0.06
Q7da	Community volunteers (i.e. volunteers from churches, community organizations, businesses, etc.) in elementary school	0.12
Q7db	Community volunteers (i.e. volunteers from churches, community organizations, businesses, etc.) in middle/junior high school	0.12
Question 8. Do any of the schools in your district use a formal program designed to reduce behavioral problems in schools or classrooms (e.g., Positive Behavioral Support, Positive Behavioral Intervention System, etc.)?		
Q8a	Elementary school	0.24
Q8b	Middle/junior high school.....	0.24
Question 9. Does your district have a standardized method of identifying students who may be at risk of dropping out (e.g., a standardized checklist of at-risk behaviors or an electronic warning system)?		
Q9	Have standardized method of identifying students who may be at risk of dropping out	0.42
Question 10. To what extent are the following factors used in your district to identify students who are at risk of dropping out?		
Q10a	Truancy or excessive absences	0.42
Q10b	Academic failure indicated by grades, accrued course credits, or grade retention	0.42
Q10c	Failure on state standardized tests	0.42
Q10d	Behaviors that warrant suspension or expulsion	0.42
Q10e	Behaviors that warrant other disciplinary action	0.42
Q10f	Involvement with the criminal justice system	0.43
Q10g	Involvement with social services or foster care	0.43
Q10h	Pregnancy/teen parenthood	0.42
Q10i	Substance abuse	0.42
Q10j	Learning disability as indicated in an Individualized Learning Plan (IEP)	0.42
Q10k	Mental health problems	0.42
Q10l	Observed change in student attitude or life conditions	0.42
Q10m	Homelessness or frequent address change	0.42
Q10n	Limited English proficiency	0.42
Q10o	Migrant status	0.43

See notes at end of table.

Table 1. Weighted percent of districts with imputed data, by questionnaire item: School year 2010–11

Questionnaire item		Percent imputed (weighted)
Question 11. Does your district work with any of the following to address the needs of students at risk of dropping out?		
Q11a	Child protective services.....	0.21
Q11b	Local businesses	0.21
Q11c	Juvenile assessment center.....	0.21
Q711d	Community mental health agency.....	0.21
Q11e	Churches or community organizations (e.g., Boys & Girls Club, United Way, Lion's Clubs).....	0.27
Q11f	Job placement center.....	0.21
Q11g	Crisis intervention center	0.21
Q11h	Drug and/or alcoholic clinic.....	0.21
Q11i	Family planning/child placement agency.....	0.21
Q11j	Child care centers/providers (i.e., for children of teen parents)	0.21
Q11k	Health clinic or hospital	0.21
Q11l	State or local government agencies that provide financial assistance to needy families	0.21
Question 12. When students appear highly likely to drop out of school, does your district provide information about the employment or financial consequences of dropping out of school?		
Q12	Provide information about employment or financial consequences of dropping out of school.....	0.42
Question 13. When students appear highly likely to drop out of school, does your district provide information about the following education and training options?		
Q13a	Alternative schools or programs administered by your district or another entity.....	0.21
Q13b	Job training/GED combinations programs (e.g., Job Corps).....	0.21
Q13c	GED or adult education programs.....	0.21
Q13d	Job training programs	0.25
Question 14. Does your district try to determine the status of students who were expected to return to school in the fall but who do not return as expected?		
Q14	Try to determine status of students who do not return to school in the fall as expected	0.21
Question 15. When students drop out during the school year, does your district follow up with those students sometime before the next school year to encourage them to return?		
Q15	Follow up with students who drop out during the year	0.21
Question 16. Does your district use any of the following information to determine whether to implement additional district-wide dropout prevention efforts?		
Q16a	Dropout rates	0.21
Q16b	Graduation rates.....	0.21
Q16c	Attendance rates.....	0.42
Q16d	Number of expulsions or other disciplinary actions.....	0.43
Q16e	State standardized test scores.....	0.42
Q16f	Number of students attending adult education/GED program	0.22
Q16g	Number of students taking or passing the GED test.....	0.21
Q106h	Number or percentage of students failing courses or held back.....	0.42
Q16i	Feedback from a district-administered parent or student survey.....	0.42
Q16j	Other (specify)	0.21

NOTE: Percents are calculated as the weighted number of imputed cases divided by the weighted number of questionnaire respondents for whom the question applied (i.e., respondents instructed to skip the question are excluded from the base). Only questionnaire items with missing data are listed in the table.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Dropout Prevention Services and Programs" FRSS 99, 2010.

Weighting Procedures and Sampling Errors

The response data were weighted to produce national estimates (see table 2). The weights were designed to reflect the variable probabilities of selection for the sampled districts and were adjusted for differential unit (questionnaire) nonresponse. FRSS survey data are based on complex sample designs that require the use of weights to compensate for variable probabilities of selection, differential response rates, and possible deficiencies in the sampling frame. The reciprocal of the probability of selection, referred to as the “base weight,” will produce unbiased (or consistent) estimates of population totals and ratios if there is no nonresponse in the survey. Since a stratified sample design was employed for the survey, the base weight for the i -th district in stratum h was computed as $w_{hi}=1/f_h$ where f_h is the overall sampling rate used to select districts in stratum h .

Although the survey had a high response rate, adjustment of the base weights was necessary to compensate for the survey nonrespondents (i.e., whole questionnaire or unit nonresponse). To compensate for unit nonresponse, an adjustment factor was computed as the inverse of the base-weighted response rate within selected weighting classes. This factor was then used to inflate the base weights of the districts in the weighting class to obtain the final nonresponse-adjusted weight.

Table 2. Number and percent of responding public school districts in the study sample, and estimated number and percent of public school districts the sample represents, by selected district characteristics: School year 2010–11

Selected characteristic	Respondent sample (unweighted)		National estimate (weighted)	
	Number	Percent	Number	Percent
All public school districts.....	1,086	100	13,400	100
District enrollment size				
Less than 2,500	442	41	9,400	71
2,500 to 9,999	395	36	3,000	23
10,000 or more.....	249	23	900	7
Community type				
City	154	14	700	5
Suburban	318	29	2,600	20
Town	206	19	2,400	18
Rural	408	38	7,600	57
Region				
Northeast.....	223	21	2,900	21
Southeast.....	202	19	1,500	12
Central	326	30	4,800	36
West	335	31	4,100	31
Poverty concentration				
Less than 10 percent.....	335	31	4,000	30
10 to 19 percent.....	442	41	5,500	41
20 percent or more	309	28	3,900	29

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

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), “Dropout Prevention Services and Programs,” FRSS 99, 2010.

The survey findings are presented in a *First Look* report titled *Dropout Prevention Services and Programs in Public School Districts: 2010–11* (NCES 2011–037). The reported findings are estimates based on the sample selected and, consequently, are subject to sampling variability. The standard error is a measure of the variability of an estimate due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors are used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, the estimated percent of districts with high school grades that offered credit recovery courses/programs to address the needs of students at risk of dropping out is 87.6 percent, and the standard error is 1.33 percent. The 95 percent confidence interval for the statistic extends from $87.6 - (1.33 \times 1.96)$ to $87.6 + (1.33 \times 1.96)$, or from 85.0 to 90.2 percent.

Because the data from the FRSS survey on dropout prevention services and programs were collected using a complex sampling design, the variances of the estimates from this survey (e.g., estimates of proportions) are typically different from what would be expected from data collected with a simple random sample. Not taking the complex sample design into account can lead to an underestimation or overestimation of the standard errors associated with such estimates. Estimates of standard errors were computed using a technique known as jackknife replication. As with any replication method, jackknife replication involves constructing a number of subsamples (replicates) from the full sample and computing the statistic of interest for each replicate. The mean square error of the replicate estimates around the full sample estimate provides an estimate of the variance of the statistic. To construct the replications, 100 stratified subsamples of the full sample were created and then dropped one at a time to define 100 jackknife replicates. A computer program (WesVar) was used to calculate the estimates of standard errors using the JKN option.

The sample of FRSS 99 districts is relatively large compared to the population of eligible districts, so finite population correction (FPC) factors are required to estimate standard errors accurately; otherwise, the standard errors would tend to be overestimated. In addition to the FPC factors, a second set of factors referred to as JKN factors are also required to compute standard errors using the JKN option. The JKN factors pertain to the numbers of replicates that are formed for variance estimation. To facilitate loading of the factors into statistical software, the data for these factors are provided in two separate files: F99fact_fpc.dat is a text file containing the 100 FPC factors (one for each replicate), and F99fact_jkn.dat is a text file containing the corresponding 100 JKN factors. Table 3 provides the same factor information contained in the text files.²

Table 3. Values of finite population correction (FPC) and jackknife replication (JKN) factors to be used for calculating standard errors: 2010–11

Replicate	FPC factor	JKN factor
1 to 10.....	0.64	0.900000
11 to 24.....	0.78	0.928571
25 to 59.....	0.87	0.971429
60 to 100.....	1.00	0.975610

NOTE: FPC factors are based on the average sampling rate in the variance stratum. For replicates 60 to 100, the FPC is approximately 1.00.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), “Dropout Prevention Services and Programs,” FRSS 99, 2010.

² A description of how the two sets of factors are used in variance estimation is given in Rust, K. (1986), Efficient Replicated Variance Estimation, *Proceedings of the Section on Survey Research Methods, American Statistical Association*, 81–87.

Nonsampling Errors, Coding, and Editing

The survey estimates are also subject to nonsampling errors that can arise because of nonobservation (nonresponse or noncoverage) errors, errors of reporting, and errors made in data collection. These errors can sometimes bias the data. Nonsampling errors may include such problems as misrecording of responses; incorrect editing, coding, and data entry; differences related to the particular time the survey was conducted; or errors in data preparation. While general sampling theory can be used to determine how to estimate the sampling variability of a statistic, nonsampling errors are not easy to measure and, for measurement purposes, usually require that an experiment be conducted as part of the data collection procedures or that data external to the study be used.

To minimize the potential for nonsampling error, the questionnaire was pretested with school district respondents. During the design of the survey and the survey pretest, an effort was made to check for consistency of interpretation of questions and definitions and to eliminate ambiguous items. The questionnaire and instructions were extensively reviewed by NCES.

Editing of the questionnaire responses was conducted to check the data for accuracy and consistency. Cases with missing or inconsistent items were recontacted by telephone. A coding source file and editing specifications were used to produce the codebook. The codebook served as the main tool for coding, editing, and processing completed questionnaires. Coders used the codebook to identify cases requiring data retrieval or clarification and prepare cases for entry into the web application. The source file served as a data dictionary and included the data file layout, a description of each data item, a list of valid response codes or range formats with codes for nonresponse and inapplicable, and defined skip patterns.

Logics, ranges, and validation checks were prepared prior to data collection and included online edit checks, manual logic checks, and automated checks using SAS. Online checks were incorporated into the web application and manual edits were conducted to process cases received by mail, fax, or telephone. Steps were taken to ensure that the method of entering data from web and hardcopy questionnaires was the same, regardless of mode. For example, to enter survey data received by mail, fax, or telephone, the data processing staff accessed the survey website as “respondents” and “completed” the survey using the responses on the hardcopy survey. Subjecting all survey responses to the same set of built-in logics, ranges, and validation checks helps to ensure that data entry does not produce systematic differences in the survey data. In addition, all hardcopy data were subject to 100 percent verification using “doublekeying.”

Definitions of Selected Analysis Variables

Many of the district characteristics, described below, may be related to each other. For example, district enrollment size and community type are related, with city districts typically being larger than rural districts. Other relationships between these analysis variables may exist.

District Enrollment Size (SIZE)—This variable indicates the total number of students enrolled in the district based on data from the 2008–09 CCD Local Education Agency Universe file. The variable was collapsed into the following three categories:

- Less than 2,500 students**
- 2,500 to 9,999 students**
- 10,000 or more students**

Community Type (URBAN)—A created variable collapsed from the 12-category urban-centric district locale code (ULOCAL) that was assigned using the 2000 Decennial Census data. Data were obtained from the 2008–09 CCD Local Education Agency Universe file. The data were collapsed into four categories:

City—Includes large, midsize, and small principal cities

Suburban—Includes large, midsize, and small urbanized territories outside principal cities

Town—Includes fringe, distant, and remote territories that are inside an urban cluster

Rural—Includes fringe, distant, and remote territories that are outside of urbanized areas and urban clusters

Region (OEREG)—This variable classifies districts into one of the four geographic regions used by the Bureau of Economic Analysis of the U.S. Department of Commerce. Data were obtained from the 2008–09 CCD Local Education Agency Universe file. The geographic regions are as follows:

Northeast—Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont

Southeast—Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia

Central—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin

West—Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming

Poverty Concentration (POVST)—This variable indicates the percentage of children in the district ages 5–17 in families living below the poverty level, based on the Title I data provided to the U.S. Department of Education by the U.S. Census Bureau, “Small Area Income and Poverty Estimates.” For detailed information on the methodology used to create these estimates, please refer to <http://www.census.gov/did/www/saipe/index.html>. The variable was collapsed into the following three categories:

Less than 10 percent

10 to 19 percent

20 percent or more

Instructional Level (DLEVEL)—This variable indicates the instructional level of the schools operated by the district. Data were obtained from the 2008–09 CCD Public School Universe file and compiled into the following two district categories:

Elementary—Districts with only elementary schools

Unified/secondary—Districts with at least one secondary school