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ABSTRACT

The National Household Education Survey (NHES) is a data collection effort of the National Center for Education Statistics that collects and publishes data on the condition of education in the United States. The NHES is designed to provide information on issues that are best addressed by contacting households rather than institutions. It is a telephone survey of the civilian, noninstitutionalized population that collects repeated measurements of the same phenomena at different times. This paper presents information on the unit response rates, item response rates, and imputation. The first section, "Unit Response Rates," describes response and completion rates for the NHES:95. It includes information on rates for the Screener interview and the extended Early Childhood Participation and Adult Education interviews. These topics were the focus of NHES:95. Some 14,064 children were sampled for the Early Childhood component, and 3,569 adults completed the Adult Education interview. "Item Response and Imputation" discusses the approach taken to missing responses. As in most surveys, responses to some data items were not obtained for all interviews. The imputation of missing data is discussed. "Weighting and Standard Error Calculation Procedures" describes the procedures for producing the weights to estimate characteristics from the NHES:95 sample and to estimate sampling errors for those estimates. Methods for estimation were developed that were consistent with changes from the original weighting plan made during the collection period. (Contains 27 tables and 8 references.) (SLD)

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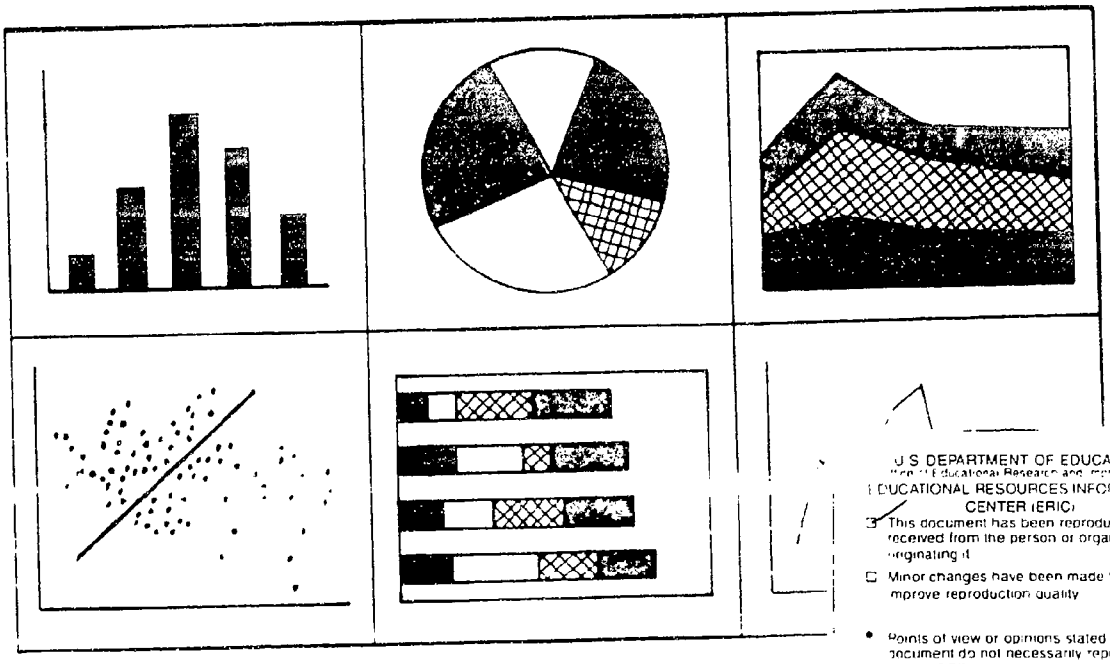

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Unit and Item Response, Weighting, and Imputation Procedures in the 1995 National Household Education Survey (NHES:95)

Working Paper No. 97-06 February 1997

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February 1997

Foreword

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Unit and Item Response, Weighting, and Imputation Procedures

in the

1995 National Household Education Survey (NHES:95)

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Prepared for:

U.S. Department of Education
Office of Educational Research and Development
National Center for Education Statistics

February 1997

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Overview of the National Household Education Survey

The National Household Education Survey (NHES) is a data collection system of the National Center for Education Statistics (NCES), which has as its legislative mission the collection and publication of data on the condition of education in the Nation. The NHES is specifically designed to support this mission by providing information on those educational issues that are best addressed by contacting households rather than schools or other educational institutions. The NHES provides descriptive data on the educational activities of the U.S. population and offers policymakers, researchers, and educators a variety of statistics on the condition of education in the United States.

The NHES is a telephone survey of the noninstitutionalized civilian population of the U.S. Households are selected for the survey using random digit dialing (RDD) methods, and data are collected using computer-assisted telephone interviewing (CATI) procedures. 45,000 to 64,000 households are screened for each administration, and individuals within households who meet predetermined criteria are sampled for more detailed or extended interviews. The data are weighted to permit estimates of the entire population. The NHES survey for a given year typically consists of a Screener, which collects household composition and demographic data, and extended interviews on two substantive components addressing education-related topics. In order to assess data item reliability and inform future NHES surveys, each administration also includes a subsample of respondents for a reinterview.

The primary purpose of the NHES is to conduct repeated measurements of the same phenomena at different points in time, although one-time surveys on topics of interest to the Department of Education may also be conducted. Throughout its history, the NHES has collected data in ways that permit estimates to be tracked across time. This includes repeating topical components on a rotating basis in order to provide comparative data across survey years. In addition, each administration of the NHES has benefited from experiences with previous cycles, resulting in enhancements to the survey procedures and content. Thus, while the survey affords the opportunity for tracking phenomena across time, it is also dynamic in addressing new issues and including conceptual and methodological refinements.

A new design feature of the NHES program implemented in the NHES:96 is the collection of demographic and educational information on members of all screened households, rather than just those households potentially eligible for a topical component. In addition, this expanded screening feature includes a brief set of questions on an issue of interest to education program administrators or policymakers. The total Screener sample size is sufficient to produce state estimates of household characteristics for the NHES:96.

The NHES has been conducted in 1991, 1993, 1995, and 1996. Topics addressed by the NHES:91 were early childhood education and adult education. The NHES:93 collected information about school readiness and school safety and discipline. The 1991 components were repeated for the NHES:95, addressing early childhood program participation and adult education. Both components underwent substantial redesign to incorporate new issues and develop new measurement approaches. In the NHES:96, the topical components are parent/family involvement in education and civic involvement. The NHES:96 expanded screening feature includes a set of questions on public library use.

In addition to its topical components, the NHES system has also included a number of methodological investigations. These have resulted in technical reports and working papers covering

diverse topics such as telephone undercoverage bias, proxy reporting, and sampling methods. This series of technical reports and working papers provides valuable information on ways of improving the NHES.

This working paper presents information on the unit response rates, item response rates and imputation, and weighting procedures in the 1995 National Household Education Survey (NHES:95). Readers may also wish to review the other NHES:95 working papers: *Design, Data Collection, Survey Administration Time, and Data Editing in the 1995 National Household Education Survey* (Collins et al. forthcoming), *The 1995 National Household Education Survey: Reinterview Results for the Adult Education Component* (Brick et al. 1996), *Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey* (Brick et al. forthcoming), and *Comparison of Estimates from the 1995 National Household Education Survey* (Kim et al. forthcoming) for additional information on the survey. Comparable working papers are also being prepared for the NHES:96.

1995 National Household Education Survey
Unit Response Rates

Introduction

This section describes the response and completion rates for the NHES:95. It includes data on the rates for the Screener interview, the extended Early Childhood Participation (ECPP) interview, and the Adult Education (AE) interviews. The following presentation is based on the assumption that the reader is familiar with the survey design and, to a lesser extent, the weighting procedures used in the NHES:95. The weighting procedures are discussed in a later section of this working paper.

Because there are a number of ways to describe the outcomes of the data collection activities of a random-digit-dial (RDD) telephone survey, the next section provides an introduction to the terms "response rate" and "completion rate" as used in this document and for NHES:95 in general. The results for the NHES:95 follow these introductory remarks.

Definition of Response and Completion Rates

A response rate is the ratio of the number of units with completed interviews (the units could be telephone numbers, households, or persons) to the number of units sampled and eligible for the interview. In some cases, these rates are easily defined and implemented, while in other cases the numerators or denominators of the ratio must be estimated.

For reporting the results from the NHES:95, the response rate indicates the percentage of possible interviews that have been completed taking all sampling stages into account, while the completion rate measures the percentage of interviews completed for a specific stage of the survey. For example, household members are identified for extended interviews in a two-stage process. Screener interviews are conducted to enumerate and sample household members, and then extended questionnaires are administered to the sampled members. If the responding household member fails to complete the first-stage Screener, the extended interview cannot be conducted in the household. In this case, the completion rate for the second stage is the percentage of sampled persons with completed extended interviews. The response rate is the product of the first- and second-stage completion rates.

Response and completion rates can be either unweighted or weighted. The unweighted rate, computed using the raw number of cases, provides a useful description of the success of the operational aspects of the survey. The weighted rate, computed by summing the weights (usually the reciprocals of the probability of selecting the units) for both the numerator and denominator, gives a better description of the success of the survey with respect to the population sampled. Both rates are usually similar unless the probabilities of selection and the response rates in the categories with different selection probabilities vary considerably. All of the response rates discussed in the report are weighted unless noted specifically in the text.

Response rates and completion rates are identical for the first stage of sampling and interviewing (i.e., the Screener). The next section discusses the response rate for the Screener and provides a profile of the characteristics of the respondents. The discussion of response and completion rates for the extended interviews and response profiles for these interviews follows. (All tables mentioned in the following discussion are located at the end of this section, beginning on page 15.)

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Screener Response Rates

The first panel of table 1 shows the disposition of the 120,459 telephone numbers that were sampled for the NHES:95. The three major categories of response status are those identified as numbers for residential households, those identified as nonresidential numbers (primarily nonworking and business telephone numbers), and those numbers that, despite numerous attempts, could not be identified as residential or nonresidential.

About 50 percent of the telephone numbers were identified as residential. This percentage is lower than in previous NHES studies, which averaged about 60 percent, but this difference was expected because the NHES:95 is the first of these surveys conducted using a list-assisted methodology. One of the features of this method is that the expected percentage of all telephone numbers that are residential is lower than in the Mitofsky-Waksberg two-stage samples that were used in previous studies. Assuming that 40 percent of the telephone numbers with unknown residential status are residential (discussed below), the percentage of numbers that are residential is 52 percent, close to the 53 percent that was expected prior to the start of the survey.

The percentage of telephone numbers with unknown residential status was 5.5 percent, which is slightly higher than the 3 to 5 percent found in previous NHES and other RDD studies done by Westat. One possible explanation is that the frame of telephone numbers created using the list-assisted method may contain more telephone numbers that cannot be identified as residential despite numerous telephone calls. Since virtually all of the unknown residential status numbers were called 14 times or more the large percentage in this category is not the result of fewer calls to the numbers.

The second panel of table 1 shows four estimated response rates for the Screener based upon different assumptions about the telephone numbers. Each of these rates is described below, along with the rationale for its use. The primary difference across the rates is in the allocation of the numbers in the unknown residential status category.

The business office method derives its name from the technique used to estimate the denominator of the rate. After drawing a random sample of the telephone numbers with unresolved residency status (a sample of 350 numbers from the 5,172 that were never answered by a person or an answering machine and 250 numbers from the 1,443 that were never answered by a person, but were picked up by an answering machine at least once), the numbers were classified as either residential or nonresidential by calling local telephone companies for the numbers from exchanges handled by those companies. This check with business offices, explained further in the next paragraph, was conducted in April of 1995 at the conclusion of the survey.

The telephone companies were contacted by telephone experienced Telephone Research Center supervisors and asked to classify the numbers as working or not working. If they were working, the companies were asked to further identify them as residential or business numbers. No information was obtained for 53 of the 600 numbers because the representatives of the telephone companies said they did not have the data to classify the number as residential, business, or nonworking.

The percentage of the 6,615 numbers that were residential was estimated in the following steps. First, the 53 numbers that had no information were excluded and the percentage of numbers that were working was computed (84 percent for the numbers that were never answered by a machine and 87 percent for those that were). Second, the percentage of working numbers that were residential was

estimated by excluding those numbers for which the residential status was unknown. (Among numbers with known statuses, 41 percent of working numbers never answered by machines were residential and 73 percent of working numbers that were answered by machines were residential.) Third, the percentage residential was estimated by multiplying these two percentages together (84% x 41%=34% for numbers never answered by machines; 87% x 73%=63% for numbers that were answered by machines).

As a result of this process, it is estimated that 40.5 percent of the numbers were residential (34 percent of the numbers that were never picked up by an answering machine and 63 percent of those that were). This result is nearly identical to the result from a study conducted at the end of the NHES:91. Therefore, the denominator of the business office method is all the telephone numbers that were known to be residences plus 40.5 percent of the numbers with unresolved residential status [62,392 =59,713+(0.405 x 6,615)]. The numerator is the number of telephone numbers in households that participated in the survey (45,465).

The estimated Screener response rate using the business office method is 73 percent. If the raw count of telephone numbers was not weighted, the Screener response rate using the business office method would also have been 73 percent. The estimated Screener response rate of 73 percent is recommended for general use, and it is used in all the subsequent presentations of the data from the NHES:95.

The other three response rates shown in table 1 were computed by allocating different proportions of the numbers with unknown residency status into the residential category. The CASRO (Council of American Survey Research Organizations) rate is computed by allocating the numbers with unknown residential status in the same proportion observed in the numbers with known residential status. Since evidence from the sample described above suggests that the residency rate for these numbers is lower than implied by the CASRO rate calculation, we do not recommend using this assumption in the response rate calculation. The CASRO rate is 72 percent.

The conservative and liberal response rates define the lower and upper bounds of the response rate. The conservative response rate is computed assuming that all of the numbers with unknown residential status are actually residential numbers. The conservative rate is 69 percent. The liberal rate is computed assuming that all the numbers with unknown residential status are actually nonresidential. The liberal rate is 77 percent.

For general purposes, it is reasonable to say that the Screener response rate is estimated to be between 69 and 77 percent, and that the best estimate is 73 percent. The variability in the estimates arises because it is not possible to identify precisely the residential status for each telephone number.

An experiment involving the screening of households was conducted in the NHES:95. In this experiment, a sample of 4,040 telephone numbers was randomly selected and a different screening interview was conducted with the household. This interview was called the Expanded Screener because it included all the items for the regular screening interview along with additional questions about the household and its members. One of the key concerns about adding these questions at the time of screening was its impact on the response rate. Table 2 shows the results of the experiment by the type of screening interview. The distribution of responses for the Expanded Screener and the regular Screener were very similar, and the overall response rates are virtually identical. Accordingly, the interview data collected in the Expanded Screener households are treated without distinguishing them from the regular household screening data in the subsequent tables.

Table 3 provides a further breakdown of the participating and nonparticipating residential telephone numbers. The participating numbers are classified by whether or not any extended interviews were scheduled for the household and the nonparticipating numbers are classified by the reason for nonresponse. Extended interviews were scheduled for 70 percent of the screened households, a much higher percentage than in previous NHES studies, which typically involved sampling persons for extended interviews from only one-third of the sampled households. The increase in the percentage of households with extended interviews was largely the result of the Adult Education component and its sample size requirements.

About 84 percent of all the nonresponse in the screening interview was due to an adult household member refusing to answer the screening items. This rate of refusal is the same as the NHES:91 and higher than the NHES:93 rate of 68 percent. Since the NHES:91 and NHES:95 addressed the same topics, it is feasible to suppose this is the reason for the NHES:95 rate being similar to the NHES:91 but different from the NHES:93. The next largest category is the 9 percent classified as maximum calls, which includes those households that never completed the Screener after numerous calls. While these households never explicitly refused to participate, potential respondents were not available to complete the screening items despite many attempts to reach them. Language problems account for 5 percent of nonresponse. The language problem cases are discussed in more detail below.

Table 4 shows the number of households in which at least one extended interview was scheduled. Nearly two-thirds (65 percent) of the households had only Adult Education interviews scheduled, 11 percent had only Early Childhood Program Participation interviews, and 24 percent had both types of interviews. In the NHES:91, 38 percent of the households had only Adult Education extended interviews, 54 percent had only Early Childhood Education interviews, and 8 percent had both types of interviews.

Profile of Screener Response Rates

In most RDD surveys, it is difficult to obtain and examine the characteristics of those households that do not respond to the screening interview. Consequently, the ability to examine nonresponse bias at this stage of the survey is limited. To address this concern, we have associated characteristics that are available in the list-assisted sampling frame with the telephone numbers sampled for the NHES:95. The characteristics are those of the geographic area (the ZIP Code that has the most households associated with telephone numbers in the exchange) based on the 1990 Census of Population.

Table 5 gives the distribution of the telephone calls and the estimated response rate by the characteristics of the areas. For example, the response rate in areas with less than 11 percent of the adult population having a college degree (as of the 1990 Census) had a response rate of 76 percent, while areas with 26 percent or more college graduates had a response rate of 70 percent. The differences in the rates are generally relatively small. The response rates ranged from 60 percent to 80 percent across all the characteristics examined.

This univariate profile of Screener response rates by the characteristics of the areas is difficult to interpret because there are so many characteristics to consider. In addition, some of the characteristics are correlated, and the univariate profile does not explore these relationships. Consequently, a multivariate analysis was performed to examine the interrelationship of the characteristics and the response rates.

The goal of the multivariate analysis was to determine if any groups of households had extremely low response rates. Nonresponse bias in the estimates may appear when the characteristics of the

respondents and nonrespondents are different. By identifying groups with different response rates, the characteristics of the respondents and nonrespondents can be used as a indicator of the potential for nonresponse bias. The characteristics of the geographic areas corresponding to the telephone numbers sampled were used to identify groups with different response rates. The variables included in the analysis were all the variables that were available and thought to be correlated with the response rate.

The analysis was done using a categorical search algorithm called CHAID. This algorithm is very similar to the continuous search algorithms LISREL and AID (Automatic Interaction Detector) which have been used for a number of years, but it is designed especially to handle categorical data like that available for the NHES:95. The procedure works by dividing the entire data set into cells by attempting to determine sequentially the cells that have the greatest discrimination with respect to the response rates. In other words, it attempts to divide the data set into groups so that the response rate within cells is as constant as possible and the response rate between cells is as different as possible. This automatic procedure was done by specifying that the minimum number of households in any group had to be greater than or equal to 500.

An example may help to explain the methods used in CHAID. All of the characteristics in the model are tested and the one with the response categories having the largest discrimination with respect to the response rates is identified. Looking at table 6, which contains the results of this analysis, the first column indicates that Metro status was the variable chosen as most indicative of differential response rates and all five response categories for this variable were retained. Note that within Metro status response category four, no other splits were created, so this category, MSA in its own county, is one of the 28 cells created. Within the other Metro status response categories, the data were tested and Census division was used to split the data, with different combinations of Census divisions for each Metro status category. The process continued until the final 28 cells shown in the table were formed. The table is formatted so that the order of the column variables closely corresponds to the order in which they entered the model.

Since many of the variables in the CHAID model, such as Census division, have multiple response categories, the program must take this into account. The CHAID software does this in two ways. First, it allows the data set to be split into more than one subgroup at a time. For example, Census divisions are split differently within different Metro status response categories. Second, the procedure follows a relatively complex procedure to check all binary splits of the data and equalize the chance of selecting variables irrespective of the number of response categories that variable may have.

The results of the analysis are given in table 6. As noted above, each cell was constrained so that it contained at least 500 observations. The completion rates in the last column of the table, that is, the raw counts of the number of participating households divided by the number of households (participating and not participating), vary from about 66 percent to 86 percent in the 28 cells.

The first question that needs to be addressed is whether or not the variability in response rates by cells is large. One way of looking at this problem is to consider what could be expected if 28 cells were defined randomly rather than by trying to maximize the difference in response rates. Forming random cells with as few as 500 cases and given the overall response rate of 73 percent, it would not be unusual to find a range in the response rates across the cells from 69 to 77 percent (which are the conservative and liberal response rates shown in table 1). Comparing this with the observed range of 66 to 86 percent suggests that the variation in the response rates from the CHAID model that attempts to maximize variation in response is not extreme. In fact, the response rates are perhaps even less variable across the

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cells than might have been expected given the goal of maximizing the discrimination. No other patterns are obvious from the results of the CHAID analysis.

The general conclusion from the multivariate analysis is that no groups with extreme response rates were identified based on the geographic characteristics data. This is an indicator that the response bias may not be large for these characteristics. While these findings are important and positive, they do not imply the estimates are free of nonresponse bias. Clearly, some nonresponse bias exists, but these results suggest that it may not be large. The final sampling weights do adjust somewhat for differential nonresponse across geographic areas (see section on weighting), but it is unclear how effectively these adjustments reduce the bias.

Another observation that sometimes indicates problems in telephone surveys is the comparison of the percentage of households or persons eligible from the survey to the percentage eligible from other data sources, such as the Current Population Survey (CPS). Estimates from the October 1992 CPS showed that 23.8 percent of households had children eligible for the ECPP (13.5 percent with exactly one child and 10.3 percent with two or more children). The percentage of households in the NHES:95 that had children eligible for the ECPP was 24.3 percent (13.9 percent with exactly one child and 10.4 percent with two or more children). In addition, the average number of adults per household in the NHES:95 was 1.9, which is very close to the 1.8 adults per household estimated from the October 1992 CPS. Since the CPS estimates are so similar to those from the NHES:95, it is unlikely that the composition of the sampled households was subject to a large nonresponse bias in the NHES:95.

This type of analysis can be extended to better understand the nature of the potential nonresponse bias from the screening of households by comparing the general characteristics of the households from the completed NHES:95 to the same characteristics from the CPS. Table 7 gives household and person distributions from all 45,465 completed households from the NHES:95 and from the March 1994 CPS. The NHES:95 counts were based on the number and characteristics of all persons enumerated in the household, but 761 persons were excluded because of missing data for the age or sex of the person. The NHES:95 estimates were based on weights created at the household level before adjusting for nonresponse. The household and person characteristics examined were those thought to be correlated with nonresponse, based on prior methodological literature.

In terms of household composition, households with only one member and households with older adults are often the most difficult to survey. The table shows that the percentage of 1-person households enumerated in the NHES:95 was 2.1 percent less than the CPS estimate. Breaking these households out by sex, the majority of the difference appears to be in the 1-person households with a female member. The percentage of households with at least one adult aged 65 years or more is also lower (2.7 percent) in the enumerated NHES:95 than the CPS estimate. These results are consistent with the hypothesis that these households are less likely to participate in surveys than other types of households. It also suggests that the NHES:95 estimates may be somewhat biased due to these differences, although the sampling weights for the components were adjusted for some of these characteristics, such as age. The weighting procedures are described later in this report.

The second part of the table shows the percentage distribution of persons from the two surveys by age. The largest differences are for persons 10 to 19 years old and for persons 60 years or more. The difference for the older persons is related to the household distribution mentioned above. It may also reflect reporting errors in the NHES:95. Some respondents may fail to include grandparents if they believe that the interviewer is only concerned with the nuclear family. The over-representation of persons

10 to 19 years old may be related to the fact that the NHES:95 is a survey about education. Households with no members currently in school may think the survey does not apply to them and respond at a lower rate than those in households with school-age children. However, there is not a large difference in the numbers of children under 10-years-old.

None of the comparisons reveal any striking differences between the respondents to the NHES:95 and the general population. The results do show important differences that may result in biases in some of the estimates from survey. We suspect that the differences discovered here may be very typical of the results from previous NHES surveys, but these data are not available for comparison purposes.

Language Problem Resolution

The NHES:95 was conducted in English and in Spanish. The questionnaires were translated into Spanish, a Spanish version of the CATI instrument was programmed, and bilingual interviewers were trained to complete the interview in either English or Spanish.

When a telephone number is dialed in an RDD survey, the telephone may be answered by someone who does not speak English. These contacts are typically coded by interviewers as "language problem" cases and classified as contact with a person with a hearing or speech problem or one who speaks a language other than English. If the respondent speaks a language other than English and the interviewer recognizes the language, the language is also recorded by the interviewer.

In the NHES:95, all cases classified as a language problem, including those with hearing and speech problems, were placed in a separate work category so that only trained, bilingual interviewers could access them for follow-up calls. If a bilingual interviewer encountered a Spanish-speaking respondent in the initial contact, the interviewer immediately began to conduct the interview in Spanish. These cases were coded as having been worked in Spanish but were not classified as having been language problem cases.

Language problem cases include a wide range of situations that result in a non-English-speaking person (or a speech or hearing impaired person) answering the telephone. For example, some households have members who speak English and other members who do not. In this case, the classification of the household as a language problem may depend on who answers the telephone for a specific call. Another possibility is that all household members speak English, but the telephone might be answered on some occasions by a person who does not live there and does not speak English. A second call to the household might be answered by an English-speaking household member. The procedures followed in the NHES:95 to ensure that all cases classified as language problems had the greatest chance of being completed are described in *Design, Data Collection, Interview Timing, and Data Editing in the 1995 National Household Education Survey* (Collins et al. forthcoming).

The results for Screener interviews that were ever classified as having a language problem are presented in table 8. The first section gives the results for those cases ever classified as hearing or speech problems. The second and third sections of the table concern language problem cases other than hearing or speech problems. The second section includes cases in which the interviewer reported that the respondent in the initial household contact was speaking Spanish. The third section includes cases in which the initial interviewer reported that the respondent was speaking a language other than Spanish or English. It should be noted that the interviewers were not trained to recognize the language of the respondent; they were merely asked to record what they thought the language spoken might have been.

There were 359 Screeners that were classified by at least one interviewer as a hearing or speech problem. About one-fourth of these cases were eventually completed, either because another household member answered the phone or because the interviewer initially misclassified the case. Of the 100 completed Screeners in this group, 9 were completed in Spanish.

The response rate for the 1,633 cases classified by the initial interviewer as Spanish-speaking was slightly higher than the overall rate for the Screeners. About 80 percent of all these cases were finalized as completes. Nearly 95 percent of these cases were completed in Spanish, indicating the initial interviewers did an excellent job identifying the language spoken by the respondents as Spanish.

The last section of table 8 shows that the completion rate for the 706 cases identified as speaking some language other than English or Spanish was only about 28 percent. A low completion rate for these types of cases was expected since the interview was conducted only in English and Spanish. Of the completed Screeners in this class, the number completed in English was about twice as large as the number completed in Spanish.

Extended Interview Response Rates

During the screening interview, all household members were enumerated. This procedure differed from the NHES:93 screening, in which only the households with an eligible child were enumerated, because all adults were eligible for the NHES:95 AE component. After the enumeration, the sample of children and adults within the household was selected for the ECPP and AE components. For the sampled children, the person who was the most appropriate respondent for each sampled child was identified (nearly always a parent, and most often the child's mother) and became the respondent for the interview. For sampled adults, the interview was conducted with the sampled person directly with no exceptions.

Table 9 presents the number of children enumerated, the number sampled, and the final status of each of the sampled children for ECPP, along with the estimated completion and response rates. Of the enumerated 17,166 children eligible for sampling in the ECPP component, a sample of 15,781 children was selected. Since the study design precluded conducting more than two ECPP interviews in the same household, some eligible children were not sampled. About 1 percent of the sampled children were not actually in the age and grade range for the survey as determined by the extended interview respondent. These children were classified as ineligible. Complete interviews were obtained for 14,064 of the sampled children for an estimated 90 percent completion rate. When multiplied by the Screener response rate, the overall response rate for the ECPP interview is 66 percent.

The number of adults enumerated, number sampled, and the final status of each sampled adult for AE are also given in table 9. About 30 percent of the 78,763 enumerated adults were sampled for the AE interview. The adults were sampled at different rates depending upon the response given in the screening interview about their education level (those who did not complete high school were sampled at a higher rate than those who did) and their recent involvement in adult education activities (those involved in adult education were sampled at a higher rate than those who were not). Almost all of those sampled were eligible for the interview; those classified as ineligible were either in the military or currently enrolled in high school. In all, 19,722 interviews were completed with the sampled adults: 11,713 of the adults interviewed had participated in some adult education in the last 12 months and 8,009 had not participated. The estimated completion rate for the AE survey is 80 percent and the response rate is 59 percent.

The bottom section of table 9 gives the numbers for the AE splice sample. In the splice methodological sample, one adult was sampled per household in order to compare the estimates with those from the NHES:91. Adults were sampled randomly without regard to their education or status of involvement in adult education. A total of 3,569 adults completed the splice interview, 1,600 as participants and 1,969 as nonparticipants in the last 12 months. The estimated AE splice completion rate is 87 percent and the overall response rate is 64 percent.

The reasons for nonresponse for the various components are presented in table 10. Respondent refusal to complete the interview, the main reason for nonresponse, accounted for about 70 percent of all nonresponse in the ECPP, AE, and AE splice sample. The only other large contributor to nonresponse was our inability to contact households due to respondents not answering the telephone despite multiple attempts, telephones being disconnected, or respondents being temporarily away from home or sick. Language and other miscellaneous problems accounted for less than 10 percent of the total nonresponse.

The completion rate for the ECPP component (see table 9) was relatively high. The rate is approximately the same as the NHES:93 completion rate for the School Readiness Screener component that included children from age 3 through the second grade. That is, despite the lower response rate in the NHES:95, the completion rate among parents of sampled children remained at about the same level as in the NHES:93 The NHES:95 was the first in the NHES series to include children from birth to age 3, so there is no comparable group for the youngest children.

The AE completion rate for the NHES:95 was 80 percent compared to the 85 percent for the NHES:91 AE interview. The importance of a relatively brief and straightforward interview is apparent when the completion rates for the NHES:95 AE interview and for the very brief NHES:95 AE splice sample are compared. The difference is 7 percent, clearly showing that the longer interview does have a negative impact on completion rates during the NHES:95. However, the completion times for the NHES:95 AE interview and the NHES:91 AE interview were quite similar – for the NHES:95, the average administration time for AE participants was 16.8 minutes compared to 16.0 minutes for NHES:91; for nonparticipants the times were 9.5 and 7.4, respectively.

Table 11 shows the number of households sampled for the NHES:95 and the distribution of households by the number of interviews sampled for each component. Only about 20 percent of all households, and 30 percent of households with any extended interviews, had more than one interview scheduled. Multiple interviews per household were also done in the NHES:91; 43 percent of households with any extended interviews had more than one person sampled for an interview. While the resulting numbers of interviews per household are not directly comparable, it is unlikely that multiple interviews per household led to the decrease in the response rate.

Profile of Extended Interview Completion Rates

The extended interview completion rates can be examined by variables available for both respondents and nonrespondents. The four variables available for the ECPP are census region (based on the telephone number), sex of the sampled child, age of the sampled child, and grade (if enrolled in school) of the sampled child, and all but the first were collected during the Screener. Table 12 shows the number of sampled children by response status and completion rate for each of these variables. The completion rates are remarkably consistent across all the levels of the four variables. The range of completion rates is from 88 to 91 percent, except for the 82 percent completion rate for 10-year-olds,

which is based on a relatively small number of sampled children. The lack of variation in the completion rates is a positive indication that no serious response bias exists at the extended interview level.

For the AE interviews, five variables obtained in the Screener about each sampled adult are available for examining the response profile: census region, sex, age, high school diploma status, and involvement in adult education for the sampled adult. The number of cases for these variables and the completion rates are shown in table 13. The completion rates for region, age, and sex vary somewhat, but the rates by education level and status of involvement in adult education are even more variable. Those sampled adults with a high school diploma were much more likely to have responded, as were those who reported involvement in adult education activities. These highly variable rates could be indicative of potential bias. To reduce the bias in the estimates, nonresponse adjustment groups based on the classification of the sampled adults by education level and adult education involvement status were used in producing the weights for estimation. This procedure is especially important for the AE component because the overall response rate is lower for the AE component than for the ECPP component.

The proportion of adults classified by education level and status of involvement in adult education from the NHES:95 can be compared to the estimates from the October 1992 CPS, the most recent CPS with participation items. The estimates from the CPS were 1.1 percent low-education participants, 17.9 percent low-education nonparticipants, 22.0 percent high-education participants, and 59.0 percent high-education nonparticipants. Thus, 19.0 percent were low-education and 23.1 percent were participants in the CPS data. The percentages from all enumerated adults in the NHES:95 were 1.7 percent low-education participants, 13.5 percent low-education nonparticipants, 36.3 percent high-education participants, and 48.7 percent high-education nonparticipants. From the NHES:95, 15.2 percent were estimated as low-education and 38.0 percent as participants. The NHES:95 percentages are based on unweighted counts of the number of persons enumerated. In other words, these are the percentages from all completed households, not just those sampled for extended interviews.

The estimates from the 1992 CPS and the NHES:95 are very different, largely because participation was measured differently. The item asked in the NHES:95 Screener was global and did not specify all types of participation. This is the only item available for all enumerated adults.

The CPS and NHES:95 estimates for low education were 19.0 percent and 15.2 percent, respectively. This difference might be the result of nonresponse bias, different interviewing methods, the fact that the CPS estimates were collected in a supplement, or the fact that the NHES:95 is restricted to persons living in telephone households. Even after the final AE weights are applied, the estimated proportion of adults in the NHES:95 who did not have a high school diploma is 15.7 percent, the percentage from the NHES:91 is the same, 15.7 percent. Research conducted for the 1989 field test of the NHES showed that telephone coverage is a serious problem for the dropout population, and adjustments to correct for coverage bias are not entirely satisfactory (Brick et al. 1992).

The difference between the proportions involved in adult education (24 percent in the CPS and the weighted estimate of 44 percent in the NHES:95 (38 percent is the unweighted estimate)) are much more likely to be the result of the ways the interviews were conducted (including training of interviewers, sponsorship of the study, and mode of data collection[1]) rather than the nonresponse or coverage bias.

[1] The NHES is conducted using random-digit-dialing and telephone interviewing only. The CPS is conducted using a sample of dwelling units; about two-thirds interviews are conducted in person, and about one-third are conducted by telephone.

This conclusion is consistent with the findings from the NHES:91, in which differences between NHES and CPS rate were also observed; see *Measuring Participation in Adult Education* (Collins et al. forthcoming) for further information on the differences discussed above. The difference between the participation rates is much larger than any other difference found in these analyses.

Table 14 gives the number of adults sampled for the AE splice sample by the response status and completion rates. Since education level and participation status were not asked in the screening interview for the splice sample, the table only gives the distribution by the other three variables (census region, sex, and age). As with the regular AE sample, females were more likely to respond than males, and the completion rate for those 65 years old or older was lower than that for younger adults. It is quite likely that the participation and education patterns observed for the regular AE sample also persisted in this sample, but this notion cannot be evaluated because those data were not collected. Fortunately, the response rate for the splice sample was considerably higher overall (87 percent), so the potential bias due to differential nonresponse was lower in this sample where the nonresponse adjustment groups could not be based on education level or participation status.

Unit Response

Tables 1 - 14

Table 1.--Number of telephone numbers dialed, by residential status and weighted Screener response rate

Screener response category	Number	Percentage of all numbers	Percentage of residential numbers
Total	120,459	100.0	
Identified as residential	59,713	49.6	100.0
Participating	45,465	37.7	76.1
Not participating	14,248	11.8	23.9
Identified as nonresidential	54,131	44.9	
Unknown residential status	6,615	5.5	
Screener response rates*	**Rate (Percent)**		
Weighted response rate (using business office method)	73.3		
CASRO response rate	72.4		
Conservative response rate	69.0		
Liberal response rate	76.6		

*All the response rates use the weighted number of participating households as the numerator. The denominators vary but are all estimated totals: for the estimated response rate using the business office method, the proportion of unknown residential status numbers included in the denominator was based upon the proportion identified in checks with telephone business offices; for the CASRO (Council of American Survey Research Organizations) response rate, the proportion of unknown residential status numbers included in the denominator was based upon the residency rate for the numbers with known residential status; for the conservative response rate, all of the unknown residential status numbers were included; for the liberal response rate, none of the unknown residential status numbers were included.

NOTE: Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

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Table 2.—Number of telephone numbers dialed, by residential status, type of Screener, and weighted Screener response rate

Type of Screener and response category	Number	Percentage of all numbers	Percentage of residential numbers
Expanded Screener			
Total	4,040	100.0	
Identified as residential	1,962	48.6	100.0
Participating	1,478	36.6	75.3
Not participating	484	12.0	24.7
Identified as nonresidential	1,884	46.6	
Unknown residential status	194	4.8	
Regular Screener			
Total	116,419	100.0	
Identified as residential	57,751	49.6	100.0
Participating	43,987	37.8	76.2
Not participating	13,764	11.8	23.8
Identified as nonresidential	52,247	44.9	
Unknown residential status	6,421	5.5	
Screener response rates*	**Rate (Percent)**		
Total	73.3		
Expanded Screener	73.2		
Regular Screener	73.3		

*All these response rates are weighted and use the business office method of allocating unresolved telephone numbers to residential status in the denominator of the rate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 3.--Number and percentage of telephone households, by weighted Screener response status

Screener response category	Number	Percent
Participating residential phone numbers	45,465	100.0
Households with no extended interviews scheduled	13,727	30.2
Households with at least one extended interview scheduled	31,738	69.8
Nonparticipating residential phone numbers	14,248	100.0
Refusals	11,932	83.7
Language problems	736	5.2
Maximum calls	1,277	9.0
Other problems	303	2.1

SOURCE: U.S. Department of Education, National Center for Education Statistics. National Household Education Survey (NHES), spring 1995.

Table 4.--Number and percent of participating households, by type of interviews scheduled

Type of interview scheduled	Number of households	Percent
Total	31,738	100.0
Only Early Childhood Program Participation	3,531	11.1
Only Adult Education*	20,696	65.2
Both Early Childhood Program Participation and Adult Education*	7,511	23.7

*These numbers include households in the Adult Education splice methodology sample. Of the 20,696 households with only Adult Education interviews scheduled, 3,079 households were in the splice sample; of the 7,511 households with both types of interviews scheduled, 1,003 were in the splice sample.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 5.--Number of telephone numbers dialed in the Screener, by response status, weighted response rate, and characteristics of the geographic area based on the telephone exchange

Characteristic	Total	Residential, participating	Residential, not participating	Non-residential	Unknown residential status	Weighted response rate (%)
Total	120,459	45,465	14,248	54,131	6,615	73.3
Census division						
New England	5,520	2,033	668	2,427	392	71.4
Mid-Atlantic	17,634	6,485	2,584	7,269	1,296	68.4
East North Central	18,418	6,944	1,991	8,557	926	75.3
West North Central	6,843	2,739	601	3,199	304	79.3
South Atlantic	23,861	9,276	2,588	10,816	1,181	75.2
East South Central	6,475	2,894	634	2,751	196	79.9
West South Central	14,424	5,446	1,628	6,665	685	74.4
Mountain	6,200	2,470	725	2,688	317	74.3
Pacific	20,380	6,974	2,766	9,365	1,275	68.4
Alaska/Hawaii	704	204	63	394	43	72.0
Minority concentration						
High	62,984	22,631	7,614	29,284	3,455	71.5
Not high	57,475	22,834	6,634	24,847	3,160	74.3
Percent college graduates						
Less than 11 percent	37,045	14,018	3,770	17,586	1,671	76.5
11 to 25 percent	58,368	22,629	7,388	25,235	3,116	72.9
26 percent or more	25,046	8,818	3,090	11,310	1,828	70.1
Percent black						
Less than 10 percent	71,298	27,444	8,510	31,320	4,024	73.4
10 to 19 percent	17,296	6,402	2,153	7,655	1,086	72.6
20 percent or more	31,865	11,619	3,585	15,156	1,505	73.5
Percent Hispanic						
Less than 10 percent	81,376	31,852	9,076	36,174	4,274	74.7
10 to 19 percent	15,127	5,271	2,104	6,843	909	68.4
20 percent or more	23,956	8,342	3,068	11,114	1,432	69.6
Percent with children under 18						
Less than 15 percent	4,558	1,029	483	2,604	442	60.8
15 to 29 percent	93,460	35,535	11,293	41,382	5,250	73.2
30 percent or more	22,441	8,901	2,472	10,145	923	76.3
Median income						
Less than $28,000	41,359	15,285	3,936	20,169	1,969	77.0
$28,000 to $38,000	39,589	15,458	4,938	17,150	2,043	73.7
$38,000 or more	39,511	14,722	5,374	16,812	2,603	70.1
Percent owner occupied						
Less than 56 percent	38,418	12,224	4,551	19,140	2,503	68.8
56 to 70 percent	43,786	17,607	5,397	18,614	2,168	74.0
71 percent or more	38,255	15,634	4,300	16,377	1,944	75.3

Table 5.--Number of telephone numbers dialed in the Screener, by response status, response rate, and by characteristics of the geographic area based on the telephone exchange--Continued

Characteristics	Total	Residential participating	Residential, not participating	Non-residential	Unknown residential status	Weighted response rate(%)
Percent renters						
Less than 34 percent	54,890	22,539	6,251	23,355	2,745	75.4
34 to 50 percent	39,774	15,340	4,996	17,404	2,034	72.7
51 percent or more	25,795	7,586	3,001	13,372	1,836	66.7
Metropolitan status						
In county in central city	51,490	18,461	6,462	23,727	2,840	71.3
In county not in central city	20,146	7,698	2,672	8,624	1,152	71.6
Subcounty of MSA	21,188	8,531	2,593	8,883	1,181	73.6
MSA in its own county	5,755	2,051	800	2,480	424	67.3
Not MSA	21,880	8,724	1,721	10,417	1,018	80.1

*The estimated response rate is the number of completed interviews divided by the sum of the number of completed interviews, nonresponses, and 40.5 percent of the unresolved telephone numbers, weighted by the probability of selection.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 6.--Weighted Screener response rates, by cells formed from area characteristics

Cell	Metro status	Census division	Percent Hispanic	Percent low income	Median years education	Percent with children	Percent renters	Median income	Percent black	Percent owner occupied	Percent college graduate	Weighted completion rate
1	1	ne,enc,sa,wsc,m	0-9	0-20								75.5
2	1	ne,enc,sa,wsc,m	0-9	21+								77.3
3	1	ne,enc,sa,wsc,m	10-19		0-12							69.1
4	1	ne,enc,sa,wsc,m	10-19		13+							74.7
5	1	ne,enc,sa	20+									69.6
6	1	wsc,m	20+			0-29						75.0
7	1	wsc,m	20+			30+						80.4
8	1	ma,p,ah					0-50	$0-37K	0-19			77.0
9	1	ma,p,ah					0-50	$0-37K	20+			67.0
10	2	ma,p,ah					0-50	$38K+				68.2
11	2	ma,ah					0-50	$38K+				78.1
12	2	p					0-50	$38K+				69.7
13	1	ma,p,ah					51+				0-10	72.9
14	1	ma,p,ah					51+				11+	66.2
15	1	wnc,esc										80.2
16	3	ne,ma,m,p,ah								0-55		67.0
17	3	ne,ma,m,p,ah			0-12					56-70		77.0
18	3	ne,ma,m,p,ah			13+					56-70		68.1
19	3	ne,ma,m,p,ah								71+		76.5
20	3	enc,wnc,sa,esc,ws					0-33					79.7
21	3	enc,wnc,sa,esc,ws					34+					76.9
22	4											72.0
23	5	ne,wnc,ah										86.4
24	5	ma,enc,wsc							0-9	0-70		86.3
25	5	ma,enc,wsc							0-9	71+		81.8
26	5	ma,enc,wsc							10+			79.4
27	5	sa,esc,m										84.1
28	5	p										77.6

Category codes: Metro status: 1 = in county in central city; 2 = in county not in central city; 3 = subcounty of MSA; 4 = MSA in its own county; 5 = not MSA.

Census division: ne = New England; ma = Mid-Atlantic; enc = East North Central; wnc = West North Central; sa = South Atlantic; esc = East South Central; wsc = West South Central; m = Mountain; p = Pacific; ah = Alaska/Hawaii.

SOURCE: U.S. Department of Education, National Center for Education, Statistics, National Household Survey (NHES), spring 1995

Table 7.--Percentage distribution for household and persons from the NHES:95 and the March 1994 CPS

Characteristic	NHES:95 Screener	March 1994 CPS	Difference
Household composition			
1-person	22.3%	24.4%	-2.1%
1-person, female	13.1	14.6	-1.5
1-person, male	9.2	9.8	-0.6
With person 65 years or older	20.9	23.6	-2.7
Persons age			
0 years	1.1	1.5	-0.4
1 year	1.3	1.6	-0.3
2 years	1.6	1.6	0.0
3 to 5 years	4.7	4.7	0.0
6 to 9 years	6.3	5.9	0.4
10 to 19 years	15.7	14.2	1.5
20 to 29 years	14.2	14.5	-0.3
30 to 39 years	16.7	17.0	-0.3
40 to 49 years	14.8	13.8	1.0
50 to 59 years	9.4	9.2	0.2
60 or more years	14.2	15.8	-1.6
0 to 9 years	15.0	15.4	-0.4
16 to 19 years	6.2	5.4	0.8
65 or more years	10.6	11.9	-1.3

NOTE: Weighted estimate from the NHES:95 are based on the household weight, not adjusted for non response.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Bureau of the Census, Current Population Survey, March 1994 (unpublished tabulations).

Table 8.--Language problem Screener interviews, by response status

Problem	Number	Percent
Hearing/Speech Problems		
Total	359	100.0
Completed in English	91	25.3
Completed in Spanish	9	2.5
Refusals	103	28.7
Language Problems	145	40.4
Other	11	3.1
Identified as Spanish-speaking Problems		
Total	1,633	100.0
Completed in English	57	3.5
Completed in Spanish	1,243	76.1
Refusals	171	10.5
Language Problems	146	8.9
Other	16	1.0
Identified as Other Language Problems		
Total	706	100.0
Completed in English	138	19.5
Completed in Spanish	63	8.9
Refusals	76	10.8
Language Problems	425	60.2
Other	4	0.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

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Table 9.--Number of enumerated children and adults, completed interviews, and weighted completion and response rates, by type of extended interview

Type of interview	Number	Weighted completion rate	Weighted response rate
Early Childhood Program Participation			
Enumerated	17,166		
Sampled	15,781		
Ineligible	208		
Nonresponding	1,509		
Complete	14,064	90.4	66.3
Adult Education			
Enumerated	78,763		
Sampled	24,538		
Ineligible	569		
Nonresponding	4,247		
Complete	19,722	80.0	58.6
Completed as participant	11,713		
Completed as nonparticipant	8,009		
Adult Education Splice			
Enumerated	7,767		
Sampled	4,060		
Ineligible	68		
Nonresponding	423		
Complete	3,569	87.3	64.0
Completed as participant	1,600		
Completed as nonparticipant	1,969		

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 10.-- Reasons for extended interview nonresponse, by type of interview and final status

Interview type and final status	Number	Percent
Early Childhood Program Participation		
Total	1,509	100
Refusal	1.078	71
Not available or not reached	334	22
Language problem	53	4
Other	44	3
Adult Education		
Total	4,247	100
Refusal	2,862	67
Not available or not reached	1,053	25
Language problem	198	5
Other	134	3
Adult Education Splice		
Total	423	100
Refusal	302	71
Not available or not reached	83	20
Language problem	24	6
Other	14	3

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 11.--Number of households sampled for the NHES:95, by the number and type of extended interviews scheduled

Number sampled for Early Childhood Program Participation	Number sampled for Adult Education				Adult Education Splice Sample
	Total	0	1	2	1
Total.....	41,383	17,258	23,612	513	4,082
0.....	31,344	13,727	17,293	324	3,079
1.....	5,747	2,013	3,624	110	555
2.....	4,292	1,518	2,695	79	448

NOTE: The number of interviews scheduled differs slightly from the numbers in Table 9 and other tabulations because these include some persons who were sampled in a household and then were determined to be members of different households. A total of 100 sampled persons from the regular Adult Education sample, 22 persons from the Splice Adult Education sample, and 1 sampled person from the Early Childhood Program Participation sample are included in this table (at the household level) but not included in other tabulations (at the extended person level).

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 12.--Number of sampled Early Childhood Program Participation interviews, by response status and weighted completion rates

Early Childhood Program Participation interviews	Total	Participating	Nonresponse	Ineligible	Weighted completion rate (%)
Total	15,781	14,064	1,509	208	90.4
Census region					
Northeast	2,892	2,569	286	37	90.2
Midwest	3,406	3,063	302	41	91.1
South	5,731	5,131	523	77	90.7
West	3,752	3,301	398	53	89.4
Sex of child (Screener)					
Female	7,591	6,775	741	75	90.4
Male	8,113	7,240	763	110	90.6
Unknown	77	49	5	23	90.3
Age of child (Screener)					
0	1,244	1,023	99	122	91.0
1	1,382	1,243	136	3	90.5
2	1,715	1,560	146	9	91.5
3	1,675	1,508	165	2	90.6
4	1,785	1,614	166	5	90.9
5	1,778	1,592	182	4	89.9
6	1,775	1,585	185	5	89.5
7	1,684	1,512	170	2	90.7
8	1,709	1,538	160	11	90.6
9	847	760	81	6	90.2
10	92	68	13	11	81.6
Unknown	95	61	6	28	90.9
Grade of child (Screener)					
Not enrolled	6,690	5,919	599	172	91.0
Nursery/Preschool	2,023	1,818	203	2	90.1
Kindergarten	1,835	1,647	186	2	90.0
1st grade	1,728	1,536	189	3	89.4
2nd grade	1,664	1,492	168	4	90.4
3rd grade	1,805	1,622	160	23	90.8
Other*	36	30	4	2	88.1

*"Other" included special education and ungraded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 13.--Number of sampled adults for Adult Education interviews, by response status and weighted completion rates

Adult Education interviews	Total	Participating	Nonresponse	Ineligible	Weighted completion rate (%)
Total	24,538	19,722	4,247	569	80.0
Census region					
Northeast	4,578	3,589	920	69	76.5
Midwest	5,181	4,315	778	88	83.2
South	9,345	7,477	1,613	255	79.9
West	5,434	4,341	936	157	80.3
Sex (Screener)					
Female	13,062	10,915	1,956	191	83.1
Male	11,433	8,785	2,282	366	76.7
Unknown	43	22	9	12	73.4
Age (Screener)					
Less than 20 years	1,003	815	97	91	87.7
20 to 34 years	8,262	6,624	1,283	355	82.3
35 to 49 years	8,350	6,924	1,339	87	81.8
50 to 64 years	4,100	3,230	843	27	77.1
65 or more years	2,823	2,129	685	9	74.0
High school diploma (Screener)					
Yes	20,590	17,120	3,427	43	81.3
No	3,948	2,602	820	526	72.5
Participant (Screener)					
Yes	14,355	11,890	2,039	426	84.4
No	10,183	7,832	2,208	143	77.4

NOTE: The numbers contained in this table are only for those adults sampled for the regular Adult Education interview. Adults sampled for the splice sample are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 14.--Number of sampled adults for Adult Education Splice interviews, by response status and weighted completion rates

Adult Education Splice interviews	Total	Participating	Nonresponse	Ineligible	Estimated completion rate (%)
Total	4,060	3,569	423	68	87.3
Census region					
Northeast	745	647	92	6	85.7
Midwest	846	765	72	9	88.8
South	1,583	1,389	158	36	88.2
West	886	768	101	17	85.7
Sex (Screener)					
Female	2,208	2,016	176	16	90.5
Male	1,841	1,547	245	49	83.7
Unknown	11	6	2	3	68.1
Age (Screener)					
Less than 20 years	118	94	11	13	90.6
20 to 34 years	1,219	1,095	95	29	89.8
35 to 49 years	1,319	1,173	127	19	88.5
50 to 64 years	713	636	74	3	87.0
65 or more years	691	571	116	4	79.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

1995 National Household Education Survey
Item Response and Imputation

Introduction

In the NHES:95, as in most surveys, the responses to some data items were not obtained for all interviews. There are numerous reasons for item nonresponse. Some respondents do not know the answer for the item or do not wish to respond for other reasons. Some item nonresponse arises when an interview is interrupted and not continued later, leaving items at the end of the interview blank. Item nonresponse may also be encountered because responses provided by the respondent are not internally consistent and this inconsistency is not discovered until after the interview is completed. In these cases, the items that were not internally consistent were set to missing ("not ascertained").

Methodology

For most of the data items collected in the NHES:95 the item response rate was very high. For the ECPP questionnaire, the median response rate for imputed items was 98.8%; the median item response rate for imputed items on the AE questionnaire was 98.5%. Item response rates for those variables on the public release file are given in tables 1 and 2 for the ECPP component and in tables 5 and 6 for the AE component. These tables present the items needing imputation and the items not needing imputation, respectively. Tables 3 and 7 provide listings of items that were manually imputed and the percent of imputed values that were manually imputed for the ECPP and AE components, respectively. Tables 4 and 8 contain listings of the ECPP and AE variables with more than 25 responses and response rates less than 90 percent. Note that response rates for items pertaining to income, earnings and amount paid for child care are lower than for other items. Items that are rarely asked, e.g. less-than weekly child care arrangements, may involve unusual situations where the circumstances are less amenable to being collected in the standard set of questionnaire items. In many of these rarely asked items, one or two missing values could result in a low item response rate.

Despite the overall high item response rate, virtually all data items with missing data were imputed for the public release file.[2] The exceptions were Adult Education items created to match employers who supported adult education activities with the employment segments (i.e., BSEMPSEG, CEMPSEG1-CEMPSEG3, ESEMPSEG, WEMPSEG1-WEMPSEG6). In cases in which the employer was not named, these variables were assigned codes indicating that matching names were not provided by the respondent. Imputation was done for two reasons. First, complete responses were needed for variables used in developing the sampling weights. Second, users will be computing estimates using a variety of methods and complete responses should aid their analyses. Character string variables, such as employer names, countries of origin, languages, or "other, specify" responses were not imputed. These character string variables do not appear on the public use data file, but may be obtained through a special licensing agreement with NCES.

[2] Imputation for course codes had not been completed as of the writing of this paper.

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A hot-deck procedure was used to impute missing responses. In this approach, the data file was sorted into cells defined by characteristics of the respondents. These characteristics, or boundary variables, were used to group respondents into those most likely to have the same response for the data item to be imputed, i.e., the responses of the persons were associated with the variables used to sort the file. Two types of boundary variables were used. "Hard" boundary variables were considered to be so important that the donor and the recipient were required to match exactly. For other sort variables, called "soft" boundary variables, the values did not have to match exactly. In effect, the hard boundary variables were matching variables and the soft boundary variables were used to order the cases within the matching variables. The WESDECK software was used to implement the hot-deck imputation procedure.

For variables which were sometimes skipped, a "trigger" variable was included as one of the hard boundary variables. The trigger variable ensured that the skip pattern in the questionnaire was maintained. The trigger variable could be either a single variable, or a set of conditions that determines whether the respondent is eligible for the particular question, i.e. whether the variable in question should be imputed or skipped. If skipped, the variable was set equal to -1 (inapplicable) if it wasn't already equal to -1 prior to running WESDECK. If the variable needed imputation, any -1 values were set equal to -9 (missing) prior to running WESDECK, so that WESDECK would recognize them as missing values.

After sorting into cells defined by the boundary variables, the observations were divided into two groups within the cell depending on whether or not the item was missing. The donors consisted of observations with complete data for the item; recipients were observations for which the item was missing. Whenever a case with a missing value was encountered, the value of the data item from a randomly selected donor within the same cell was imputed for the missing item. A donor could be used at most three times. This method is called a hot-deck procedure because donors are selected from the current data set, as opposed to some pre-defined set of allowable values. The distribution of each variable before and after hot-deck imputation was reviewed to ensure that the imputed data did not significantly alter the distribution.

For each data item that was imputed, an imputation flag variable was created. If the response for the item was imputed, then the final imputation flag was set equal to a value between 1 and 4, where a 1 indicates hot-deck imputation without any preliminary recoding necessary, 2 indicates hot-deck imputation with preliminary recoding from -1 to -9, and 3 indicates hand imputation.

The imputation flag was set to 4 when the original response was -8 ("don't know") in the ECPP questionnaire for the variables HSKIDS, HSEDUC, HSGOVT, HSPARAD, HSTEST, HSPHYSEX, HSDENTAL, HSDISABL, HSSICK, RCKIDS(n), REDUC(n), RCSICK(n), NCKIDS(n), NCEDUC(n), NCSICK(n), CPKIDS(n), CPEDUC(n), CPGOVT(n), CPARADV(n), CPTEST(n), CPHYSEX(n), CPDENTA(n), CPDISAB(n)L, and CPSICK(n)[3]. This flag was set so that users can consider "don't know" responses to these items separately from other nonresponse. For values that were not imputed, the imputation flag was set to zero. The flag enables users to identify imputed values and the method of imputation used. The user can then delete the imputed values, use alternative imputation procedures, or account for the imputation in computation of the reliability of the estimates produced from the data set.

[3] The designation (n) means that a question appears repeatedly on the data file, for example, RCSTRYR(n) gives the starting year for each relative care arrangement reported.

Hand Imputation

After imputation, edit programs were run to ensure the imputed responses did not violate edit rules. A small number of imputed values that were inconsistent were deleted and imputed manually. Hand imputation was also done for variables that involved complex relationships that would have required extensive programming to impute using a hot-deck procedure. An example of the latter are the age and sex of household members other than the sampled person. For a small number of variables, hot-deck imputation failed for a few cases when no donors with the same matching hard boundary variable values could be found. For these cases, if relaxing the hard boundary variable requirements still did not produce a donor, manual imputation was done. The distribution of the complete data for each item was used to assign imputed values. The standard hard and soft boundary variables[4] used to impute in WESDECK were not always used to control the manual imputation process; however, the recipient's reported values for other correlated variables were taken into consideration to ensure consistency of the imputed data. The percentage of imputed records that were hand-imputed for each variable is given in table 3 for ECPP and in table 7 for AE.

Household Variables and Variables for Weighting and Imputation

Certain household level and person level variables were imputed first, so that they could be used to create weighting class adjustment and hot-deck imputation cells. Information on race and Hispanic origin was collected in both the ECPP and AE interviews for sampled eligible children and sampled eligible adults in the household. Item response rates for these variables (ARACE, AHISPANI, CRACE, and CHISPANI) were 98 percent or higher. For the AE questionnaire, missing values for these variables were imputed by copying information from other household members, where available, or by imputing in WESDECK. Of the adult records needing imputation, thirty percent had their race imputed by copying from other household members, and 23 percent had the Hispanic origin indicator imputed by copying from other household members. If the other household members had more than one value for these variables, the race and/or Hispanic origin for the first one listed in the household was chosen. This was the case for fewer than one percent of households. If race/Hispanic origin was missing for all household members, the information was imputed with WESDECK. For the ECPP items, all missing values of the race and Hispanic origin indicator variables that could not be imputed from another child in the same household were imputed using WESDECK because the AE file was not ready at the time of imputation.

ARACE and CRACE (white, black, American Indian/Alaska Native, Asian/Pacific Islander), AHISPANIC and CHISPANIC (Hispanic origin: yes/no), and HINCMRNG (classifying the household as having household income less than or equal to $25,000, or greater than $25,000) were imputed using the variables *MINORITY* [5] and SCRNRSLT as hard boundaries. *MINORITY* was created for use as a hard boundary variable in the imputation of RACE, HISPANIC, and HINCMRNG, because it is correlated with these variables. It is the sampling stratum variable that classifies the area corresponding to the telephone area code/exchange as having a population percentage of black or Hispanic persons greater than or equal to 20 percent, or less than 20 percent. The unclassified areas are considered less than 20 percent. SCRNRSLT is the final completion code for the Screener interview. It was also used because it roughly

[4] A standard set of variables was used for each data file. These are discussed in the following sections.

[5] Italics indicate variables created for imputation purposes.

discriminates between households with eligible preschool- or school-age children, those with adults taking adult education courses and no children, and those with both. Households with young children are likely to have a lower household income than households with older children or no children. Values of SCRNRSLT are given in attachment A. Another reason *MINORITY* and SCRNRSLT were used is that it was desirable to use the same set of boundary variables for as many variables as possible to minimize the number of WESDECK runs that had to be made. In addition, these variables had no missing data at this stage, a requirement for a boundary variable.

Household level variables imputed in WESDECK for use in weighting were HOWNHOME, HOTHNUM, HPHONSVC, HNUMUSE, HSUNIT, HWIC, HFOODST, HAFDC, HINCOME, and HINCMEXT. HZIPCODE was imputed using the household's telephone area code/exchange to match to the Donnelly file of telephone area codes/exchanges and ZIP codes; 148 ZIP codes imputed this way.

ECPP Interview

The standard set of hard boundary sort variables for most items in the ECPP file consisted of MAINRSLT, *FAMSIZE*, SEX, and the trigger variable. *FAMSIZE* is a variable classifying sampled children into 1) two-parent/guardian or 2) one-parent/guardian households. Within each cell created by the hard boundary variables, the sampled child records were sorted by *RACETH* and HINCMRNG. *RACETH* is a variable classifying the sampled child as 1) Hispanic, 2) black, non-Hispanic, or 3) other.

To improve the imputation for items with less than a 95 percent item response rate, the standard soft boundary variables were supplemented with additional correlated variables when these could be identified. The list of these variables with additional soft boundary variables is given in attachment B. For example, the variable *HEDUC* was added as a soft boundary variable in the imputation of HSGOVT, HSKIDS, HSHRSONL, HSPARADV, HSEDUC, HSPARADV, HSTEST, HSDISABL, HSSICK, HSCOST, HDMIX, and CHMIX. *HEDUC* is a variable that classifies households by the highest education level attained by any of the members. The three categories are bachelor's degree and above, high school diploma but no bachelor's degree, and less than high school diploma. For some items, the addition of an extra soft boundary variable improved the consistency of the imputed data with previously reported or imputed values. For example, *AGEYYS* was added as a soft boundary in the imputation of RCAGEYR, NCAGEYR, CPSAGEYR, CPNAGEYR, and HSAGEYR. These variables were in turn used as soft boundaries in the imputation of RCSTRYR(n), NCSTRYR(n), CPSSTRYR(n), CPNSTRYR(n) and HSSTRTYR.

Table 4 shows the public file items with response rates less than 90 percent and more than 25 eligible respondents in the ECPP. The cut-off of 25 was used to eliminate those items that had response rates that were dependent on just a few cases.

The items with rates below 90 percent fall into two main categories: those related to financial matters and those for which the respondent may not have known the correct answer. A large number of these items are related to financial matters, e.g., total household income, mother's earnings, cost of care, unit of time for cost of care. Many respondents are sensitive about providing information on financial matters, and such items often have higher rates of nonresponse. Most of the other items are ones that the respondent may not have been knowledgeable about, e.g. center based teacher training, disability mixture of class, and time spent in various settings.

The ECPP questionnaire contained five items that served as "gateways" to five sections of the questionnaire. For all of these "gateway" variables, the nonresponse rate was very low (no more than 0.2%), and the great majority of respondents answered "no" and thus skipped the section. Missing values for these variables were imputed to a "no" response so that the entire section would not have to be imputed for only a few records.

AE Interview

The standard set of hard boundary sort order variables for all items on the AE file consisted of PARTIC (sampled participant, nonparticipant), *EDUC* (less than high school diploma, high school diploma or more), and *AGECAT* (16-29, 30-49, 50+). The soft boundary variables were the adult's race *ARACETH* (Hispanic, black & non-Hispanic, other), and HINCMRNG, the household income class ($0-$25,000/$25,000+). For variables involved in skip patterns, a trigger variable was added after the last hard boundary variable to maintain the skip pattern.

The AE questionnaire contained sixteen items that served as "gateways" to sixteen sections of the questionnaire. For these sixteen variables, the nonresponse rate was very low (no more than 0.6%), and the great majority of respondents answered "no" and thus skipped the section. All missing values for these variables were imputed to a "no" response so that the entire section would not have to be imputed for only a few records.

After consultation with NCES, 126 credential programs were moved to other sections of the questionnaire because it appeared that they were not credential programs. In general, if any four or five of the following occurred, the decision was to move the course to another segment:

- type of degree was voc/tech or "other, specified";
- provider type was a non-postsecondary institution;
- major field of study was unspecified or "don't know";
- main reasons for taking the course given were job related or personal reasons;
- less than 1 month of full-time and part-time enrollment was reported;
- length of full-time and part-time enrollment was reported as "don't know";
- hours per week as a part-time or full-time student were reported as "don't know";
- major fields of study and credential courses are the same;
- a single course not leading to a credential was reported, e.g. MS-DOS class, law seminar.

The variables in the credential section were not always comparable to those in the new sections to which data were copied. This had the effect of lowering the response rate for those items in the new sections (e.g., work-related) that were not asked in the credential section.

Table 8 lists the items with response rates of less than 90 percent that were asked for more than 25 eligible adults. The income or financial items are prominent in this list, as they were in the ECPP set of items. Again, this is an area of sensitivity for many respondents. Other items on this list may have been difficult for the respondent to answer because they did not know the answer (e.g., whether their employer knew they were taking a class). The high item nonresponse for some ESL items (8 of the 17 items in table 8) may reflect respondent difficulty in answering the survey in general.

ATTACHMENT A: Screener and Main Result Codes

Screener Result Codes

CO	Screener Complete, No Extended Interviews
CC	Screener Complete, ECPP Interview
CA	Screener Complete, AE Interview
CB	Screener Complete, ECPP and AE Interviews
C1	Extended Screener Complete, No Extended Interviews
C2	Extended Screener Complete, ECPP Interview
C3	Extended Screener Complete, AE Interview
C4	Extended Screener Complete, ECPP and AE Interviews

Main Result Codes

ECPP Sample

CI	ECPP Complete, Infant/Toddler
CH	ECPP Complete, Home Schooler
CN	ECPP Complete, Nursery Schooler
CK	ECPP Complete, Kindergartener
CS	ECPP Complete, Primary Schooler
IE	ECPP Ineligible

AE Sample

CU	AE Complete, Nonparticipant
CP	AE Complete, Participant
CX	AE Complete, Became Nonparticipant
CY	AE Complete, Became Participant
IA	AE Ineligible

Splice Sample

CL	Splice Complete, Participant
CV	Splice Complete, Nonparticipant

Noninterview Codes

NW, NL	Nonworking Number
NR	Nonresidential Number
RB	Final Refusal
LP	Language Problems
MC	Final Maximum Number of Calls Reached
NA	No Answer
NP	Not Available During Field Period
NS	Sick Or Mentally Incompetent
ND	Deceased
NO	Other Final Nonresponse
OO	Other Problem
OE	Enumeration Error

ATTACHMENT B: Variables with Additional Correlates Used for Imputation

Imputed Variables	Additional Correlates
ECPP Questionnaire	
PAGEYR	AGE94
RCAGEYR, NCAGEYR, CPSAGEYR, CPNAGEYR, HSAGEYR	*AGEYSS* (current age in years)
RCAGEMO	RCAGEYR
NCAGEMO	NCAGEYR
CPSAGEMO	CPSAGEYR
CPNAGEMO	CPNAGEYR
HSAGEMO	HSAGEYR
HSSTRTYR	HSAGEYR
RCSTRTYR	RCAGEYR
NCSTRTYR	NCAGEYR
CPSTRTYR	CPSAGEYR
HSGOVT, HSKIDS, HSHRSONL, HSEDUC, HSPARADV, HSTEST, HSDISABL, HSSICK, HSCOST, HDMIX, CHMIX	*HEDUC* (bachelor's degree or above, high school diploma, or less than high school diploma)
CPCOST	CPUNIT
MOMMTHS	MOMWORK
MOMEARN	MOMGRADE, MOMUNIT
DADENHRS	DADHOURS
DADUSAGE	*DAGE* (father's current age)
AE Questionnaire	
BSTUITON	BSWHEN
CRLENNUM, CRLENUNT [1]	CRPROVTY [2]
APLENNUM, APLENUNT, APOJTHRS, APOJTHHRS	APFEDGOD
EARNAMT, EARNUNT, HINCMRNG, HINCOME, HINCMEXT	IBGRADE
WORKNUM	WORKUNT
WRHRS [3]	WRHRSUNT [4]
SIC [5]	SOC [6]

[1] In the AE data file, these items appear as CR1LENUM - CR3LENUM, CRLENUN1 - CRLENUN3.

[2] In the AE data file, this item appears as CR1PRTYP - CR3PRTYP.

[3] In the AE data file, this item appears as WRHRS1 - WRHRS6.

[4] In the AE data file, this item appears as WRHRUNT1 - WRHRUNT6.

[5] In the AE data file, this item appears as FSIC1 - FSIC5.

[6] In the AE data file, this item appears as FSOC1 - FSOC5.

Item Response and Imputation

Tables 1 - 8

Table 1.--Item Response rates for imputed variables: ECCP interview

Variable	Label	Number Eligible	Item Response
ERESPAGE	EXTENDED RESPONDENT'S AGE	14,064	99.85%
ERESRELN	EXTENDED R'S RELATIONSHIP TO CHILD	14,064	99.95%
MOMAGE	MOTHER'S AGE	13,506	99.84%
MOMTYPE	MOM'S SPECIFIC RELATIONSHIP TO CHILD	13,506	99.86%
DADAGE	FATHER'S AGE	10,758	99.81%
DADTYPE	DAD'S SPECIFIC RELATIONSHIP TO CHILD	10,758	99.84%
AGE1	O/HH MEM - #1'S AGE AT SCREENER	11,594	99.89%
SEX1	O/HH MEM - #1'S GENDER AT SCREENER	11,594	99.97%
RELATN1	O/HH MEM - #1'S RELATION TO CHILD	11,594	99.85%
AGE2	O/HH MEM - #2'S AGE AT SCREENER	5,899	99.49%
SEX2	O/HH MEM - #2'S GENDER AT SCREENER	5,899	99.90%
RELATN2	O/HH MEM - #2'S RELATION TO CHILD	5,899	99.86%
AGE3	O/HH MEM - #3'S AGE AT SCREENER	2,539	99.69%
SEX3	O/HH MEM - #3'S GENDER AT SCREENER	2,539	99.96%
RELATN3	O/HH MEM - #3'S RELATION TO CHILD	2,539	99.80%
AGE4	O/HH MEM - #4'S AGE AT SCREENER	1,159	98.53%
SEX4	O/HH MEM - #4'S GENDER AT SCREENER	1,159	99.66%
RELATN4	O/HH MEM - #4'S RELATION TO CHILD	1,159	99.74%
AGE5	O/HH MEM - #5'S AGE AT SCREENER	518	98.84%
SEX5	O/HH MEM - #5'S GENDER AT SCREENER	518	99.81%
RELATN5	O/HH MEM - #5'S RELATION TO CHILD	518	99.61%
AGE6	O/HH MEM - #6'S AGE AT SCREENER	226	96.90%
RELATN6	O/HH MEM - #6'S RELATION TO CHILD	226	98.67%
AGE7	O/HH MEM - #7'S AGE AT SCREENER	125	93.60%
RELATN7	O/HH MEM - #7'S RELATION TO CHILD	125	97.60%
AGE8	O/HH MEM - #8'S AGE AT SCREENER	43	93.02%
AGE9	O/HH MEM - #9'S AGE AT SCREENER	22	90.91%
CDOBMM	CA1-MONTH OF BIRTH	14,064	99.73%
CRACE	CA3-CHILD'S RACE	14,064	99.40%
CHISPANI	CA4-CHILD IS OF HISPANIC ORIGIN	14,064	99.55%
CHLDLANG	CA5-LANGUAGE CHILD SPEAKS MOST AT HOME	11,420	99.88%
HOMESCHL	CA10-CURRENTLY HOME SCHOOLED	6,862	99.94%
GRADEEQ	CA12-GRADE EQUIV UNGRD/SPEC ED/HOME SCHL	140	97.86%
EVRHOME	CA14-EVER BEEN HOME SCHLED SINCE AGE 5	6,756	99.90%
HOMEK	CA15-HOME SCHOOLING HISTORY-GRADE K	114	96.49%
HOME1	CA16-HOME SCHOOLING HISTORY-GRADE 1	90	97.78%
HOME2	CA17-HOME SCHOOLING HISTORY-GRADE 2	57	96.49%
LASTGRAD	CA19-GRADE CHILD ATTENDED LAST YEAR	8,176	99.43%
ATNDKIND	CB1-CHILD ATTENDED KINDERGARTEN	6,397	99.78%
KPWAIT	CB2-CHILD ENROLLED IN K WHEN ELIGIBLE	6,311	99.32%
KPAGEYR	CB3-AGE CHILD STARTED K/YEARS	6,312	98.67%
KPAGEMO	CB3-AGE CHILD STARTED K/MONTHS	6,312	94.15%
KPYRS	CB4-CHILD ATTENDED 1 OR 2 YRS OF K	4,632	99.29%
KPPLAN	CB5-PLANNED MORE THAN 1 YEAR OF K	370	96.49%
KPPUBL	CB6-PUBLIC OR PRIVATE KINDERGARTEN	6,312	99.62%
KPCHOICE	CB7-ASSIGNED/CHOSEN SCHL KINDERGARTEN	5,282	99.57%
KPRELGON	CB8-CHURCH-RELATED KINDERGARTEN	1,030	99.13%
KPRELTYP	CB9-CATHOLIC KINDERGARTEN	692	98.84%

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Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
KPSCHED	CB10-MORNING/AFTERNOON/FULLDAY SCHED	6,312	98.80%
KPDAYS	CB11-NUM OF DAYS/WEEK CHILD ATTENDS K	1,680	99.52%
KPHRS	CB12-NUM OF HOURS/WEEK CHILD ATTENDS K	1,680	98.87%
KPONLY	CB13-K ONLY OR K PLUS CARE	1,680	99.52%
KPKINHRS	CB14-HOURS CHILD IN K ITSELF EA WK	77	88.31%
PAGEYR	CC1-AGE STARTED 1ST GRADE/YEARS	85	95.29%
PAGEMO	CC1-AGE STARTED 1ST GRADE/MONTHS	85	89.41%
PPUBL	CC2-PUBLIC OR PRIVATE ELEMENTARY SCHOOL	4,717	99.94%
PCHOICE	CC3-ASSIGNED/CHOSEN ELEM SCHOOL	4,136	99.81%
PRELGON	CC4-CHURCH-RELATED ELEM SCHOOL	581	99.48%
PRELTYP	CC5-CATHOLIC ELEM SCHOOL	456	99.56%
PSCHED	CC6-REGULAR SEPT TO JUNE SCHEDULE	4,717	99.89%
PSCHEDYR	CC6OV-SCHEDULE YEAR-ROUND OR OTHER	183	98.91%
PHRS	CC7-HOURS PER WEEK CHILD ATTENDS GRADE	4,717	99.07%
PWORK	CC8-CHILD'S CLASS STANDING	4,717	98.47%
PBEHAVE	CC9-PARENT CONTACTED ABOUT BEHAVIOR	4,717	99.92%
PSCHLWK	CC11-PARENT CONTACTED ABOUT SCHOOLWORK	4,717	99.94%
PREPEAT	CC11-CHILD HAS REPEATED A GRADE	4,717	99.79%
PREPEAT1	CC12-CHILD REPEATED FIRST GRADE	212	99.53%
PREPEAT2	CC12-CHILD REPEATED SECOND GRADE	165	99.39%
RCNOW	CD1-RECEIVES CARE FROM A RELATIVE	14,064	99.94%
RCEVER	CD2-EVER RECEIVED CARE FROM A RELATIVE	11,097	99.77%
RCAGEYR	CD3-AGE 1ST RECEIVED RELATIVE CARE/YEARS	4,661	95.65%
RCAGEMO	CD3-AGE 1ST RECEIVED REL CARE/MONTHS	4,661	92.32%
RCTYPE1	CD5-RELATIVE WHO CARES FOR CHILD-1	2,967	99.76%
RCAGE1	CD5OV-AGE OF BRO/SIS CAREGIVER-1	291	98.63%
RCPLACE1	CD6-LOCATION OF RELATIVE CARE-1	2,967	99.87%
RCINHH1	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-1	1,280	94.77%
RCTIME1	CD8-TIME FROM CHILD'S HOME T/RELATIVE-1	1,687	97.99%
RCWHEN1	CD9-RECEIVES REL CARE DAYS/WKENDS BOTH-1	1,250	96.00%
RCBFAFT1	CD10-REL CARE RECEIVED BEF/AFT SCHOOL-1	1,185	95.70%
RCWEEK1	CD11-REL CARE IS REG SCHED ONCE/WEEK-1	2,967	99.93%
RCMONTH1	CD12-REL CARE IS REG SCHEC ONCE/MONTH-1	124	97.58%
RCDAYS1	CD13-DAYS/WK RECEIVES CARE F/RELATIVE-1	2,843	99.51%
RCHRS1	CD14-HRS/WK RECEIVES CARE F/RELATIVE-1	2,843	97.57%
RCWKSMO1	CD15-MONTHLY SCHED REL CARE WKS/MO-1	52	86.54%
RCDAYWK1	CD16-MONTHLY SCHED REL CARE DAYS/WK-1	52	88.46%
RCHRSWK1	CD17-MONTHLY SCHED REL CARE HOURS/WK-1	52	92.31%
RCKIDS1	CD19-#CHILDREN CARED FOR BY RELATIVE-1	2,895	95.92%
RCADLTS1	CD20-NUMBER OF ADULTS GIVING CARE-1	2,895	96.06%
RCSTRYR1	CD21-AGE RELATIVE CARE BEGAN/YEARS-1	2,895	92.16%
RCSTRMM1	CD21-AGE RELATIVE CARE BEGAN/MONTHS-1	2,895	89.64%
RCSPEAK1	CD22-LANGUAGE SPOKEN MOST BY REL-1	2,895	96.34%
RCSICK1	CD23-RELATIVE CARES WHEN CHILD SICK-1	2,895	94.99%
RCEDUC1	CD24-REL RECEIVED CHILD ED TRAINING-1	2,687	93.64%
RCFEE1	CD25-ANY FEE FOR RELATIVE CARE-1	2,895	95.65%
RCOUTHH1	CD26A-RELATIVE HELPS PAY FOR REL CARE-1	782	94.63%
RCWELF1	CD26B-WELFARE HELPS PAY FOR REL CARE-1	782	94.63%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
RCEMPL1	CD26C-EMPLOYER HELPS PAY FOR REL CARE-1	782	94.63%
RCOTHER1	CD26D-SMONE ELSE HELPS PAY F/REL CARE-1	782	94.63%
RCCOST1	CD27-AMT HH PAYS FOR RELATIVE CARE-1	782	85.17%
RCUNIT1	CD27-UNIT OF TIME FOR REL CARE COST-1	782	83.50%
RCSTHH1	CD28-COST REL CARE CHLD ONLY/OTHRS IN-1	523	85.85%
RCSTHN1	CD28OV-# OF CHILDREN AMOUNT IS FOR-1	264	84.09%
RCTYPE2	CD5-RELATIVE WHO CARES FOR CHILD-2	423	99.53%
RCINHH2	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-2	131	95.42%
RCTIME2	CD8-TIME FROM CHILD'S HOME T/RELATIVE-2	292	98.29%
RCWHEN2	CD9-RECEIVES REL CARE DAYS/WKENDS BOTH-2	173	97.11%
RCBFAFT2	CD10-REL CARE RECEIVED BEF/AFT SCHOOL-2	134	95.52%
RCWEEK2	CD11-REL CARE IS REG SCHED ONCE/WEEK-2	423	99.53%
RCMONTH2	CD12-REL CARE IS REG SCHEC ONCE/MONTH-2	128	98.44%
RCDAYS2	CD13-DAYS/WK RECEIVES CARE F/RELATIVE-2	295	98.64%
RCHRS2	CD14-HRS/WK RECEIVES CARE F/RELATIVE-2	295	97.29%
RCWKSMO2	CD15-MONTHLY SCHED REL CARE WKS/MO-2	59	91.53%
RCDAYWK2	CD16-MONTHLY SCHED REL CARE DAYS/WK-2	59	94.92%
RCHRSWK2	CD17-MONTHLY SCHED REL CARE HOURS/WK-2	59	86.44%
RCKIDS2	CD19-#CHILDREN CARED FOR BY RELATIVE-2	354	96.89%
RCADLTS2	CD20-NUMBER OF ADULTS GIVING CARE-2	354	96.61%
RCSTRYR2	CD21-AGE RELATIVE CARE BEGAN/YEARS-2	354	94.92%
RCSTRMM2	CD21-AGE RELATIVE CARE BEGAN/MONTHS-2	354	91.24%
RCSPEAK2	CD22-LANGUAGE SPOKEN MOST BY REL-2	354	96.89%
RCSICK2	CD23-RELATIVE CARES WHEN CHILD SICK-2	354	95.48%
RCEDUC2	CD24-REL RECEIVED CHILD ED TRAINING-2	332	92.77%
RCFEE2	CD25-ANY FEE FOR RELATIVE CARE-2	354	96.61%
RCCOST2	CD27-AMT HH PAYS FOR RELATIVE CARE-2	52	82.69%
RCUNIT2	CD27-UNIT OF TIME FOR REL CARE COST-2	52	82.69%
RCSTHH2	CD28-COST REL CARE CHLD ONLY/OTHRS IN-2	36	80.56%
RCSTHN2	CD28OV-# OF CHILDREN AMOUNT IS FOR-2	17	76.47%
RCINHH3	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-3	12	91.67%
RCDAYS3	CD13-DAYS/WK RECEIVES CARE F/RELATIVE-3	24	95.83%
RCHRS3	CD14-HRS/WK RECEIVES CARE F/RELATIVE-3	24	91.67%
RCWKSMO3	CD15-MONTHLY SCHED REL CARE WKS/MO-3	6	83.33%
RCHRSWK3	CD17-MONTHLY SCHED REL CARE HOURS/WK-3	6	83.33%
RCSTRYR3	CD21-AGE RELATIVE CARE BEGAN/YEARS-3	30	93.33%
RCSTRMM3	CD21-AGE RELATIVE CARE BEGAN/MONTHS-3	30	93.33%
RCEDUC3	CD24-REL RECEIVED CHILD ED TRAINING-3	29	96.55%
RCSTHH4	CD28-COST REL CARE CHLD ONLY/OTHRS IN-4	0	NA
RCSTHN4	CD28OV-# OF CHILDREN AMOUNT IS FOR-4	0	NA
NCNOW	CE1-RECEIVES CARE FROM A NONRELATIVE	14,064	99.92%
NCEVER	CE2-EVER RECEIVED CARE FROM NONRELATIVE	11,945	99.77%
NCAGEYR	CE3-AGE 1ST RECEIVED NONREL CARE/YEARS	4,396	98.00%
NCAGEMO	CE3-AGE 1ST RECVED NONREL CARE/MONTHS	4,396	95.09%
NCPLACE1	CE5-LOCATION OF NONRELATIVE CARE-1	2,119	99.91%
NCINHH1	CE6-NONREL CARE PROVIDER LIVES IN HH-1	473	97.89%
NCTIME1	CE7-TIME FRM CHILD HOME TO NONREL-1	1,646	98.60%
NCWHEN1	CE8-CARE SCHOOL DAYS/WEEKENDS/BOTH-1	695	94.82%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
NCBFAFT1	CE9-NONREL CARE RECEIVED BEF/AFT SCHL-1	671	94.34%
NCWEEK1	CE10-NONREL CARE REG SCHED ONCE/WK-1	2,119	99.86%
NCDAYS1	CE12-DAY/WEEK RECEIVES CARE FROM N/REL-1	2,068	99.32%
NCHRS1	CE13-HRS/WEEK RECEIVES CARE FROM N/REL-1	2,068	99.03%
NCWKSMO1	CE14-MONTHLY SCHED NREL CARE WKS/MO-1	31	90.32%
NCDAYWK1	CE15-MONTHLY SCHED NONREL CARE DAYS/WK-1	31	90.32%
NCHRSWK1	CE16-MONTHLY SCHED NONREL CARE HRS/WK-1	31	96.77%
NCKIDS1	CE18-# CHILDREN CARED FOR BY NONREL-1	2,099	95.67%
NCADLTS1	CE19-NUMBER ADULTS GIVING CARE-1	2,099	97.48%
NCSTRYR1	CE20-AGE NONREL CARE BEGAN/YEARS-1	2,099	95.14%
NCSTRMM1	CE20-AGE NONREL CARE BEGAN/MONTHS-1	2,099	92.95%
NCFRIEN1	CE21-LEARNED FROM FRIEND-1	2,099	97.33%
NC1PEMPL	CE21-LEARNED FROM PLACE OF EMPLOYMENT-1	2,099	97.24%
NCSCHL1	CE21-LEARNED FROM PUBLIC/PRIVATE SCHL-1	2,099	97.24%
NCCHURC1	CE21-LEARNED FROM PLACE OF WORSHIP-1	2,099	97.24%
NCSOCWK1	CE21-LEARNED FROM SOCIAL WORKER-1	2,099	97.24%
NCADS1	CE21-LEARNED FROM NEWSPAPER ADS-1	2,099	97.24%
NCAGENC1	CE21-LEARNED FROM R & R AGENCY-1	2,099	97.24%
NCKNEW1	CE21-R ALREADY KNEW PROVIDER-1	2,099	97.24%
NCCHILD1	CE21-PROVIDER CARED FOR OTHER CHILD-1	2,099	97.24%
NCREFER1	CE21-LEARNED FROM REFERENCE MATERIAL-1	2,099	97.24%
NCBULLE1	CE21-LEARNED FROM BULLETIN BOARDS-1	2,099	97.24%
NCSOURC1	CE21-LEARNED FROM OTHER SOURCE-1	2,099	97.24%
NCSPEAK1	CE22-LANGUAGE SPOKEN MOST BY NONREL-1	2,099	97.71%
NCSICK1	CE23-NONREL CARES WHEN CHILD SICK-1	2,099	94.43%
NCEDUC1	CE24-NONREL RECV CHILD ED TRAINING-1	2,099	83.33%
NCFEE1	CE25-ANY FEE FOR NON RELATIVE CARE-1	2,099	96.90%
NCREL1	CE26A-RELTIVE HELPS PAY FOR N/REL CARE-1	1,890	96.67%
NCWELF1	CE26B-WELFARE HELPS PAY FOR N/REL CARE-1	1,890	96.67%
NCEMPL1	CE26C-EMPLYER HELPS PAY FOR N/REL CARE-1	1,890	96.67%
NCOTHER1	CE26D-SOMEONE ELSE HLP PAY N/REL CARE-1	1,890	96.67%
NCCOST1	CE27-AMT HH PAYS FOR NONREL CARE-1	1,890	89.15%
NCUNIT1	CE27-UNIT OF TIME FOR N/REL CARE COST-1	1,890	87.09%
NCSTHH1	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-1	1,249	87.67%
NCSTHN1	CE28OV-NUM OF CHILDREN AMOUNT IS FOR-1	501	86.63%
NCPLACE2	CE5-LOCATION OF NONRELATIVE CARE-2	148	99.32%
NCTIME2	CE7-TIME FRM CHILD HOME TO NONREL-2	93	98.93%
NCWHEN2	CE8-CARE SCHOOL DAYS/WEEKENDS/BOTH-2	52	90.39%
NCBFAFT2	CE9-NONREL CARE RECEIVED BEF/AFT SCHL-2	40	90.00%
NCWEEK2	CE10-NONREL CARE REG SCHED ONCE/WK-2	148	98.65%
NCDAYS2	CE12-DAY/WEEK RECEIVES CARE FROM N/REL-2	114	97.37%
NCHRS2	CE13-HRS/WEEK RECEIVES CARE FROM N/REL-2	114	98.25%
NCWKSMO2	CE14-MONTHLY SCHED NREL CARE WKS/MO-2	15	93.33%
NCDAYWK2	CE15-MONTHLY SCHED NONREL CARE DAYS/WK-2	15	93.33%
NCHRSWK2	CE16-MONTHLY SCHED NONREL CARE HRS/WK-2	15	93.33%
NCKIDS2	CE18-# CHILDREN CARED FOR BY NONREL-2	129	96.90%
NCADLTS2	CE19-NUMBER ADULTS GIVING CARE-2	129	98.45%
NCSTRYR2	CE20-AGE NONREL CARE BEGAN/YEARS-2	129	94.57%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
NCSTRMM2	CE20-AGE NONREL CARE BEGAN/MONTHS-2	129	90.70%
NCFRIEN2	CE21-LEARNED FROM FRIEND-2	129	96.90%
NC2PEMPL	CE21-LEARNED FROM PLACE OF EMPLOYMENT-2	129	96.90%
NCSCHL2	CE21-LEARNED FROM PUBLIC/PRIVATE SCHL-2	129	96.90%
NCCHURC2	CE21-LEARNED FROM PLACE OF WORSHIP-2	129	96.90%
NCSOCWK2	CE21-LEARNED FROM SOCIAL WORKER-2	129	96.90%
NCADS2	CE21-LEARNED FROM NEWSPAPER ADS-2	129	96.90%
NCAGENC2	CE21-LEARNED FROM R & R AGENCY-2	129	96.90%
NCKNEW2	CE21-R ALREADY KNEW PROVIDER-2	129	96.90%
NCCHILD2	CE21-PROVIDER CARED FOR OTHER CHILD-2	129	96.90%
NCREFER2	CE21-LEARNED FROM REFERENCE MATERIAL-2	129	96.90%
NCBULLE2	CE21-LEARNED FROM BULLETIN BOARDS-2	129	96.90%
NCSOURC2	CE21-LEARNED FROM OTHER SOURCE-2	129	96.90%
NCSPEAK2	CE22-LANGUAGE SPOKEN MOST BY NONREL-2	129	98.45%
NCSICK2	CE23-NONREL CARES WHEN CHILD SICK-2	129	96.90%
NCEDUC2	CE24-NONREL RECV CHILD ED TRAINING-2	129	86.05%
NCFEE2	CE25-ANY FEE FOR NON RELATIVE CARE-2	129	96.90%
NCREL2	CE26A-RELTIVE HELPS PAY FOR N/REL CARE-2	95	94.74%
NCWELF2	CE26B-WELFARE HELPS PAY FOR N/REL CARE-2	95	94.74%
NCEMPL2	CE26C-EMPLYER HELPS PAY FOR N/REL CARE-2	95	94.74%
NCOTHER2	CE26D-SOMEONE ELSE HLP PAY N/REL CARE-2	95	94.74%
NCCOST2	CE27-AMT HH PAYS FOR NONREL CARE-2	95	94.74%
NCUNIT2	CE27-UNIT OF TIME FOR N/REL CARE COST-2	95	93.68%
NCSTHH2	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-2	67	94.03%
NCSTHN2	CE28OV-NUM OF CHILDREN AMOUNT IS FOR-2	42	95.24%
NCPLACE3	CE5-LOCATION OF NONRELATIVE CARE-3	15	93.33%
NCINHH3	CE6-NONREL CARE PROVIDER LIVES IN HH-3	8	87.50%
NCWHEN3	CE8-CARE SCHOOL DAYS/WEEKENDS/BOTH-3	8	87.50%
NCBFAFT3	CE9-NONREL CARE RECEIVED BEF/AFT SCHL-3	7	85.71%
NCWEEK3	CE10-NONREL CARE REG SCHED ONCE/WK-3	15	93.33%
NCDAYS3	CE12-DAY/WEEK RECEIVES CARE FROM N/REL-3	2	50.00%
NCHRS3	CE13-HRS/WEEK RECEIVES CARE FROM N/REL-3	2	50.00%
NCWKSMO3	CE14-MONTHLY SCHED NREL CARE WKS/MO-3	7	57.14%
NCKIDS3	CE18-# CHILDREN CARED FOR BY NONREL-3	9	88.89%
NCADLTS3	CE19-NUMBER ADULTS GIVING CARE-3	9	88.89%
NCSTRYR3	CE20-AGE NONREL CARE BEGAN/YEARS-3	9	88.89%
NCSTRMM3	CE20-AGE NONREL CARE BEGAN/MONTHS-3	9	88.89%
NCFRIEN3	CE21-LEARNED FROM FRIEND-3	9	88.89%
NC3PEMPL	CE21-LEARNED FROM PLACE OF EMPLOYMENT-3	9	88.89%
NCSCHL3	CE21-LEARNED FROM PUBLIC/PRIVATE SCHL-3	9	88.89%
NCCHURC3	CE21-LEARNED FROM PLACE OF WORSHIP-3	9	88.89%
NCSOCWK3	CE21-LEARNED FROM SOCIAL WORKER-3	9	88.89%
NCADS3	CE21-LEARNED FROM NEWSPAPER ADS-3	9	88.89%
NCAGENC3	CE21-LEARNED FROM R & R AGENCY-3	9	88.89%
NCKNEW3	CE21-R ALREADY KNEW PROVIDER-3	9	88.89%
NCCHILD3	CE21-PROVIDER CARED FOR OTHER CHILD-3	9	88.89%
NCREFER3	CE21-LEARNED FROM REFERENCE MATERIAL-3	9	88.89%
NCBULLE3	CE21-LEARNED FROM BULLETIN BOARDS-3	9	88.89%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
NCSOURC3	CE21-LEARNED FROM OTHER SOURCE-3	9	88.89%
NCSPEAK3	CE22-LANGUAGE SPOKEN MOST BY NONREL-3	9	88.89%
NCSICK3	CE23-NONREL CARES WHEN CHILD SICK-3	9	88.89%
NCEDUC3	CE24-NONREL RECV CHILD ED TRAINING-3	9	77.78%
NCFEE3	CE25-ANY FEE FOR NON RELATIVE CARE-3	9	88.89%
HSNOW	CF1-ATTENDS HEAD START	3,431	99.80%
HSEVER	CF2-EVER ATTENDED HEAD START	9,603	99.40%
HSAGEYR	CF3-AGE 1ST ATTENDED HEAD START/YEARS	1,392	97.34%
HSAGEMO	CF3-AGE 1ST ATTENDED HEAD START/MONTHS	1,392	87.07%
HSPLACE	CF4-LOCATION OF HEAD START PROGRAM	326	98.47%
HSWORK	CF5-HEAD START LOCATED AT WORKPLACE	321	98.44%
HSPUBL	CF6-PUBLIC/PRIVATE HEAD START PROGRAM	326	96.32%
HSGOVT	CF7-IS HEAD START RUN BY GOVT AGENCY	326	87.73%
HSTIME	CF8-TIME FROM CHILD'S HOME TO HEAD STRT	323	99.69%
HSTYPE	CF9-FULL-DAY OR PART-DAY HEAD START	326	98.77%
HSHRS	CF13-HOURS/WEEK ATTENDS HEAD START	320	98.75%
HSONLY	CF18-HEAD STRT ONLY/PLUS CHILD CARE	326	99.39%
HSHRSONL	CF19-HOURS IN HEAD STRT ITSELF/WEEK	33	78.79%
HSKIDS	CF20-NUM CHLDRN IN SAME GRP AT HEAD STRT	326	93.87%
HSADLTS	CF21-NUM ADLTS IN SAME GRP AT HEAD STRT	326	97.55%
HSSTRTYR	CF22-AGE STARTED HEAD START/YEARS	326	99.69%
HSSTRTMO	CF22-AGE STARTED HEAD START/MONTHS	326	95.09%
HSFRIEND	CF23-LEARNED FROM FRIEND	326	96.63%
HSPLEMPL	CF23-LEARNED FROM PLACE OF EMPLOYMENT	326	96.63%
HSSCHOOL	CF23-LEARNED FROM PUBL/PRIV SCHOOL	326	96.63%
HSCHURCH	CF23-LEARNED FROM PLACE OF WORSHIP	326	96.63%
HSSOCWKR	CF23-LEARNED FROM SOCIAL WORKER	326	96.63%
HSADS	CF23-LEARNED FROM NEWSPAPER ADS	326	96.63%
HSAGENCY	CF23-LEARNED FROM R & R AGENCY	326	96.63%
HSKNEW	CF23-ALREADY KNEW PROVIDER	326	96.63%
HSCHILD	CF23-PROVIDER CARED FOR OTHER CHILD	326	96.63%
HSREFER	CF23-LEARNED FROM REFERENCE MATERIAL	326	96.63%
HSBULLET	CF23-LEARNED FROM BULLETIN BOARDS	326	96.63%
HSSOURCE	CF23-LEARNED FROM OTHER SOURCE	326	96.63%
HSSPEAK	CF24-LANGUAGE HEAD STRT TEACHER SPEAKS	326	98.77%
HSEDUC	CF25-HD STRT TEACHER RECV CHLD ED TRAIN	326	82.21%
HSPARHRS	CF26-HD STRT ENCRAGE PARENTS TO GIVE HRS	326	97.55%
HSPARWRK	CF27-PARENT WORKED AT HD STRT IN LAST MO	326	99.39%
HSPARADV	CF28-HD STRT HAS PARENT ADVISORY GROUP	326	88.65%
HSTEST	CF29A-HD STRT HAS HEAR/SPCH/VISION TESTS	326	94.79%
HSPHYSEX	CF29B-HD STRT PROVIDES PHYSICAL EXAM	326	95.09%
HSDENTAL	CF29C-HD STRT PROVIDES DENTAL EXAMS	326	95.71%
HSDISABL	CF29D-HD STRT HAS TESTS FOR DEVEL PROBS	326	88.96%
HSSICK	CF29E-HD STRT PROVIDES SICK CHILD CARE	326	92.33%
HSFEE	CF30-ANY FEE FOR HEAD START PROGRAM	326	98.77%
HSWELF	CF31B-WELFARE HELPS PAY FOR HEAD START	76	98.68%
HSCOST	CF32-AMT HH PAYS FOR HEAD START	76	93.42%
HSUNIT	CF32-UNIT OF TIME FOR HEAD START COST	76	75.00%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
HSCOSTHH	CF33-COST HD STRT CHILD ONLY/OTHER IN HH	31	93.55%
CPNNOW	CG1-ATTENDS CENTER BASED PROGRAM	7,566	99.91%
CPNEVER	CG2-EVER ATTENDED CTR BASED PROGRAM	5,414	99.41%
CPNAGEYR	CG3-AGE 1ST ATTENDED CTR BASED PROG/YRS	2,689	99.37%
CPNAGEMO	CG3-AGE 1ST ATTENDED CTR BASED PROG/MOS	2,689	97.14%
CPSNOW	CG5-ATTENDS CTR BASED PROGRAM	6,498	99.86%
CPSEVER	CG6-EVER ATTENDED CTR BASED PROGRAM	5,556	99.60%
CPSAGEYR	CG7-AGE 1ST ATTENDED CTR-BASED PGM/YRS	3,912	98.62%
CPSAGEMO	CG7-AGE 1ST ATTENDED CTR-BASED PGM/MOS	3,912	92.33%
CPPLACE1	CG10-LOCATION OF CTR BASED PROGRAM-1	3,094	99.68%
CPPLACK1	CG11-SAME PLACE ATTENDS SCHOOL-1	463	97.62%
CPWORK1	CG12-IS CTR BASED PRGRM AT WORK PLACE-1	3,007	99.50%
CPPUBL1	CG13-PUBLIC/PRIVATE CTR BASED PROGRAM-1	3,094	98.03%
CPGOVT1	CG14-IS PROGRAM RUN BY GOVT AGENCY-1	3,094	94.70%
CPTIME1	CG15-TIME FR CHLD HME TO CTR BASED PGM-1	3,085	99.51%
CPSCHED1	CG16-FULL OR PART-DAY CTR BASED PRGM-1	2,154	99.16%
CPWHEN1	CG17-ATTENDS PGM SCHL DAYS/WKNDS/BOTH-1	940	99.26%
CPBFAFT1	CG18-ATTENDS PROGRAM BEF/AFT SCHOOL-1	939	98.94%
CPWEEK1	CG19-PROGRAM IS REG SCHED ONCE/WK-1	3,094	99.90%
CPMONTH1	CG20-PROGRAM IS REG SCHED ONCE/MO-1	47	97.87%
CPDAYS1	CG21-DAYS/WEEK ATTENDS CTR BASED PGM-1	3,047	99.71%
CPHRS1	CG22-HOURS/WEEK ATTENDS CTR BASED PGM-1	3,047	99.11%
CPWKSMO1	CG23-MONTHLY SCHED PROGRAM WEEKS/MO-1	21	85.71%
CPDAYWK1	CG24-MONTHLY SCHED PROGRAM DAYS/WK-1	21	95.24%
CPHRSWK1	CG25-MONTHLY SCHED PROGRAM HOURS/WK-1	21	95.24%
CPKIDS1	CG27-CHILDREN IN SAME GROUP AT PRGRM-1	3,068	92.28%
CPADLTS1	CG28-ADULTS IN SAME GROUP AT PROGRAM-1	3,068	97.00%
CPSTRYR1	CG29-AGE STARTED CTR BASED PRGRM/YRS-1	3,068	99.22%
CPSTRMM1	CG29-AGE STARTED CTR BASED PRGRM/MOS-1	3,068	96.90%
CPFRIEN1	CG30-LEARNED FROM FRIEND-1	3,068	99.06%
CPLEMPL1	CG30-LEARNED FROM PLACE OF EMPLOYMENT-1	3,068	99.06%
CPSCHL1	CG30-LEARNED FROM PUBLIC/PRIVATE SCHL-1	3,068	99.06%
CPCHURC1	CG30-LEARNED FROM PLACE OF WORSHIP-1	3,068	99.06%
CPSOCWK1	CG30-LEARNED FROM SOCIAL WORKER-1	3,068	99.06%
CPADS1	CG30-LEARNED FROM NEWSPAPER ADS-1	3,068	99.06%
CPAGENC1	CG30-LEARNED FROM R & R AGENCY-1	3,068	99.06%
CPKNEW1	CG30-ALREADY KNEW PROVIDER-1	3,068	99.06%
CPCHILD1	CG30-PROVIDER CARED FOR OTHER CHILD-1	3,068	99.06%
CPREFER1	CG30-LEARNED FROM REFERENCE MATERIAL-1	3,068	99.06%
CPBULLE1	CG30-LEARNED FROM BULLETIN BOARDS-1	3,068	99.06%
CPSOURC1	CG30-LEARNED FROM OTHER SOURCE-1	3,068	99.06%
CPSPEAK1	CG31-LANGUAGE CTR BASED TEACHER SPKS-1	3,068	99.45%
CPEDUC1	CG32-CTR BASED TCHER RECD CHLD ED TRNG-1	3,068	82.92%
CPARHRS1	CG33-PRGRM ENCOURAGES PARENT GIVE HRS-1	3,068	97.46%
CPARWRK1	CG34-PARENT WORKED AT PRGRM IN LAST MO-1	3,068	99.32%
CPARADV1	CG35-PROGRAM HAS PARENT ADVISORY GROUP-1	3,068	86.28%
CPTEST1	CG36A-PGM HAS HEAR/SPEECH/VISION TESTS-1	3,068	94.43%
CPHYSEX1	CG36B-PROGRAM PROVIDES PHYSICAL EXAMS-1	3,068	97.07%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
CPDENTA1	CG36C-PRGRM PROVIDES DENTAL EXAMS-1	3,068	97.49%
CPDISAB1	CG36D-PRGRM TESTS FOR DEVEL PROBS-1	3,068	92.57%
CPSICK1	CG36E-PROGRAM PROVIDES SICK CHILD CARE-1	3,068	97.65%
CPFEE1	CG37-ANY FEE FOR CTR BASED PROGRAM-1	3,068	99.48%
CPREL1	CG38A-REL HELPS PAY F/CTR BASED PGM-1	2,626	99.39%
CPWELF1	CG38B-WELFARE HELPS PAY CTR BASED PGM-1	2,626	99.16%
CPEMPL1	CG38C-EMPLOYER HELPS PAY CTR BASED PGM-1	2,626	99.28%
CPOTHER1	CG38D-SMONE ELSE HLPS PAY CTR BASD PGM-1	2,626	99.39%
CPCOST1	CG39-AMT HH PAYS FOR CTR-BASED PROGRAM-1	2,626	94.63%
CPUNIT1	CG39-UNIT OF TIME FOR PROGRAM COST-1	2,626	90.29%
CPCSHH1	CG40-COST PROG CHLD ONLY/OTHERS IN HH-1	1,675	90.33%
CPCSHN1	CG40OV-NUM OF CHILDREN AMOUNT IS FOR-1	158	87.34%
CPWORK2	CG12-IS CTR BASED PRGRM AT WORK PLACE-2	86	98.84%
CPPUBL2	CG13-PUBLIC/PRIVATE CTR BASED PROGRAM-2	91	96.70%
CPGOVT2	CG14-IS PROGRAM RUN BY GOVT AGENCY-2	91	96.70%
CPTIME2	CG15-TIME FR CHLD HME TO CTR BASED PGM-2	91	98.90%
CPSCHED2	CG16-FULL OR PART-DAY CTR BASED PRGM-2	58	98.28%
CPWHEN2	CG17-ATTENDS PGM SCHL DAYS/WKNDS/BOTH-2	33	93.94%
CPBFAFT2	CG18-ATTENDS PROGRAM BEF/AFT SCHOOL-2	31	90.32%
CPHRS2	CG22-HOURS/WEEK ATTENDS CTR BASED PGM-2	82	97.56%
CPKIDS2	CG27-CHILDREN IN SAME GROUP AT PRGRM-2	84	83.33%
CPADLTS2	CG28-ADULTS IN SAME GROUP AT PROGRAM-2	84	95.24%
CPSTRYR2	CG29-AGE STARTED CTR BASED PRGRM/YRS-2	84	98.81%
CPSTRMM2	CG29-AGE STARTED CTR BASED PRGRM/MOS-2	84	95.24%
CPFRIEN2	CG30-LEARNED FROM FRIEND-2	84	97.62%
CPLEMPL2	CG30-LEARNED FROM PLACE OF EMPLOYMENT-2	84	97.62%
CPSCHL2	CG30-LEARNED FROM PUBLIC/PRIVATE SCHL-2	84	97.62%
CPCHURC2	CG30-LEARNED FROM PLACE OF WORSHIP-2	84	97.62%
CPSOCWK2	CG30-LEARNED FROM SOCIAL WORKER-2	84	97.62%
CPADS2	CG30-LEARNED FROM NEWSPAPER ADS-2	84	97.62%
CPAGENC2	CG30-LEARNED FROM R & R AGENCY-2	84	97.62%
CPKNEW2	CG30-ALREADY KNEW PROVIDER-2	84	97.62%
CPCHILD2	CG30-PROVIDER CARED FOR OTHER CHILD-2	84	97.62%
CPREFER2	CG30-LEARNED FROM REFERENCE MATERIAL-2	84	97.62%
CPBULLE2	CG30-LEARNED FROM BULLETIN BOARDS-2	84	97.62%
CPSOURC2	CG30-LEARNED FROM OTHER SOURCE-2	84	97.62%
CPSPEAK2	CG31-LANGUAGE CTR BASED TEACHER SPKS-2	84	98.81%
CPEDUC2	CG32-CTR BASED TCHER RECD CHLD ED TRNG-2	84	86.91%
CPARHRS2	CG33-PRGRM ENCOURAGES PARENT GIVE HRS-2	84	96.43%
CPARWRK2	CG34-PARENT WORKED AT PRGRM IN LAST MO-2	84	98.81%
CPARADV2	CG35-PROGRAM HAS PARENT ADVISORY GROUP-2	84	85.71%
CPTEST2	CG36A-PGM HAS HEAR/SPEECH/VISION TESTS-2	84	95.24%
CPHYSEX2	CG36B-PROGRAM PROVIDES PHYSICAL EXAMS-2	84	96.43%
CPDENTA2	CG36C-PRGRM PROVIDES DENTAL EXAMS-2	84	96.43%
CPDISAB2	CG36D-PRGRM TESTS FOR DEVEL PROBS-2	84	95.24%
CPSICK2	CG36E-PROGRAM PROVIDES SICK CHILD CARE-2	84	96.43%
CPFEE2	CG37-ANY FEE FOR CTR BASED PROGRAM-2	84	98.81%
CPREL2	CG38A-REL HELPS PAY F/CTR BASED PGM-2	68	98.53%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
CPWELF2	CG38B-WELFARE HELPS PAY CTR BASED PGM-2	68	98.53%
CPEMPL2	CG38C-EMPLOYER HELPS PAY CTR BASED PGM-2	68	98.53%
CPOTHER2	CG38D-SMONE ELSE HLPS PAY CTR BASD PGM-2	68	98.53%
CPCOST2	CG39-AMT HH PAYS FOR CTR BASED PROGRAM-2	68	92.65%
CPUNIT2	CG39-UNIT OF TIME FOR PROGRAM COST-2	68	85.29%
CPCSHH2	CG40-COST PROG CHLD ONLY/OTHERS IN HH-2	40	82.50%
CPCSHN2	CG40OV-NUM OF CHILDREN AMOUNT IS FOR-2	4	75.00%
CPPLACK3	CG11-SAME PLACE ATTENDS SCHOOL-3	0	NA
CPMONTH3	CG20-PROGRAM IS REG SCHED ONCE/MO-3	0	NA
CPWKSMO3	CG23-MONTHLY SCHED PROGRAM WEEKS/MO-3	0	NA
CPDAYWK3	CG24-MONTHLY SCHED PROGRAM DAYS/WK-3	0	NA
CPHRSWK3	CG25-MONTHLY SCHED PROGRAM HOURS/WK-3	0	NA
CPARADV3	CG35-PROGRAM HAS PARENT ADVISORY GROUP-3	2	50.00%
CPCOST3	CG39-AMT HH PAYS FOR CTR BASED PROGRAM-3	2	50.00%
CPUNIT3	CG39-UNIT OF TIME FOR PROGRAM COST-3	2	50.00%
CPCSHH3	CG40-COST PROG CHLD ONLY/OTHERS IN HH-3	2	50.00%
CPCSHN3	CG40OV-NUM OF CHILDREN AMOUNT IS FOR-3	0	NA
PPTRAIN	CI1A-CAREGIVER W/SPEC CHILD TRAINING	7,442	97.89%
PPSICK	CI1B-CHILD WILL BE CARED FOR WHEN SICK	7,442	97.68%
PPCONV	CI1C-PLACE CLOSE TO HOME	7,442	97.96%
PPCOST	CI1D-REASONABLE COST	7,442	97.90%
PPKIDS	CI1E-NUMBER OF CHILDREN IN GROUP	7,442	97.86%
PPENGL	CI1F-CAREGIVER SPEAKS ENGLISH	7,442	97.90%
SCSELF	CJ1-CARES FOR SELF ON REG BASIS	4,717	99.70%
SCWKSMO	CJ4-MONTHLY SCHED SELF CARE WKS/MONTH	2	50.00%
SCDAYSWK	CJ5-MONTHLY SCHED SELF CARE DAYS/WEEK	2	50.00%
SCDAYS	CJ7-DAYS/WEEK CHILD CARES FOR SELF	96	95.83%
SCHRS	CJ8-HOURS/WEEK CHILD CARES FOR SELF	96	95.83%
PCOTHER	CK1-ANY OTHER REGULAR CARE ARRNG	10,766	99.30%
PCWHO1	CK3-WHO PROVIDED CARE OR PROGRAM-1	331	99.70%
PCPLACE1	CK4-CARE TOOK PLACE IN OWN/OTHER HOME-1	171	95.91%
PCSTRYR1	CK5-YEAR PREVIOUS ARRANGEMENT BEGAN-1	331	99.09%
PCSTRMM1	CK5-MONTH PREVIOUS ARRANGEMENT BEGAN-1	331	97.58%
PCENDYY1	CK5-YEAR PREVIOUS ARRANGEMENT ENDED-1	331	96.07%
PCENDMM1	CK5-MONTH PREVIOUS ARRANGEMENT ENDED-1	331	95.47%
PCDAYS1	CK6-DAYS/WEEK RECEIVED PREVIOUS CARE-1	331	98.79%
PCHRS1	CK7-HOURS/WEEK RECEIVED PREVIOUS CARE-1	331	98.49%
PCREASO1	CK8-REASON PREVIOUS ARRANGEMENT ENDED-1	331	96.98%
PCPLACE2	CK4-CARE TOOK PLACE IN OWN/OTHER HOME-2	22	95.46%
PCSTRYR2	CK5-YEAR PREVIOUS ARRANGEMENT BEGAN-2	33	96.97%
PCSTRMM2	CK5-MONTH PREVIOUS ARRANGEMENT BEGAN-2	33	93.94%
PCENDYY2	CK5-YEAR PREVIOUS ARRANGEMENT ENDED-2	33	90.91%
PCENDMM2	CK5-MONTH PREVIOUS ARRANGEMENT ENDED-2	33	90.91%
PCDAYS2	CK6-DAYS/WEEK RECEIVED PREVIOUS CARE-2	33	96.97%
PCHRS2	CK7-HOURS/WEEK RECEIVED PREVIOUS CARE-2	33	96.97%
PCREASO2	CK8-REASON PREVIOUS ARRANGEMENT ENDED-2	33	96.97%
HAREADFM	CL1-TIMES FAMILY READ TO CHILD LAST WK	14,064	99.86%
HAREADCH	CL2-TIMES CHILD READ TO FAMILY LAST WK	4,717	99.53%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
HASTORY	CL3-TOLD CHILD A STORY IN LAST WEEK	9,929	99.07%
HASTORYN	CL4-TIMES TOLD CHILD STORY LAST WEEK	7,445	98.86%
HALIBRAY	CL5-VISITED LIBRARY IN LAST MONTH	9,929	99.86%
HD5LBS	CM1-CHILD BIRTH WEIGHT OVER 5 1/2 LBS	14,064	99.23%
HDHEALTH	CM2-CHILD'S GENERAL HEALTH STATUS	14,064	99.96%
HDDELAY	CM3-DR SAID CHILD DEVEL DELAYED	14,064	99.80%
HDLEARN	CM4A-CHILD HAS LEARNING DISABILITY	9,929	99.55%
HDRETARD	CM4B-CHILD HAS MENTAL RETARDATION	9,929	99.91%
HDSPEECH	CM4C-CHILD HAS SPEECH IMPAIRMENT	9,929	99.84%
HDDISTRB	CM4D-CHLD HAS SERIOUS EMOTIONAL DISTURB	9,929	99.69%
HDDEAF	CM4E/CM6A-CHILD HAS DEAFNESS	14,064	99.92%
HDHEAR	CM4F/CM6B-CHLD HAS OTHR HEARNG IMPAIRMNT	14,006	99.85%
HDHEAD	CM9-DOES HEAD START PROVIDE SERVICES	50	96.00%
HDBLIND	CM4G/CM6C-CHILD HAS BLINDNESS	14,064	99.99%
HDVISUAL	CM4H/CM6D-CHLD HAS OTHR VISUAL IMPAIRMNT	14,041	99.94%
HDORTHO	CM4I/CM6E-CHILD HAS ORTHOPEDIC IMPAIRMNT	14,064	99.86%
HDDEVEL	CM6F-CHILD HAS SEVERE DEVEL. DELAY	4,135	99.81%
HDOTHER	CM4J/CM6G-CHLD HAS OTHR HEALTH IMPAIRMNT	14,064	99.86%
HDAFFECT	CM5-DISABILITY AFFECTS ABILITY TO LEARN	1,476	97.15%
HDSCHL	CM7A-RECEIVES SERVICES FROM SCHL DIST	1,476	99.12%
HDGOVT	CM7B-RECEIVES STATE/LOCAL/SOCIAL SERVICE	1,476	98.44%
HDDOCTOR	CM7C-RECEIVES SERVICES FROM DR OR CLINIC	1,476	99.32%
HDSOURCE	CM7D-RECEIVES SERVICES FROM OTHER SOURCE	1,476	99.39%
HDIFSP	CM8A-RECEIVES SERVICES THRU IFSP	188	97.34%
HDINFSRC	CM8B-RECVS SERVICES FROM OTH SOURCE	188	98.94%
HDCENT	CM10-DOES CTR BASED PGM PROVIDE SERVICES	161	96.89%
HDSERV1	CM11-CTR BASED PRGRM PRVDS SVCS/DISAB-1	70	94.29%
HDSERV3	CM11-CTR BASED PRGRM PRVDS SVCS/DISAB-3	0	NA
CHMIX	CM12-DISABILITY MIXTURE OF CLASS/GROUP	858	90.68%
HDMIX	CM12-DISABILITY MIXTURE OF CLASS/GROUP	28	82.14%
CPMIX1	CM12-DISABLITY MIXTURE OF CLASS/GROUP-1	67	85.08%
CPMIX2	CM12-DISABLITY MIXTURE OF CLASS/GROUP-2	7	28.57%
CPMIX3	CM12-DISABLITY MIXTURE OF CLASS/GROUP-3	0	NA
CHMIXALL	CM13-TIME SPENT IN MIXED CLASS/GROUP	763	99.61%
HDMIXALL	CM13-TIME SPENT IN MIXED CLASS/GROUP	23	86.96%
CPMIXAL1	CM13-TIME SPENT IN MIXED CLASS/GROUP-1	34	88.24%
CPMIXAL2	CM13-TIME SPENT IN MIXED CLASS/GROUP-2	0	NA
CPMIXAL3	CM13-TIME SPENT IN MIXED CLASS/GROUP-3	0	NA
MOMSTAT	CN1-MOM'S CURRENT MARITAL STATUS	13,760	99.66%
MOMNEW	CN2-MOM'S AGE WHEN FIRST BECAME A MOTHER	13,760	99.23%
MOMLANG	CN3-FIRST LANGUAGE SPOKEN BY MOM	13,760	99.70%
MOMSPEAK	CN4-LANGUAGE SPOKEN MOST AT HOME BY MOM	2,420	99.42%
MOMBORN	CN5-COUNTRY MOM WAS BORN IN	13,760	99.80%
MOMUSAGE	CN6-AGE WHEN MOM MOVED TO US	2,193	96.35%
MOMGRADE	CN7-HIGHEST GRADE MOM COMPLETED	13,760	99.14%
MOMGRAD1	CN7-ACTUAL GRADE 0-8 MOM COMPLETED	690	98.70%
MOMGRAD2	CN7-ACTUAL GRADE 9-11 MOM COMPLETED	1,370	98.25%
MOMVOCDI	CN7OV-MOM GOT VOC/TECH DIPL AFTER H.S.	2,498	98.68%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
MOMDIPL	CN8-MOM HAS H.S. DIPLOMA OR GED	6,381	98.79%
MOMWORK	CN9-MOM WORKED FOR PAY LAST WEEK	13,760	99.64%
MOMLEAVE	CN10-MOM ON LEAVE OR VACATION LAST WEEK	5,986	99.53%
MOMHOURS	CN11-HOURS PER WEEK MOM WORKS FOR PAY	8,078	98.89%
MOMEARN	CN12-MOM'S EARNINGS	8,078	85.17%
MOMUNIT	CN12-UNIT OF PAY FOR MOM'S EARNINGS	8,078	85.13%
MOMMTHS	CN13-MONTHS MOM WORKED IN PAST YEAR	13,760	98.79%
MOMLOOK	CN14-MOM LOOKING FOR WORK PAST 4 WEEKS	5,672	99.15%
MOMPUBL	CN15-MOM CHECKED PUBLIC EMPLOY AGENCY	953	97.80%
MOMPRIV	CN15-MOM CHECKED PRIVATE EMPLOY AGENCY	953	97.80%
MOMEMPL	CN15-MOM CHECKED W/EMPLOYER DIRECTLY	953	97.80%
MOMREL	CN15-MOM CHECKED W/FRIENDS/RELATIVES	953	97.80%
MOMANSAD	CN15-MOM PLACED OR ANSWERED ADS	953	97.80%
MOMREAD	CN15-MOM READ WANT ADS	953	97.80%
MOMOTHER	CN15-MOM DID OTHER THINGS TO FIND WORK	953	97.80%
MOMACTY	CN16-MOTHER'S MAIN ACTIVITY LAST WEEK	4,857	99.09%
MOMTAKE	CN17-COULD MOM TAKE OFFERED JOB	864	95.60%
MOMENROL	CN18-MOM ATTENDS/ENROLLED IN SCHOOL	13,760	99.68%
MOMENHRS	CN19-HOURS PER WEEK MOM IN SCHOOL	1,548	94.90%
MOMCARE	CN20-PRIMARY ARRANG MOM AT WORK/SCHOOL	8,817	98.99%
MOMCAROT	CN21-PRIM ARRNG COVER ALL WORK/SCHL HRS	8,817	98.92%
MOMCARWH	CN22-SECONDARY ARRANG MOM AT WORK/SCHL	2,711	98.34%
DADLANG	CO1-FIRST LANGUAGE SPOKEN BY DAD	10,788	99.56%
DADSPEAK	CO2-LANGUAGE SPOKEN MOST AT HOME BY DAD	1,921	99.22%
DADBORN	CO3-COUNTRY DAD WAS BORN IN	10,788	99.78%
DADUSAGE	CO4-AGE WHEN DAD MOVED TO US	1,890	87.88%
DADGRADE	CO5-HIGHEST GRADE DAD COMPLETED	10,788	98.13%
DADGRAD1	CO5-ACTUAL GRADE 0-8 DAD COMPLETED	497	93.96%
DADGRAD2	CO5-ACTUAL GRADE 9-11 DAD COMPLETED	837	97.13%
DADVOCDI	CO5OV-DAD GOT VOC/TECH DIPL AFTER HS	1,482	95.34%
DADDIPL	CO6-DAD HAS HS DIPLOMA OR GED	4,135	98.24%
DADWORK	CO7-DAD WORKED FOR PAY LAST WEEK	10,788	99.49%
DADLEAVE	CO8-DAD ON LEAVE OR VACATION LAST WEEK	913	97.92%
DADHOURS	CO9-HOURS PER WEEK DAD WORKS FOR PAY	10,044	97.42%
DADLOOK	CO10-DAD LOOKING FOR WORK PAST 4 WEEKS	736	98.37%
DADPUBL	CO11-DAD CHECKED PUBLIC EMPLOY AGENCY	331	92.15%
DADPRIV	CO11-DAD CHECKED PRIVATE EMPLOY AGENCY	331	92.15%
DADEMPL	CO11-DAD CHECKED W/EMPLOYER DIRECTLY	331	92.15%
DADREL	CO11-DAD CHECKED W/FRIENDS/RELATIVES	331	92.15%
DADANSAD	CO11-DAD PLACED OR ANSWERED ADS	331	92.15%
DADREAD	CO11-DAD READ WANT ADS	331	92.15%
DADOTHER	CO11-DAD DID OTHER THINGS TO FIND WORK	331	92.15%
DADACTY	CO12-DAD'S MAIN ACTIVITY LAST WEEK	457	97.59%
DADTAKE	CO13-COULD DAD TAKE OFFERED JOB	311	90.35%
DADENROL	CO14-DAD ATTENDS/ENROLLED IN SCHOOL	10,788	99.44%
DADENHRS	CO15-HOURS PER WEEK DAD IN SCHOOL	859	90.22%
HOWNHOME	CP1-OWN, RENT HOME, OR OTH ARRNGMENT	14,064	99.60%
HOTHNUM	CP2-OTHER TELEPHONE NUMBERS IN HH	14,064	99.72%

Table 1.--Item Response rates for imputed variable: ECCP interview--Continued

Variable	Label	Number Eligible	Item Response
HNUMUSE	CP3-HOW MANY OTH PHN NUM FOR HM USE	1,485	99.73%
HPHONSVC	CP4-EVER BEEN W/O PHONE SERV >24 HR	14,064	99.44%
HSVCNUM	CP5-AMT OF TIME W/O PHONE SERVICE	1,261	96.59%
HSVCUNIT	CP5-UNIT OF TIME W/O PHONE SERVICE	1,261	96.59%
HWIC	CP7A-FAMILY RECVD WIC PAST 12 MO	14,064	99.53%
HFOODST	CP7B-FAMILY RECVD FOOD STMPS PAST 12 MO	14,064	99.57%
HAFDC	CP7C-FAMILY RECVD AFDC PAST 12 MO	14,064	99.35%
HINCMRNG	CP8-TOTAL HOUSEHOLD INCOME-RANGE	14,064	91.14%
HINCOME	CP8-TOTAL HOUSEHOLD INCOME	14,064	85.94%
HINCMEXT	CP8OV-EXACT HH INCOME NEAREST $1000	1,016	59.94%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 2.--Item response rates for variables not imputed: ECPP interview

Variable	Label	Number Eligible	Item Response
AGE94	CHILD'S AGE AS OF 12/31/94	14,064	100.00%
SEX	CHILD'S SEX	14,064	100.00%
ERESPSEX	EXTENDED RESPONDENT'S SEX	14,064	100.00%
EPARTYPE	SPEC RELATIONSHIP OF PRNT RESP TO/CHLD	13,564	100.00%
SEX6	O/HH MEM - #6'S GENDER AT SCREENER	226	100.00%
SEX7	O/HH MEM - #7'S GENDER AT SCREENER	125	100.00%
SEX8	O/HH MEM - #8'S GENDER AT SCREENER	43	100.00%
RELATN8	O/HH MEM - #8'S RELATION TO CHILD	43	100.00%
SEX9	O/HH MEM - #9'S GENDER AT SCREENER	22	100.00%
RELATN9	O/HH MEM - #9'S RELATION TO CHILD	22	100.00%
AGE10	O/HH MEM - #10'S AGE AT SCREENER	7	100.00%
SEX10	O/HH MEM - #10'S GENDER AT SCREENER	7	100.00%
RELATN10	O/HH MEM - #10'S RELATION TO CHILD	7	100.00%
AGE11	O/HH MEM - #11'S AGE AT SCREENER	4	100.00%
SEX11	O/HH MEM - #11'S GENDER AT SCREENER	4	100.00%
RELATN11	O/HH MEM - #11'S RELATION TO CHILD	4	100.00%
AGE12	O/HH MEM - #12'S AGE AT SCREENER	4	100.00%
SEX12	O/HH MEM - #12'S GENDER AT SCREENER	4	100.00%
RELATN12	O/HH MEM - #12'S RELATION TO CHILD	4	100.00%
AGE13	O/HH MEM - #13'S AGE AT SCREENER	1	100.00%
SEX13	O/HH MEM - #13'S GENDER AT SCREENER	1	100.00%
RELATN13	O/HH MEM - #13'S RELATION TO CHILD	1	100.00%
CDOBYY	CA1-YEAR OF BIRTH	14,064	100.00%
ENROLL	CA9-CHILD ATTENDING SCHOOL	9,929	100.00%
GRADE	CA11-GRADE OR YEAR CHILD IS ATTENDING	8,176	100.00%
EVRSCHL	CA13-EVER ATTENDED PUBLIC OR PRIV SCHL	106	100.00%
HOME3	CA18-HOME SCHOOLING HISTORY-GRADE 3	31	100.00%
PREPEAT3	CC12-CHILD REPEATED THIRD GRADE	102	100.00%
RCARRNEW	CD4OV-NUM OF REL CARE ARRANGEMENTS	2,967	100.00%
RCAGE2	CD5OV-AGE OF BRO/SIS CAREGIVER-2	31	100.00%
RCPLACE2	CD6-LOCATION OF RELATIVE CARE-2	423	100.00%
RCOUTHH2	CD26A-RELATIVE HELPS PAY FOR REL CARE-2	52	100.00%
RCWELF2	CD26B-WELFARE HELPS PAY FOR REL CARE-2	52	100.00%
RCEMPL2	CD26C-EMPLOYER HELPS PAY FOR REL CARE-2	52	100.00%
RCOTHER2	CD26D-SMONE ELSE HELPS PAY F/REL CARE-2	52	100.00%
RCTYPE3	CD5-RELATIVE WHO CARES FOR CHILD-3	40	100.00%
RCAGE3	CD5OV-AGE OF BRO/SIS CAREGIVER-3	1	100.00%
RCPLACE3	CD6-LOCATION OF RELATIVE CARE-3	40	100.00%
RCTIME3	CD8-TIME FROM CHILD'S HOME T/RELATIVE-3	28	100.00%
RCWHEN3	CD9-RECEIVES REL CARE DAYS/WKENDS BOTH-3	19	100.00%
RCBFAFT3	CD10-REL CARE RECEIVED BEF/AFT SCHOOL-3	10	100.00%
RCWEEK3	CD11-REL CARE IS REG SCHED ONCE/WEEK-3	40	100.00%
RCMONTH3	CD12-REL CARE IS REG SCHEC ONCE/MONTH-3	16	100.00%
RCDAYWK3	CD16-MONTHLY SCHED REL CARE DAYS/WK-3	6	100.00%
RCKIDS3	CD19-#CHILDREN CARED FOR BY RELATIVE-3	30	100.00%
RCADLTS3	CD20-NUMBER OF ADULTS GIVING CARE-3	30	100.00%
RCSPEAK3	CD22-LANGUAGE SPOKEN MOST BY REL-3	30	100.00%
RCSICK3	CD23-RELATIVE CARES WHEN CHILD SICK-3	30	100.00%

Table 2.--Item response rates for variables not imputed: ECPP interview--Continued

Variable	Label	Number Eligible	Item Response
RCFEE3	CD25-ANY FEE FOR RELATIVE CARE-3	30	100.00%
RCOUTHH3	CD26A-RELATIVE HELPS PAY FOR REL CARE-3	3	100.00%
RCWELF3	CD26B-WELFARE HELPS PAY FOR REL CARE-3	3	100.00%
RCEMPL3	CD26C-EMPLOYER HELPS PAY FOR REL CARE-3	3	100.00%
RCOTHER3	CD26D-SMONE ELSE HELPS PAY F/REL CARE-3	3	100.00%
RCCOST3	CD27-AMT HH PAYS FOR RELATIVE CARE-3	3	100.00%
RCUNIT3	CD27-UNIT OF TIME FOR REL CARE COST-3	3	100.00%
RCSTHH3	CD28-COST REL CARE CHLD ONLY/OTHRS IN-3	2	100.00%
RCSTHN3	CD28OV-# OF CHILDREN AMOUNT IS FOR-3	1	100.00%
RCTYPE4	CD5-RELATIVE WHO CARES FOR CHILD-4	7	100.00%
RCAGE4	CD5OV-AGE OF BRO/SIS CAREGIVER-4	1	100.00%
RCPLACE4	CD6-LOCATION OF RELATIVE CARE-4	7	100.00%
RCINHH4	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-4	3	100.00%
RCTIME4	CD8-TIME FROM CHILD'S HOME T/RELATIVE-4	4	100.00%
RCWHEN4	CD9-RECEIVES REL CARE DAYS/WKENDS BOTH-4	3	100.00%
RCBFAFT4	CD10-REL CARE RECEIVED BEF/AFT SCHOOL-4	2	100.00%
RCWEEK4	CD11-REL CARE IS REG SCHED ONCE/WEEK-4	7	100.00%
RCMONTH4	CD12-REL CARE IS REG SCHEC ONCE/MONTH-4	5	100.00%
RCDAYS4	CD13-DAYS/WK RECEIVES CARE F/RELATIVE-4	2	100.00%
RCHRS4	CD14-HRS/WK RECEIVES CARE F/RELATIVE-4	2	100.00%
RCWKSMO4	CD15-MONTHLY SCHED REL CARE WKS/MO-4	2	100.00%
RCDAYWK4	CD16-MONTHLY SCHED REL CARE DAYS/WK-4	2	100.00%
RCHRSWK4	CD17-MONTHLY SCHED REL CARE HOURS/WK-4	2	100.00%
RCKIDS4	CD19-#CHILDREN CARED FOR BY RELATIVE-4	4	100.00%
RCADLTS4	CD20-NUMBER OF ADULTS GIVING CARE-4	4	100.00%
RCSTRYR4	CD21-AGE RELATIVE CARE BEGAN/YEARS-4	4	100.00%
RCSTRMM4	CD21-AGE RELATIVE CARE BEGAN/MONTHS-4	4	100.00%
RCSPEAK4	CD22-LANGUAGE SPOKEN MOST BY REL-4	4	100.00%
RCSICK4	CD23-RELATIVE CARES WHEN CHILD SICK-4	4	100.00%
RCEDUC4	CD24-REL RECEIVED CHILD ED TRAINING-4	3	100.00%
RCFEE4	CD25-ANY FEE FOR RELATIVE CARE-4	4	100.00%
RCOUTHH4	CD26A-RELATIVE HELPS PAY FOR REL CARE-4	1	100.00%
RCWELF4	CD26B-WELFARE HELPS PAY FOR REL CARE-4	1	100.00%
RCEMPL4	CD26C-EMPLOYER HELPS PAY FOR REL CARE-4	1	100.00%
RCOTHER4	CD26D-SMONE ELSE HELPS PAY F/REL CARE-4	1	100.00%
RCCOST4	CD27-AMT HH PAYS FOR RELATIVE CARE-4	1	100.00%
RCUNIT4	CD27-UNIT OF TIME FOR REL CARE COST-4	1	100.00%
NCARRNEW	CE4OV-NUM OF NONREL CARE ARRNGEMNTS-NEW	2,119	100.00%
NCMONTH1	CE11-NON-REL CARE REG SCHED ONCE/MO-1	51	100.00%
NCINHH2	CE6-NONREL CARE PROVIDER LIVES IN HH-2	55	100.00%
NCMONTH2	CE11-NON-REL CARE REG SCHED ONCE/MO-2	34	100.00%
NCTIME3	CE7-TIME FRM CHILD HOME TO NONREL-3	7	100.00%
NCMONTH3	CE11-NON-REL CARE REG SCHED ONCE/MO-3	13	100.00%
NCDAYWK3	CE15-MONTHLY SCHED NONREL CARE DAYS/WK-3	7	100.00%
NCHRSWK3	CE16-MONTHLY SCHED NONREL CARE HRS/WK-3	7	100.00%
NCREL3	CE26A-RELTIVE HELPS PAY FOR N/REL CARE-3	5	100.00%
NCWELF3	CE26B-WELFARE HELPS PAY FOR N/REL CARE-3	5	100.00%
NCEMPL3	CE26C-EMPLYER HELPS PAY FOR N/REL CARE-3	5	100.00%

Table 2.--Item response rates for variables not imputed: ECPP interview--Continued

Variable	Label	Number Eligible	Item Response
NCOTHER3	CE26D-SOMEONE ELSE HLP PAY N/REL CARE-3	5	100.00%
NCCOST3	CE27-AMT HH PAYS FOR NONREL CARE-3	5	100.00%
NCUNIT3	CE27-UNIT OF TIME FOR N/REL CARE COST-3	5	100.00%
NCSTHH3	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-3	3	100.00%
NCSTHN3	CE28OV-NUM OF CHILDREN AMOUNT IS FOR-3	3	100.00%
NCPLACE4	CE5-LOCATION OF NONRELATIVE CARE-4	5	100.00%
NCINHH4	CE6-NONREL CARE PROVIDER LIVES IN HH-4	2	100.00%
NCTIME4	CE7-TIME FRM CHILD HOME TO NONREL-4	3	100.00%
NCWHEN4	CE8-CARE SCHOOL DAYS/WEEKENDS/BOTH-4	5	100.00%
NCBFAFT4	CE9-NONREL CARE RECEIVED BEF/AFT SCHL-4	5	100.00%
NCWEEK4	CE10-NONREL CARE REG SCHED ONCE/WK-4	5	100.00%
NCMONTH4	CE11-NON-REL CARE REG SCHED ONCE/MO-4	4	100.00%
NCDAYS4	CE12-DAY/WEEK RECEIVES CARE FROM N/REL-4	1	100.00%
NCHRS4	CE13-HRS/WEEK RECEIVES CARE FROM N/REL-4	1	100.00%
NCWKSMO4	CE14-MONTHLY SCHED NREL CARE WKS/MO-4	2	100.00%
NCDAYWK4	CE15-MONTHLY SCHED NONREL CARE DAYS/WK-4	2	100.00%
NCHRSWK4	CE16-MONTHLY SCHED NONREL CARE HRS/WK-4	2	100.00%
NCKIDS4	CE18-# CHILDREN CARED FOR BY NONREL-4	3	100.00%
NCADLTS4	CE19-NUMBER ADULTS GIVING CARE-4	3	100.00%
NCSTRYR4	CE20-AGE NONREL CARE BEGAN/YEARS-4	3	100.00%
NCSTRMM4	CE20-AGE NONREL CARE BEGAN/MONTHS-4	3	100.00%
NCFRIEN4	CE21-LEARNED FROM FRIEND-4	3	100.00%
NC4PEMPL	CE21-LEARNED FROM PLACE OF EMPLOYMENT-4	3	100.00%
NCSCHL4	CE21-LEARNED FROM PUBLIC/PRIVATE SCHL-4	3	100.00%
NCCHURC4	CE21-LEARNED FROM PLACE OF WORSHIP-4	3	100.00%
NCSOCWK4	CE21-LEARNED FROM SOCIAL WORKER-4	3	100.00%
NCADS4	CE21-LEARNED FROM NEWSPAPER ADS-4	3	100.00%
NCAGENC4	CE21-LEARNED FROM R & R AGENCY-4	3	100.00%
NCKNEW4	CE21-R ALREADY KNEW PROVIDER-4	3	100.00%
NCCHILD4	CE21-PROVIDER CARED FOR OTHER CHILD-4	3	100.00%
NCREFER4	CE21-LEARNED FROM REFERENCE MATERIAL-4	3	100.00%
NCBULLE4	CE21-LEARNED FROM BULLETIN BOARDS-4	3	100.00%
NCSOURC4	CE21-LEARNED FROM OTHER SOURCE-4	3	100.00%
NCSPEAK4	CE22-LANGUAGE SPOKEN MOST BY NONREL-4	3	100.00%
NCSICK4	CE23-NONREL CARES WHEN CHILD SICK-4	3	100.00%
NCEDUC4	CE24-NONREL RECV CHILD ED TRAINING-4	3	100.00%
NCFEE4	CE25-ANY FEE FOR NON RELATIVE CARE-4	3	100.00%
NCREL4	CE26A-RELTIVE HELPS PAY FOR N/REL CARE-4	2	100.00%
NCWELF4	CE26B-WELFARE HELPS PAY FOR N/REL CARE-4	2	100.00%
NCEMPL4	CE26C-EMPLYER HELPS PAY FOR N/REL CARE-4	2	100.00%
NCOTHER4	CE26D-SOMEONE ELSE HLP PAY N/REL CARE-4	2	100.00%
NCCOST4	CE27-AMT HH PAYS FOR NONREL CARE-4	2	100.00%
NCUNIT4	CE27-UNIT OF TIME FOR N/REL CARE COST-4	2	100.00%
NCSTHH4	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-4	2	100.00%
NCSTHN4	CE28OV-NUM OF CHILDREN AMOUNT IS FOR-4	2	100.00%
HSWEEK	CF10-HEAD START REG SCHED ONCE/WEEK	326	100.00%
HSMONTH	CF11-HEAD START REG SCHED ONCE/MONTH	6	100.00%
HSDAYS	CF12-DAYS/WEEK ATTENDS HEAD START	320	100.00%

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Table 2.--Item response rates for variables not imputed: ECPP interview--Continued

Variable	Label	Number Eligible	Item Response
HSWKSMO	CF14-MONTHLY SCHED HEAD STRT WEEKS/MO	6	100.00%
HSDAYSWK	CF15-MONTHLY SCHED HEAD STRT DAYS/WK	6	100.00%
HSHRSWK	CF16-MONTHLY SCHED HEAD START HOURS/WK	6	100.00%
HSREL	CF31A-RELATIVE HELPS PAY FOR HEAD START	76	100.00%
HSEMPL	CF31C-EMPLOYER HELPS PAY FOR HEAD START	76	100.00%
HSOTHER	CF31D-SOMEONE ELSE HELPS PAY FOR HD STRT	76	100.00%
HSCOSTHN	CF33OV-NUM OF CHILDREN AMOUNT IS FOR	2	100.00%
CPARRNEW	CG9-NUM CTR-BASED PROGRAMS ATTENDS	3,094	100.00%
CPPLACE2	CG10-LOCATION OF CTR BASED PROGRAM-2	91	100.00%
CPPLACK2	CG11-SAME PLACE ATTENDS SCHOOL-2	13	100.00%
CPWEEK2	CG19-PROGRAM IS REG SCHED ONCE/WK-2	91	100.00%
CPMONTH2	CG20-PROGRAM IS REG SCHED ONCE/MO-2	9	100.00%
CPDAYS2	CG21-DAYS/WEEK ATTENDS CTR BASED PGM-2	82	100.00%
CPWKSMO2	CG23-MONTHLY SCHED PROGRAM WEEKS/MO-2	2	100.00%
CPDAYWK2	CG24-MONTHLY SCHED PROGRAM DAYS/WK-2	2	100.00%
CPHRSWK2	CG25-MONTHLY SCHED PROGRAM HOURS/WK-2	2	100.00%
CPPLACE3	CG10-LOCATION OF CTR BASED PROGRAM-3	2	100.00%
CPWORK3	CG12-IS CTR BASED PRGRM AT WORK PLACE-3	2	100.00%
CPPUBL3	CG13-PUBLIC/PRIVATE CTR BASED PROGRAM-3	2	100.00%
CPGOVT3	CG14-IS PROGRAM RUN BY GOVT AGENCY-3	2	100.00%
CPTIME3	CG15-TIME FR CHLD HME TO CTR BASED PGM-3	2	100.00%
CPSCHED3	CG16-FULL OR PART-DAY CTR BASED PRGM-3	1	100.00%
CPWHEN3	CG17-ATTENDS PGM SCHL DAYS/WKNDS/BOTH-3	1	100.00%
CPBFAFT3	CG18-ATTENDS PROGRAM BEF/AFT SCHOOL-3	1	100.00%
CPWEEK3	CG19-PROGRAM IS REG SCHED ONCE/WK-3	2	100.00%
CPDAYS3	CG21-DAYS/WEEK ATTENDS CTR BASED PGM-3	2	100.00%
CPHRS3	CG22-HOURS/WEEK ATTENDS CTR BASED PGM-3	2	100.00%
CPKIDS3	CG27-CHILDREN IN SAME GROUP AT PRGRM-3	2	100.00%
CPADLTS3	CG28-ADULTS IN SAME GROUP AT PROGRAM-3	2	100.00%
CPSTRYR3	CG29-AGE STARTED CTR BASED PRGRM/YRS-3	2	100.00%
CPSTRMM3	CG29-AGE STARTED CTR BASED PRGRM/MOS-3	2	100.00%
CPFRIEN3	CG30-LEARNED FROM FRIEND-3	2	100.00%
CPLEMPL3	CG30-LEARNED FROM PLACE OF EMPLOYMENT-3	2	100.00%
CPSCHL3	CG30-LEARNED FROM PUBLIC/PRIVATE SCHL-3	2	100.00%
CPCHURC3	CG30-LEARNED FROM PLACE OF WORSHIP-3	2	100.00%
CPSOCWK3	CG30-LEARNED FROM SOCIAL WORKER-3	2	100.00%
CPADS3	CG30-LEARNED FROM NEWSPAPER ADS-3	2	100.00%
CPAGENC3	CG30-LEARNED FROM R & R AGENCY-3	2	100.00%
CPKNEW3	CG30-ALREADY KNEW PROVIDER-3	2	100.00%
CPCHILD3	CG30-PROVIDER CARED FOR OTHER CHILD-3	2	100.00%
CPREFER3	CG30-LEARNED FROM REFERENCE MATERIAL-3	2	100.00%
CPBULLE3	CG30-LEARNED FROM BULLETIN BOARDS-3	2	100.00%
CPSOURC3	CG30-LEARNED FROM OTHER SOURCE-3	2	100.00%
CPSPEAK3	CG31-LANGUAGE CTR BASED TEACHER SPKS-3	2	100.00%
CPEDUC3	CG32-CTR BASED TCHER RECD CHLD ED TRNG-3	2	100.00%
CPARHRS3	CG33-PRGRM ENCOURAGES PARENT GIVE HRS-3	2	100.00%
CPARWRK3	CG34-PARENT WORKED AT PRGRM IN LAST MO-3	2	100.00%
CPTEST3	CG36A-PGM HAS HEAR/SPEECH/VISION TESTS-3	2	100.00%

Table 2.--Item response rates for variables not imputed: ECPP interview--Continued

Variable	Label	Number Eligible	Item Response
CPHYSEX3	CG36B-PROGRAM PROVIDES PHYSICAL EXAMS-3	2	100.00%
CPDENTA3	CG36C-PRGRM PROVIDES DENTAL EXAMS-3	2	100.00%
CPDISAB3	CG36D-PRGRM TESTS FOR DEVEL PROBS-3	2	100.00%
CPSICK3	CG36E-PROGRAM PROVIDES SICK CHILD CARE-3	2	100.00%
CPFEE3	CG37-ANY FEE FOR CTR BASED PROGRAM-3	2	100.00%
CPREL3	CG38A-REL HELPS PAY F/CTR BASED PGM-3	2	100.00%
CPWELF3	CG38B-WELFARE HELPS PAY CTR BASED PGM-3	2	100.00%
CPEMPL3	CG38C-EMPLOYER HELPS PAY CTR BASED PGM-3	2	100.00%
CPOTHER3	CG38D-SMONE ELSE HLPS PAY CTR BASD PGM-3	2	100.00%
PCNUM	CK2-NUMBER OF ARRNGMTS SINCE SEPT	331	100.00%
PCWHO2	CK3-WHO PROVIDED CARE OR PROGRAM-2	33	100.00%
SCWEEK	CJ2-CARES FOR SELF ONCE EACH WEEK	107	100.00%
SCMONTH	CJ3-CARES FOR SELF ONCE EACH MONTH	11	100.00%
SCHRSWK	CJ6-MONTHLY SCHED SELF CARE HOURS/WEEK	2	100.00%
HDSERV2	CM11-CTR BASED PRGRM PRVDS SVCS/DISAB-2	11	100.00%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 3.--Percent of imputed cases imputed manually: ECPP interview

Variable	Label	No. cases imputed	Pct. imputed manually
ERESPAGE	EXTENDED RESPONDENT'S AGE	21	100.00%
ERESRELN	EXTENDED R'S RELATIONSHIP TO CHILD	7	57.14%
MOMAGE	MOTHER'S AGE	22	100.00%
DADAGE	FATHER'S AGE	21	100.00%
AGE1	O/HH MEM - #1'S AGE AT SCREENER	13	100.00%
SEX1	O/HH MEM - #1'S GENDER AT SCREENER	3	100.00%
RELATN1	O/HH MEM - #1'S RELATION TO CHILD	18	100.00%
AGE2	O/HH MEM - #2'S AGE AT SCREENER	30	100.00%
SEX2	O/HH MEM - #2'S GENDER AT SCREENER	6	100.00%
RELATN2	O/HH MEM - #2'S RELATION TO CHILD	8	100.00%
AGE3	O/HH MEM - #3'S AGE AT SCREENER	8	100.00%
SEX3	O/HH MEM - #3'S GENDER AT SCREENER	1	100.00%
RELATN3	O/HH MEM - #3'S RELATION TO CHILD	5	100.00%
AGE4	O/HH MEM - #4'S AGE AT SCREENER	17	100.00%
SEX4	O/HH MEM - #4'S GENDER AT SCREENER	4	100.00%
RELATN4	O/HH MEM - #4'S RELATION TO CHILD	3	100.00%
AGE5	O/HH MEM - #5'S AGE AT SCREENER	6	100.00%
SEX5	O/HH MEM - #5'S GENDER AT SCREENER	1	100.00%
RELATN5	O/HH MEM - #5'S RELATION TO CHILD	2	100.00%
AGE6	O/HH MEM - #6'S AGE AT SCREENER	7	100.00%
RELATN6	O/HH MEM - #6'S RELATION TO CHILD	3	100.00%
AGE7	O/HH MEM - #7'S AGE AT SCREENER	8	100.00%
RELATN7	O/HH MEM - #7'S RELATION TO CHILD	3	100.00%
AGE8	O/HH MEM - #8'S AGE AT SCREENER	3	100.00%
AGE9	O/HH MEM - #9'S AGE AT SCREENER	2	100.00%
HOMEK	CA15-HOME SCHOOLING HISTORY-GRADE K	4	50.00%
KPAGEYR	CB3-AGE CHILD STARTED K/YEARS	84	3.57%
KPYRS	CB4-CHILD ATTENDED 1 OR 2 YRS OF K	33	3.03%
KPHRS	CB12-NUM OF HOURS/WEEK CHILD ATTENDS K	19	5.26%
KPKINHRS	CB14-HOURS CHILD IN K ITSELF EA WK	9	11.11%
PREPEAT	CC11-CHILD HAS REPEATED A GRADE	10	30.00%
RCAGEYR	CD3-AGE 1ST RECEIVED RELATIVE CARE/YEARS	203	0.49%
RCAGEMO	CD3-AGE 1ST RECEIVED REL CARE/MONTHS	358	0.27%
RCINHH1	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-1	67	11.94%
RCUNIT1	D27-UNIT OF TIME FOR REL CARE COST-1	117	2.56%
RCWHEN1	D9-RECEIVES REL CARE DAYS/WKENDS BOTH-1	52	5.77%
RCHRS1	CD14-HRS/WK RECEIVES CARE F/RELATIVE-1	69	5.79%
RCSTRYR1	CD21-AGE RELATIVE CARE BEGAN/YEARS-1	227	0.44%
RCSTHN1	CD28OV-# OF CHILDREN AMOUNT IS FOR-1	42	16.66%
RCFEE1	D25-ANY FEE FOR RELATIVE CARE-1	128	1.56%
RCCOST1	D27-AMT HH PAYS FOR RELATIVE CARE-1	116	0.86%
RCINHH2	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-2	6	50.00%
RCHRS2	CD14-HRS/WK RECEIVES CARE F/RELATIVE-2	8	25.00%
RCCOST2	CD27-AMT HH PAYS FOR RELATIVE CARE-2	9	11.11%
RCUNIT2	CD27-UNIT OF TIME FOR REL CARE COST-2	9	11.11%
RCSTHH2	CD28-COST REL CARE CHLD ONLY/OTHRS IN-2	7	14.28%
RCINHH3	CD7-REL CAREGIVER LIVES IN HOUSEHOLD-3	1	100.00%
NCAGEYR	CE3-AGE 1ST RECEIVED NONREL CARE/YEARS	88	1.13%

Table 3.--Percent of imputed cases imputed manually: ECPP interview--Continued

Variable	Label	No. cases imputed	Pct. imputed manually
NCAGEMO	CE3-AGE 1ST RECVED NONREL CARE/MONTHS	216	0.46%
NCINHH1	CE6-NONREL CARE PROVIDER LIVES IN HH-1	10	10.00%
NCKIDS1	CE18-# CHILDREN CARED FOR BY NONREL-1	91	2.19%
NCCOST1	CE27-AMT HH PAYS FOR NONREL CARE-1	205	6.34%
NCUNIT1	CE27-UNIT OF TIME FOR N/REL CARE COST-1	202	6.44%
NCSTHH1	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-1	154	9.09%
NCSTHN1	CE28OV-NUM OF CHILDREN AMOUNT IS FOR-1	67	14.92%
NCWKSMO2	CE14-MONTHLY SCHED NREL CARE WKS/MO-2	1	100.00%
NCDAYWK2	CE15-MONTHLY SCHED NONREL CARE DAYS/WK-2	1	100.00%
NCHRSWK2	CE16-MONTHLY SCHED NONREL CARE HRS/WK-2	1	100.00%
NCCOST2	CE27-AMT HH PAYS FOR NONREL CARE-2	5	20.00%
NCSTHH2	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-2	4	25.00%
HSAGEYR	CF3-AGE 1ST ATTENDED HEAD START/YEARS	37	2.70%
HSAGEMO	CF3-AGE 1ST ATTENDED HEAD START/MONTHS	180	0.55%
HSTYPE	CF9-FULL-DAY OR PART-DAY HEAD START	4	25.00%
HSHRS	CF13-HOURS/WEEK ATTENDS HEAD START	4	25.00%
HSHRSONL	CF19-HOURS IN HEAD STRT ITSELF/WEEK	7	42.85%
HSCOST	CF32-AMT HH PAYS FOR HEAD START	5	20.00%
HSUNIT	CF32-UNIT OF TIME FOR HEAD START COST	5	20.00%
CPWORK1	CG12-IS CTR BASED PRGRM AT WORK PLACE-1	15	66.66%
CPSCHED1	CG16-FULL OR PART-DAY CTR BASED PRGM-1	18	27.77%
CPDAYS1	CG21-DAYS/WEEK ATTENDS CTR BASED PGM-1	9	11.11%
CPHRS1	CG22-HOURS/WEEK ATTENDS CTR BASED PGM-1	27	18.51%
CPKIDS1	CG27-CHILDREN IN SAME GROUP AT PRGRM-1	237	0.42%
CPWELF1	CG38B-WELFARE HELPS PAY CTR BASED PGM-1	22	4.54%
CPCOST1	CG39-AMT HH PAYS FOR CTR-BASED PROGRAM-1	181	25.41%
CPUNIT1	CG39-UNIT OF TIME FOR PROGRAM COST-1	184	26.63%
CPCSHH1	CG40-COST PROG CHLD ONLY/OTHERS IN HH-1	162	2.46%
CPCSHN1	CG40OV-NUM OF CHILDREN AMOUNT IS FOR-1	19	10.52%
CPCOST2	CG39-AMT HH PAYS FOR CTR BASED PROGRAM-2	10	60.00%
CPUNIT2	CG39-UNIT OF TIME FOR PROGRAM COST-2	11	63.64%
CPCSHH2	CG40-COST PROG CHLD ONLY/OTHERS IN HH-2	7	14.28%
PCOTHER	CK1-ANY OTHER REGULAR CARE ARRNG	75	1.33%
PCENDYY1	CK5-YEAR PREVIOUS ARRANGEMENT ENDED-1	13	7.69%
PCENDMM1	CK5-MONTH PREVIOUS ARRANGEMENT ENDED-1	15	13.33%
HDSERV1	CM11-CTR BASED PRGRM PRVDS SVCS/DISAB-1	4	100.00%
RCSTHH1	D28-COST REL CARE CHILD ONLY/OTHRS IN-1	74	2.70%
RCSTHN1	D28OV-# OF CHILDREN AMOUNT IS FOR-1	40	25.00%
NCWHEN1	E8-CARE SCHOOL DAYS/WEEKENDS/BOTH-1	36	2.78%
HDMIXALL	CM13-TIME SPENT IN MIXED CLASS/GROUP-1	4	25.00%
MOMNEW	CN2-MOM'S AGE WHEN FIRST BECAME A MOTHER	106	11.32%
MOMUSAGE	CN6-AGE WHEN MOM MOVED TO US	80	6.25%
MOMEARN	CN12-MOM'S EARNINGS	1198	0.08%
MOMUNIT	CN12-UNIT OF PAY FOR MOM'S EARNINGS	1213	1.48%
MOMMTHS	CN13-MONTHS MOM WORKED IN PAST YEAR	166	1.20%
MOMPUBL	CN15-MOM CHECKED PUBLIC EMPLOY AGENCY	21	9.52%
MOMPRIV	CN15-MOM CHECKED PRIVATE EMPLOY AGENCY	21	9.52%
MOMEMPL	CN15-MOM CHECKED W/EMPLOYER DIRECTLY	21	9.52%

Table 3.--Percent of imputed cases imputed manually: ECPP interview--Continued

Variable	Label	No. cases imputed	Pct. imputed manually
MOMREL	CN15-MOM CHECKED W/FRIENDS/RELATIVES	21	9.52%
MOMANSAD	CN15-MOM PLACED OR ANSWERED ADS	21	9.52%
MOMREAD	CN15-MOM READ WANT ADS	21	9.52%
MOMOTHER	CN15-MOM DID OTHER THINGS TO FIND WORK	21	9.52%
MOMCARE	CN20-PRIMARY ARRANG MOM AT WORK/SCHOOL	89	100.00%
MOMCAROT	CN21-PRIM ARRNG COVER ALL WORK/SCHL HRS	95	100.00%
MOMCARWH	CN22-SECONDARY ARRANG MOM AT WORK/SCHL	45	100.00%
DADUSAGE	CO4-AGE WHEN DAD MOVED TO US	229	1.75%
DADPUBL	CO11-DAD CHECKED PUBLIC EMPLOY AGENCY	26	7.69%
DADPRIV	CO11-DAD CHECKED PRIVATE EMPLOY AGENCY	26	7.69%
DADEMPL	CO11-DAD CHECKED W/EMPLOYER DIRECTLY	26	7.69%
DADREL	CO11-DAD CHECKED W/FRIENDS/RELATIVES	26	7.69%
DADANSAD	CO11-DAD PLACED OR ANSWERED ADS	26	7.69%
DADREAD	CO11-DAD READ WANT ADS	26	7.69%
DADOTHER	CO11-DAD DID OTHER THINGS TO FIND WORK	26	7.69%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 4.--Variables with an item repsonse rate of less than 90% and a sample size greater than 25: ECPP interview

Variable	Label	Number Eligible	Item Response
HINCMEXT	CP8OV-EXACT HH INCOME NEAREST $1000	1,016	59.94%
HSUNIT	CF32-UNIT OF TIME FOR HEAD START COST	62	91.94%
HSHRSONL	CF19-HOURS IN HEAD STRT ITSELF/WEEK	33	78.79%
RCSTHH2	CD28-COST REL CARE CHLD ONLY/OTHRS IN-2	36	80.56%
HDMIX	CM12-DISABILITY MIXTURE OF CLASS/GROUP	28	82.14%
HSEDUC	CF25-HD STRT TEACHER RECV CHLD ED TRAIN	326	82.21%
CPCSHH2	CG40-COST PROG CHLD ONLY/OTHERS IN HH-2	40	82.50%
RCCOST2	CD27-AMT HH PAYS FOR RELATIVE CARE-2	52	82.69%
RCUNIT2	CD27-UNIT OF TIME FOR REL CARE COST-2	52	82.69%
CPEDUC1	CG32-CTR BASED TCHER RECD CHLD ED TRNG-1	3,068	82.92%
NCEDUC1	CE24-NONREL RECV CHILD ED TRAINING-1	2,099	83.33%
CPKIDS2	CG27-CHILDREN IN SAME GROUP AT PRGRM-2	84	83.33%
RCUNIT1	CD27-UNIT OF TIME FOR REL CARE COST-1	766	84.72%
RCSTHN1	CD28OV-# OF CHILDREN AMOUNT IS FOR-1	261	84.67%
CPMIX1	CM12-DISABLITY MIXTURE OF CLASS/GROUP-1	67	85.08%
MOMUNIT	CN12-UNIT OF PAY FOR MOM'S EARNINGS	8,078	84.98%
RCCOST1	CD27-AMT HH PAYS FOR RELATIVE CARE-1	780	85.13%
MOMEARN	CN12-MOM'S EARNINGS	8,078	85.17%
CPUNIT2	CG39-UNIT OF TIME FOR PROGRAM COST-2	63	82.54%
CPARADV2	CG35-PROGRAM HAS PARENT ADVISORY GROUP-2	84	85.71%
RCSTHH1	CD28-COST REL CARE CHLD ONLY/OTHRS IN-1	522	85.82%
HINCOME	CP8-TOTAL HOUSEHOLD INCOME	14,064	85.94%
NCEDUC2	CE24-NONREL RECV CHILD ED TRAINING-2	129	86.05%
CPARADV1	CG35-PROGRAM HAS PARENT ADVISORY GROUP-1	3,068	86.28%
RCHRSWK2	CD17-MONTHLY SCHED REL CARE HOURS/WK-2	59	86.44%
RCWKSMO1	CD15-MONTHLY SCHED REL CARE WKS/MO-1	52	86.54%
NCSTHN1	CE28OV-NUM OF CHILDREN AMOUNT IS FOR-1	501	86.63%
CPEDUC2	CG32-CTR BASED TCHER RECD CHLD ED TRNG-2	84	86.91%
HSAGEMO	CF3-AGE 1ST ATTENDED HEAD START/MONTHS	1,392	87.07%
NCUNIT1	CE27-UNIT OF TIME FOR N/REL CARE COST-1	1,848	89.07%
CPCSHN1	CG40OV-NUM OF CHILDREN AMOUNT IS FOR-1	157	87.90%
NCSTHH1	CE28-CST N/REL CARE 1 CHLD/OTRS IN HH-1	1,249	87.67%
HSGOVT	CF7-IS HEAD START RUN BY GOVT AGENCY	326	87.73%
DADUSAGE	CO4-AGE WHEN DAD MOVED TO US	1,890	87.88%
KPKINHRS	CB14-HOURS CHILD IN K ITSELF EA WK	77	88.31%
RCDAYWK1	CD16-MONTHLY SCHED REL CARE DAYS/WK-1	52	88.46%
HSPARADV	CF28-HD STRT HAS PARENT ADVISORY GROUP	326	88.65%
HSDISABL	CF29D-HD STRT HAS TESTS FOR DEVEL PROBS	326	88.96%
NCCOST1	CE27-AMT HH PAYS FOR NONREL CARE-1	1,890	89.15%
PAGEMO	CC1-AGE STARTED 1ST GRADE/MONTHS	85	89.41%
RCSTRMM1	CD21-AGE RELATIVE CARE BEGAN/MONTHS-1	2,895	89.64%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 5.--Item response rates for imputed variables: AE interview

Variable	Label	Number Eligible	Item Response
AGE1	O/HH MEM - #1'S AGE AT SCREENER	17,302	99.87%
SEX1	O/HH MEM - #1'S GENDER AT SCREENER	17,302	99.99%
AGE2	O/HH MEM - #2'S AGE AT SCREENER	10,976	99.72%
SEX2	O/HH MEM - #2'S GENDER AT SCREENER	10,976	99.97%
AGE3	O/HH MEM - #3'S AGE AT SCREENER	6,942	99.58%
SEX3	O/HH MEM - #3'S GENDER AT SCREENER	6,942	99.99%
AGE4	O/HH MEM - #4'S AGE AT SCREENER	2,847	99.16%
SEX4	O/HH MEM - #4'S GENDER AT SCREENER	2,847	99.90%
AGE5	O/HH MEM - #5'S AGE AT SCREENER	1,049	99.14%
AGE6	O/HH MEM - #6'S AGE AT SCREENER	404	97.03%
SEX6	O/HH MEM - #6'S GENDER AT SCREENER	404	99.51%
AGE7	O/HH MEM - #7'S AGE AT SCREENER	165	97.58%
AGE8	O/HH MEM - #8'S AGE AT SCREENER	72	97.22%
AGE9	O/HH MEM - #9'S AGE AT SCREENER	42	92.86%
AGE10	O/HH MEM - #10'S AGE AT SCREENER	21	90.48%
IBGRADE	AA1-HIGHEST GRADE/YR OF SCHL COMPLETED	19,722	99.71%
IBGRAD1	AA1-ACTUAL GRADE 0-8 COMPLETED	1,039	99.23%
IBGRAD2	AA1-ACTUAL GRADE 9-11 COMPLETED	1,717	99.13%
IBVOCDIP	AA1OV-RECEIVED VOC/TECH DIPLOMA	4,002	99.60%
IBDIPL	AA2-HIGH SCHOOL DIPLOMA	8,960	99.92%
IBUSDIPL	AA3-HIGH SCHOOL DIPLOMA IN U.S.	11,498	99.87%
IBDIPLYR	AA4-HS DIP/EQUIV HS DIP IN LAST 12 MO	11,498	99.92%
IBGED	AA5-HIGH SCHOOL DIPLOMA THROUGH GED	17,198	99.49%
IBWORK12	AA6-WORK AT A JOB IN PAST 12 MONTHS	19,722	99.97%
IBSELFEM	AA7-SELF-EMPLOYED IN PAST 12 MO	15,178	99.91%
IBOTHEMP	AA8-OTHER EMPLYR BESIDES SELF-EMPLYMNT	2,794	99.89%
IBEMPL12	AA9-NUMBER OF EMPLOYERS IN PAST 12 MO	15,178	99.91%
IBLANG	AA10-FIRST LANGUAGE LEARNED TO SPEAK	19,722	99.81%
IBSPEAK	AA11-LANGUAGE SPOKEN MOST AT HOME	19,722	99.82%
ESLANG	AB1-ESL CLASSES	1,427	99.79%
ESCOLL	AB1OV-ESL IS PART OF COLLEGE PROGRAM	229	98.25%
ESDIFF	AB2-NUMBER OF ESL PROGRAMS	131	98.47%
ESREASON	AB3-MAIN REASON FOR ESL CLASSES	131	99.24%
ESTIME	AB4-PART-TIME OR FULL-TIME ESL STUDENT	131	96.18%
ESLEARN	AB5-HOW LEARNED ABOUT ESL CLASSES	131	98.47%
ESWHEN	AB6-TIME SPENT IN ESL CLASSES	229	96.94%
ESWHENUN	AB6-UNIT OF TIME IN ESL CLASSES	229	96.94%
ESWKS	AB6OV-HOW MANY WEEKS IN ESL CLASSES	0	NA
ESHRS	AB7-HRS ATTENDED ESL CLASSES	229	98.25%
ESHRSUNT	AB7-UNIT OF TIME ATTENDED ESL	229	98.25%
ESTUITON	AB8-EXPENSES FOR ESL CLASSES	131	86.26%
ESPROVTY	AB10-TYPE OF INSTRUCTION PROVIDER	131	96.18%
ESPLACE	AB12-TYPE OF LOCATION	131	96.95%
ESPROVEM	AB13-INSTRUCTION PROVIDER WAS EMPLOYER	123	52.03%
ESAWARE	AB14-EMPLOYER AWARE OF ESL CLASSES	123	54.47%
ESEMPREQ	AB15A-EMPLOYER REQUIRED ESL CLASSES	70	50.00%
ESEMPWP	AB15B-EMPLOYER GAVE TIME OFF W/WO PAY	70	50.00%
ESEMPSPA	AB15C-EMPLOYER PROVIDED CLASSROOM SPACE	70	50.00%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
ESEMPPAY	AB15D-EMPLOYER PAID ALL/PART OF COSTS	70	48.57%
ESUNION	AB17-EMPLOYER SUPPORT THRU UNION AGREE	36	44.44%
ESAGAIN	AB18-WOULD TAKE ESL CLASS AGAIN	131	96.18%
ESINTRST	AB19-INTERESTED IN TAKING ESL CLASSES	1,198	99.75%
ESHOWINT	AB20-LEVEL OF INTEREST IN TAKING ESL	319	99.06%
ESKNOW	AB21-KNEW OF ESL CLASSES TO TAKE	319	99.69%
ESPRCOST	AB22B-MONEY/COST WAS A BARRIER TO ESL	135	99.26%
ESTIFAM	AB24AA-DESIRE TO SPEND TIME WITH FAMILY	55	98.18%
ESTICHOR	AB24AB-NEED TO DO HOUSEHOLD CHORES	55	98.18%
ESTICLHR	AB24AC-UNABL TO TAKE CLSSES DURNG WRK	42	97.62%
ESTIWORK	AB24AD-WORK RESPONSBLTS DO NOT PERMIT	42	97.62%
ESTIACTI	AB24AE-ACTIVITIES OUTSIDE WORK CONFLICT	55	98.18%
ESTITRAV	AB24AF-TIME-TRAVEL TIME TO/FROM CLASSES	55	98.18%
ESTIOTH	AB24AG-ANOTHER TIME RELATED PROBLEM	55	98.18%
ESMOTUIT	AB24BA-AMOUNT OF TUITION AND FEES	32	96.88%
ESMOBOOK	AB24BB-COST OF BOOKS AND SUPPLIES	32	96.88%
ESCHOTH	AB24CC-ANTHR CHILD CARE-RLTD PROBLEM	22	95.46%
ESPRSPEC	AB25-MAIN SPECIFIC BARRIER TO ESL	115	97.39%
BSIMPROV	AC1A-BASIC SKILLS CLASSES	3,629	99.84%
BSGED	AC1B-GED PREPARATION CLASSES	3,629	99.78%
BSHSEQUV	AC1C-OTHER HS EQUIVALENCY PROGRAM	3,629	99.78%
BSREASON	AC2-MAIN REASON FOR ABE/GED CLASSES	456	99.56%
BSTIME	AC3-PART-TIME OR FULL-TIME STUDENT	456	99.12%
BSLEARN	AC4-HOW LEARNED ABOUT ABE/GED CLASSES	456	98.68%
BSWHEN	AC5-TIME SPENT IN ABE/GED CLASSES	456	95.40%
BSWHENUN	AC5-UNIT OF TIME IN ABE/GED CLASSES	456	95.40%
BSWKS	AC5OV-HOW MANY WEEKS	3	66.67%
BSHRS	AC6-HRS ATTENDED ABE/GED CLASSES	456	98.47%
BSHRSUNT	AC6-UNIT FOR HOURS ATTENDED ABE/GED	456	98.47%
BSTUITON	AC7-AMT FOR EXPENSES FOR ABE/GED CLASSES	456	92.54%
BSPROVTY	AC9-TYPE OF INSTRUCTION PROVIDER	456	96.05%
BSPLACE	AC11-TYPE OF LOCATION	456	94.96%
BSPROVEM	AC12-INSTRUCTION PROVIDER WAS EMPLOYER	308	99.68%
BSAWARE	AC13-EMPL AWARE OF ABE/GED CLASS TAKEN	308	98.38%
BSEMPREQ	AC14A-EMPLOYER REQUIRED ABE/GED CLASSES	181	97.79%
BSEMPWP	AC14B-EMPLOYER GAVE TIME OFF W/WO PAY	181	97.79%
BSEMPSPA	AC14C-EMPLOYER PROVIDED CLASSROOM SPACE	181	96.69%
BSEMPPAY	AC14D-EMPLOYER PAID ALL/PART OF COSTS	181	97.24%
BSUNION	AC16-EMPLOYER SUPPORT THRU UNION AGREE	100	91.00%
BSINTRST	AC18-INTRSTD IN TAKING ABE/GED CLASSES	2,614	99.62%
BSHOWINT	AC19-LEVEL OF INTEREST IN ABE/GED	491	99.19%
BSKNOW	AC20-KNEW OF ABE/GED CLASSES TO TAKE	491	99.39%
BSPRTIME	AC21A-TIME WAS BARRIER TO ABE/GED	179	98.88%
BSPRTRAN	AC21D-TRANSPORTATION BARRIER TO ABE/GED	179	99.44%
BSPROTH	AC21E-OTHER GENERAL BARRIER TO ABE/GED	179	99.44%
BSPRGEN	AG22-MAIN GENERAL BARRIER TO ABE/GED	172	98.84%
BSTIFAM	AC23AA-DESIRE TO SPEND TIME WITH FAMILY	79	98.73%
BSTICHOR	AC23AB-NEED TO DO HOUSEHOLD CHORES	79	98.73%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
BSTICLHR	AC23AC-CANNOT TAKE CLASSES DURING WORK	73	98.63%
BSTIWORK	AC23AD-WORK RESPONSBLTIES DO NOT PERMIT	73	98.63%
BSTIACTI	AC23AE-ACTIVITIES OUTSIDE WORK CONFLICT	79	98.73%
BSTITRAV	AC23AF-TIME-TRAVEL TO/FROM CLASSES	79	97.47%
BSTIOTH	AC23AG-ANOTHER TIME RELATED PROBLEM	79	98.73%
BSMOTUIT	AC23BA-AMOUNT OF TUITION AND FEES	36	94.44%
BSMOBOOK	AC23BB-COST OF BOOKS AND SUPPLIES	36	97.22%
BSMOCHIL	AC23BC-COST-COST OF CHILD CARE	19	94.74%
BSMOTRAN	AC23BD-COST-COST OF TRANSPORTATION	36	97.22%
BSMOOTH	AC23BE-ANOTHER MONEY/COST PROBLEM	36	94.44%
BSCHCOST	AC23CA-CHILD-COST OF CHILD CARE	20	95.00%
BSCHAVAL	AC23CB-AVAILABILITY OF CHILD CARE	20	95.00%
BSCHOTH	AC23CC-ANOTHER CHILD RELATED PROBLEM	20	95.00%
BSTRTIME	AC23DC-TRANS-TRAVEL TIME TO/FROM CLASSES	17	94.12%
BSPRSPEC	AC24-MAIN SPECIFIC BARRIER TO ABE/GED	148	97.30%
CRDEGREE	AD1A-COLLEGE OR UNIVERSITY PROGRAM	19,722	99.94%
CRVOCDIP	AD1B-VOC/TECH PROGRAM	19,722	99.92%
CRDIPLO1	AD3-TYPE OF DEGREE PROGRAMS-1	3,779	99.95%
CIPF1	MAJOR FIELD OF STUDY CODE-1	3,779	99.68%
CRREASO1	AD5-MAIN REASON FOR CRED PROGRAM-1	3,779	99.87%
CRTRMFT1	AD7A-MTHS ENROLLED IN CRED FULL-TIME-1	3,779	99.68%
CRTRMPT1	AD7B-MTHS ENROLLED IN CRED PART-TIME-1	3,779	99.13%
CRSCHLS1	AD7C-DIFFERENT SCHOOLS FOR CRED-1	29	96.55%
CR12NUM1	AD8-NUMBER OF CRED COURSES-1	3,779	98.47%
CRPTNUM1	AD9-NUMBER CRED CLASSES PART-TIME-1	1,797	98.50%
CR1LENUM	AD11-LENGTH OF VOC PROGRAM-1	550	82.36%
CRLENUN1	AD11-UNIT OF LENGTH - VOC PROGRAM-1	550	82.36%
CRFTHRS1	AD12A-HRS/WEEK ATTENDED CRED FULL-TIME-1	2,375	98.06%
CRPTHRS1	AD12B-HRS/WEEK ATTENDED CRED PART-TIME-1	1,797	96.27%
CRTUITO1	AD13-EXPENSES FOR CRED-1	3,779	95.77%
CR1PRTYP	AD15-TYPE OF INSTRUCTION PROVIDER-1	3,779	99.47%
CR1PREMP	AD16-CRED INSTRUCT PROVIDER WAS EMPLYR-1	3,238	99.88%
CR1ASSIS	AD16OV-ASSISTSHIPS/FELLOWSHIP/WK-STUDY-1	368	97.28%
CRCURAS1	AD16OV2-HAS ASSTSHIP/WK-STDY CURRENTLY-1	241	97.10%
CRAWARE1	AD17-EMPLOYER AWARE CRED PROGRAM-1	2,997	98.83%
CR1EMREQ	AD18A-EMPLOYER REQUIRED CRED PROGRAM-1	2,595	98.84%
CR1EMPWP	AD18B-EMPLOYER GAVE TIME OFF W/WO PAY-1	2,595	98.50%
CR1EMSPA	AD18C-EMPLYER PROVIDED CLASSROOM SPACE-1	2,595	98.57%
CR1EMPAY	AD18D-EMPLOYER PAID ALL/PART OF COSTS-1	2,595	98.57%
CRUNION1	AD20-EMPLOYER SUPPORT THRU UNION AGREE-1	1,564	97.63%
CRREASO2	AD5-MAIN REASON FOR CRED PROGRAM-2	361	99.72%
CRTRMFT2	AD7A-MTHS ENROLLED IN CRED FULL-TIME-2	361	97.51%
CRTRMPT2	AD7B-MTHS ENROLLED IN CRED PART-TIME-2	361	96.40%
CRSCHLS2	AD7C-DIFFERENT SCHOOLS FOR CRED-2	1	0.00%
CR12NUM2	AD8-NUMBER OF CRED COURSES-2	361	96.40%
CRPTNUM2	AD9-NUMBER CRED CLASSES PART-TIME-2	175	97.71%
CR2LENUM	AD11-LENGTH OF VOC PROGRAM-2	62	77.42%
CRLENUN2	AD11-UNIT OF LENGTH - VOC PROGRAM-2	62	77.42%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
CRFTHRS2	AD12A-HRS/WEEK ATTENDED CRED FULL-TIME-2	204	93.14%
CRPTHRS2	AD12B-HRS/WEEK ATTENDED CRED PART-TIME-2	175	91.43%
CRTUITO2	AD13-EXPENSES FOR CRED-2	361	95.85%
CR2PRTYP	AD13-TYPE OF INSTRUCTION PROVIDER-2	361	98.06%
CR2PREMP	AD16-CRED INSTRUCT PROVIDER WAS EMPLYR-2	328	98.78%
CR2ASSIS	AD16OV-ASSISTSHIPS/FELLOWSHIP/WK-STUDY-2	34	97.06%
CRCURAS2	AD16OV2-HAS ASSTSHIP/WK-STDY CURRENTLY-2	17	88.24%
CRAWARE2	AD17-EMPLOYER AWARE CRED PROGRAM-2	311	97.11%
CR2EMREQ	AD18A-EMPLOYER REQUIRED CRED PROGRAM-2	256	97.66%
CR2EMPWP	AD18B-EMPLOYER GAVE TIME OFF W/WO PAY-2	256	97.27%
CR2EMSPA	AD18C-EMPLYER PROVIDED CLASSROOM SPACE-2	256	97.27%
CR2EMPAY	AD18D-EMPLOYER PAID ALL/PART OF COSTS-2	256	97.66%
CRUNION2	AD20-EMPLOYER SUPPORT THRU UNION AGREE-2	171	97.08%
CIPF3	MAJOR FIELD OF STUDY CODE-3	10	90.00%
CRTRMPT3	AD7B-MTHS ENROLLED IN CRED PART-TIME-3	10	80.00%
CRSCHLS3	AD7C-DIFFERENT SCHOOLS FOR CRED-3	0	NA
CR3LENUM	AD11-LENGTH OF VOC PROGRAM-3	2	50.00%
CRLENUN3	AD11-UNIT OF LENGTH - VOC PROGRAM-3	2	50.00%
CRPTHRS3	AD12B-HRS/WEEK ATTENDED CRED PART-TIME-3	5	80.00%
CRCURAS3	AD16OV2-HAS ASSTSHIP/WK-STDY CURRENTLY-3	0	NA
CRAWARE3	AD17-EMPLOYER AWARE CRED PROGRAM-3	9	88.89%
CR3EMREQ	AD18A-EMPLOYER REQUIRED CRED PROGRAM-3	9	88.89%
CR3EMPWP	AD18B-EMPLOYER GAVE TIME OFF W/WO PAY-3	9	88.89%
CR3EMSPA	AD18C-EMPLYER PROVIDED CLASSROOM SPACE-3	9	88.89%
CR3EMPAY	AD18D-EMPLOYER PAID ALL/PART OF COSTS-3	9	88.89%
APPRENTI	AE1-APPRENTICESHIP PROGRAM	19,722	99.89%
APEMPLOY	AE4A-EMPLOYER SPONSORED APPR	284	99.30%
APUNION	AE4B-LABOR UNION SPONSORED APPR	284	98.24%
APSTAGOV	AE4C-LOCAL OR STATE GOV SPONSORED APPR	284	96.13%
APFEDGOV	AE4D-FED GOV SPONSORED APPR	284	95.07%
APOTHER	AE4E-SOMEONE ELSE SPONSORED APPR	284	97.89%
APLENNUM	AE5-LENGTH OF APPRENTICESHIP	284	90.49%
APLENUNT	AE5-UNIT OF TIME FOR APPRENTICESHIP	284	90.49%
APOJTHRS	IMPUTATION FLAG	284	92.96%
APOTHHRS	AE7-HRS/WEEK FOR CLASS INSTRUCTION	284	93.31%
WRACTY	AF1-CAREER OR JOB RELATED COURSES	19,722	99.94%
WRREASO1	AF4-MAIN REASON FOR WORK-REL COURSES-1	5,842	99.88%
WRWHEN1	AF6-TIME SPEND IN WORK-REL COURSES-1	5,842	99.01%
WRWHNUN1	AF6-UNIT OF TIME IN WORK-REL COURSES-1	5,842	99.01%
WRWKS1	AF6OV-HOW MANY WEEKS-1	3	0.00%
WRHRS1	AF7-HRS ATTENDED WORK-REL COURSES-1	5,842	98.24%
WRHRUNT1	AF7-UNT/TIME ATTENDED WORK-REL COURSES-1	5,842	98.41%
WRTUITO1	AF8-EXPENSES FOR WORK-REL COURSES-1	5,842	98.75%
WR1PRTYP	AF10-TYPE OF INSTRUCTIONAL PROVIDER-1	5,842	98.97%
WR1PREMP	AF11-WORK-REL INSTRUC PROV WAS EMPLYR-1	5,115	99.90%
WRAWARE1	AF12-EMPLYR AWARE WORK-REL CRSE TAKEN-1	5,115	99.67%
WR1EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-1	4,842	99.46%
WR1EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-1	4,842	99.11%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
WR1EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-1	4,842	99.48%
WR1EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-1	4,842	99.34%
WRUNION1	AF15-EMPLOYER SUPPORT THRU UNION-1	4,466	97.34%
WRAGAIN1	AF16-WOULD TAKE WORK-REL CRSE AGAIN-1	5,842	98.27%
WRREASO2	AF4-MAIN REASON FOR WORK-REL COURSES-2	3,817	99.84%
WRWHEN2	AF6-TIME SPEND IN WORK-REL COURSES-2	3,817	98.69%
WRWHNUN2	AF6-UNIT OF TIME IN WORK-REL COURSES-2	3,817	98.69%
WRWKS2	AF6OV-HOW MANY WEEKS-2	4	25.00%
WRHRS2	AF7-HRS ATTENDED WORK-REL COURSES-2	3,817	98.51%
WRHRUNT2	AF7-UNT/TIME ATTENDED WORK-REL COURSES-2	3,817	98.61%
WRTUITO2	AF8-EXPENSES FOR WORK-REL COURSES-2	3,817	98.61%
WR2PRTYP	AF10-TYPE OF INSTRUCTIONAL PROVIDER-2	3,817	98.98%
WR2PREMP	AF11-WORK-REL INSTRUC PROV WAS EMPLYR-2	3,358	99.70%
WRAWARE2	AF12-EMPLYR AWARE WORK-REL CRSE TAKEN-2	3,358	99.49%
WR2EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-2	3,174	99.21%
WR2EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-2	3,174	99.12%
WR2EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-2	3,174	99.28%
WR2EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-2	3,174	99.18%
WRUNION2	AF15-EMPLOYER SUPPORT THRU UNION-2	2,988	97.62%
WRAGAIN2	AF16-WOULD TAKE WORK-REL CRSE AGAIN-2	3,817	99.14%
WRREASO3	AF4-MAIN REASON FOR WORK-REL COURSES-3	2,261	99.60%
WRWHEN3	AF6-TIME SPEND IN WORK-REL COURSES-3	2,261	98.85%
WRWHNUN3	AF6-UNIT OF TIME IN WORK-REL COURSES-3	2,261	98.85%
WRWKS3	AF6OV-HOW MANY WEEKS-3	2	0.00%
WRHRS3	AF7-HRS ATTENDED WORK-REL COURSES-3	2,261	98.50%
WRHRUNT3	AF7-UNT/TIME ATTENDED WORK-REL COURSES-3	2,261	98.63%
WRTUITO3	AF8-EXPENSES FOR WORK-REL COURSES-3	2,261	98.41%
WR3PRTYP	AF10-TYPE OF INSTRUCTIONAL PROVIDER-3	2,261	98.59%
WR3PREMP	AF11-WORK-REL INSTRUC PROV WAS EMPLYR-3	1,981	99.50%
WRAWARE3	AF12-EMPLYR AWARE WORK-REL CRSE TAKEN-3	1,981	99.55%
WR3EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-3	1,857	99.09%
WR3EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-3	1,857	99.19%
WR3EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-3	1,857	99.25%
WR3EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-3	1,857	99.09%
WRUNION3	AF15-EMPLOYER SUPPORT THRU UNION-3	1,768	97.85%
WRAGAIN3	AF16-WOULD TAKE WORK-REL CRSE AGAIN-3	2,261	98.94%
WRREASO4	AF4-MAIN REASON FOR WORK-REL COURSES-4	1,243	98.79%
WRWHEN4	AF6-TIME SPEND IN WORK-REL COURSES-4	1,243	97.43%
WRWHNUN4	AF6-UNIT OF TIME IN WORK-REL COURSES-4	1,243	97.43%
WRWKS4	AF6OV-HOW MANY WEEKS-4	0	NA
WRHRS4	AF7-HRS ATTENDED WORK-REL COURSES-4	1,243	97.18%
WRHRUNT4	AF7-UNT/TIME ATTENDED WORK-REL COURSES-4	1,243	97.35%
WRTUITO4	AF8-EXPENSES FOR WORK-REL COURSES-4	1,243	96.86%
WR4PRTYP	AF10-TYPE OF INSTRUCTIONAL PROVIDER-4	1,243	97.75%
WR4PREMP	AF11-WORK-REL INSTRUC PROV WAS EMPLYR-4	1,075	98.33%
WRAWARE4	AF12-EMPLYR AWARE WORK-REL CRSE TAKEN-4	1,075	99.07%
WR4EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-4	1,005	97.91%
WR4EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-4	1,005	98.01%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
WR4EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-4	1,005	98.11%
WR4EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-4	1,005	98.01%
WRUNION4	AF15-EMPLOYER SUPPORT THRU UNION-4	963	96.89%
WRAGAIN4	AF16-WOULD TAKE WORK-REL CRSE AGAIN	1,243	97.99%
WRREASO5	AF4-MAIN REASON FOR WORK-REL COURSES-5	716	97.91%
WRWHEN5	AF6-TIME SPEND IN WORK-REL COURSES-5	716	96.23%
WRWHNUN5	AF6-UNIT OF TIME IN WORK-REL COURSES-5	716	96.23%
WRWKS5	AF6OV-HOW MANY WEEKS-5	0	NA
WRHRS5	AF7-HRS ATTENDED WORK-REL COURSES-5	716	95.81%
WRHRUNT5	AF7-UNT/TIME ATTENDED WORK-REL COURSES-5	716	95.81%
WRTUITO5	AF8-EXPENSES FOR WORK-REL COURSES-5	716	95.67%
WR5PRTYP	AF10-TYPE OF INSTRUCTIONAL PROVIDER-5	716	96.23%
WR5PREMP	AF11-WORK-REL INSTRUC PROV WAS EMPLYR-5	620	97.26%
WRAWARE5	AF12-EMPLYR AWARE WORK-REL CRSE TAKEN-5	620	99.03%
WR5EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-5	578	97.06%
WR5EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-5	578	96.89%
WR5EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-5	578	96.89%
WR5EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-5	578	96.89%
WRUNION5	AF15-EMPLOYER SUPPORT THRU UNION-5	553	96.20%
WRAGAIN5	AF16-WOULD TAKE WORK-REL CRSE AGAIN-5	716	97.35%
WRREASO6	AF4-MAIN REASON FOR WORK-REL COURSES-6	404	95.55%
WRWHEN6	AF6-TIME SPEND IN WORK-REL COURSES-6	404	93.32%
WRWHNUN6	AF6-UNIT OF TIME IN WORK-REL COURSES-6	404	93.07%
WRWKS6	AF6OV-HOW MANY WEEKS-6	0	NA
WRHRS6	AF7-HRS ATTENDED WORK-REL COURSES-6	404	93.07%
WRHRUNT6	AF7-UNT/TIME ATTENDED WORK-REL COURSES-6	404	93.07%
WRTUITO6	AF8-EXPENSES FOR WORK-REL COURSES-6	404	93.07%
WR6PRTYP	AF10-TYPE OF INSTRUCTIONAL PROVIDER-6	404	94.31%
WR6PREMP	AF11-WORK-REL INSTRUC PROV WAS EMPLYR-6	352	94.03%
WRAWARE6	AF12-EMPLYR AWARE WORK-REL CRSE TAKEN-6	352	96.88%
WR6EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-6	333	93.99%
WR6EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-6	333	93.99%
WR6EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-6	333	93.99%
WR6EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-6	333	93.99%
WRUNION6	AF15-EMPLOYER SUPPORT THRU UNION-6	315	93.33%
WRAGAIN6	AF16-WOULD TAKE WORK-REL CRSE AGAIN-6	404	94.55%
WRINTRST	AF19-INTERESTED IN TAKING WORK-REL CRSE	13,880	99.66%
WRHOWINT	AF20-LEVEL OF INTEREST IN WORK-REL	3,987	99.75%
WRKNOW	AF21-KNEW OF WORK-REL CRSES TO TAKE	3,987	99.65%
WRPRTIME	AF22A-TIME WAS BARRIER TO WORK-REL	2,536	99.65%
WRPRCOST	AF22B-COST WAS A BARRIER TO WORK-REL	2,536	99.49%
WRPRCHIL	AF22C-CHILD CARE WAS BARRIER TO WORK-REL	938	99.79%
WRPRTRAN	AF22D-TRANSPRTATN BARRIER TO WORK-REL	2,536	99.61%
WRPROTH	AF22E-OTHER GENERAL BARRIER TO WORK-REL	2,536	99.53%
WRPRGEN	AF23-MAIN GENERAL BARRIER TO WORK-REL	2,457	98.86%
WRTIFAM	AF24AA-DESIRE TO SPEND TIME WITH FAMILY	1,154	98.53%
WRTICHOR	AF24AB-NEED TO DO HOUSEHOLD CHORES	1,154	98.53%
WRTICLHR	AF24AC-UNABL TO TAKE CLSSES DURNG WRK	1,063	98.78%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
WRTIWORK	AF24AD-WORK RESPONSBLTS DO NOT PERMIT	1,064	98.97%
WRTIACTI	AF24AE-ACTIVITIES OUTSIDE WORK CONFLICT	1,154	98.35%
WRTITRAV	AF24AF-TIME-TRAVEL TIME TO/FROM CLASSES	1,154	98.35%
WRTIOTH	AF24AG-ANOTHER TIME RELATED PROBLEM	1,154	98.18%
WRMOTUIT	AF24BA-AMOUNT OF TUITION AND FEES	736	98.37%
WRMOBOOK	AF24BB-COST OF BOOKS AND SUPPLIES	736	98.10%
WRMOCHIL	AF24BC-COST-COST OF CHILD CARE	265	98.49%
WRMOTRAN	AF24BD-COST-COST OF TRANSPORTATION	736	99.05%
WRMOOTH	AF24BE-ANOTHER MONEY/COST PROBLEM	736	98.91%
WRCHCOST	AF24CA-CHILD-COST OF CHILD CARE	182	99.45%
WRCHAVAL	AF24CB-AVAILABILITY OF CHILD CARE	182	99.45%
WRCHOTH	AF24CC-ANTHR CHILD CARE-RLTD PROBLEM	182	98.35%
WRTRCOST	AF24DA-TRANS-COST OF TRANSPORTATION	74	98.65%
WRTRAVAL	AF24DB-AVAILABILITY OF TRANSPORTATION	74	98.65%
WRTRTIME	AF24DC-TRANS-TRAVEL TIME TO/FROM CLASS	74	98.65%
WRTROTH	AF24DD-ANOTHER TRANSPORTATION PROBLEM	74	98.65%
WRPRSPEC	AF25-MAIN SPECIFIC BARRIER TO WORK-REL	2,090	97.42%
WREMPOFF	AF26-EMPLOYER OFFERED WORK-RELATED CRSES	8,509	99.30%
SAACTY	AG1-OTHER STRUCTURED COURSES	19,722	99.95%
SAREASO1	AG4-MAIN REASON FOR STRUCTURED CRSE-1	4,817	99.96%
SA1PRTYP	AG7-TYPE OF INSTRUCTIONAL PROVIDER-1	4,817	99.17%
SA1PREMP	AG8-STRUCT INSTRUC PROV WAS EMPLOYER-1	3,447	99.91%
SATUITO1	AG9-EXPENSES FOR STRUCT COURSES-1	4,817	97.11%
SAWHEN1	AG10-TIME SPEND IN STRUCT COURSES-1	4,817	99.09%
SAWHNUN1	AG10-UNIT OF TIME IN STRUCT COURSES-1	4,817	99.09%
SAWKS1	AG10OV-HOW MANY WEEKS-1	2	0.00%
SAHRS1	AG11-HRS ATTENDED STRUCT COURSES-1	4,817	98.84%
SAHRUNT1	AG11-UNIT OF TIME FOR STRUCT COURSES-1	4,817	98.88%
SAREASO2	AG4-MAIN REASON FOR STRUCTURED CRSE-2	2,083	99.28%
SA2PRTYP	AG7-TYPE OF INSTRUCTIONAL PROVIDER-2	2,083	98.75%
SA2PREMP	AG8-STRUCT INSTRUC PROV WAS EMPLOYER-2	1,465	99.04%
SATUITO2	AG9-EXPENSES FOR STRUCT COURSES-2	2,083	97.07%
SAWHEN2	AG10-TIME SPEND IN STRUCT COURSES-2	2,083	98.22%
SAWHNUN2	AG10-UNIT OF TIME IN STRUCT COURSES-2	2,083	98.22%
SAWKS2	AG10OV-HOW MANY WEEKS-2	2	50.00%
SAHRS2	AG11-HRS ATTENDED STRUCT COURSES-2	2,083	98.13%
SAHRUNT2	AG11-UNIT OF TIME FOR STRUCT COURSES-2	2,083	98.18%
SAREASO3	AG4-MAIN REASON FOR STRUCTURED CRSE-3	948	97.05%
SA3PRTYP	AG7-TYPE OF INSTRUCTIONAL PROVIDER-3	948	96.94%
SA3PREMP	AG8-STRUCT INSTRUC PROV WAS EMPLOYER-3	643	96.42%
SATUITO3	AG9-EXPENSES FOR STRUCT COURSES-3	948	95.04%
SAWHEN3	AG10-TIME SPEND IN STRUCT COURSES-3	948	95.25%
SAWHNUN3	AG10-UNIT OF TIME IN STRUCT COURSES-3	948	95.25%
SAWKS3	AG10OV-HOW MANY WEEKS-3	1	0.00%
SAHRS3	AG11-HRS ATTENDED STRUCT COURSES-3	948	95.68%
SAHRUNT3	AG11-UNIT OF TIME FOR STRUCT COURSES-3	948	95.68%
SAEMPSUP	AG13-EMPLOYER PROVIDES ANY SUPPORT	3,292	99.79%
SAUNION	AG14-EMPLOYER SUPPORT THRU UNION AGREE	844	96.92%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
CVONLY	AH1-COMPUTER/VIDEO-ONLY INSTRUCTION	15,178	99.85%
CVNUM	AH2-NUMBER OF COMPUTER CLASSES	3,009	93.39%
CVHRS	AH3-HRS SPENT ON EACH COMPUTER CLASS	3,009	90.86%
ADOBMM	AI1-MONTH OF BIRTH	19,722	98.75%
ARACE	AI2-RACE OF RESPONDENT	19,722	98.80%
AHISPANI	AI3-HISPANIC ORIGIN	19,722	99.00%
AMARSTAT	AI4-CURRENT MARITAL STATUS	19,722	99.31%
BORNUS	AI5-COUNTRY OF ORIGIN	19,722	99.58%
MOVEAGE	AI6-AGE AT WHICH MOVED TO U.S.	2,325	97.42%
CITIZEN	AI7--U.S.CITIZEN	2,220	98.24%
MILITARY	AI8-U.S. ARMED FORCES ACTIVE DUTY	18,469	99.54%
MILIDISC	AI9-YEAR DISCHARGED FROM ACTIVE DUTY	2,452	98.45%
IBCERNOW	AI10-CERTIF/LICENSURE TO PRACTICE TRADE	19,722	99.47%
IBCERT	AI12-CERTIFICATION/LICENSURE FOR JOB	19,722	99.40%
REQUIRMN	AI14-LEGAL/PROFESSIONAL REQRMNTS FOR CPE	19,722	98.39%
IBWORK	AI15-WORKED LAST WEEK	19,675	99.42%
IBLEAVE	AI16-ON LEAVE OR VACATION LAST WEEK	6,508	99.49%
JOBLOOK	AI17-LOOKING FOR WORK IN PAST 4 WEEKS	5,995	98.45%
JOBPUBL	AI18-CHECKED WITH PUBLIC EMPLMENT AGENCY	1,012	98.32%
JOBPRIV	AI18-CHECKED WITH PRIV EMPLOYMENT AGENCY	1,012	98.32%
JOBEMPL	AI18-CHECKED WITH EMPLOYER DIRECTLY	1,012	98.32%
JOBREL	AI18-CHECKED WITH FRIENDS OR RELATIVES	1,012	98.32%
JOBANSAD	AI18-PLACE OR ANSWERED ADS/SENT RESUME	1,012	98.32%
JOBREAD	AI18-READ WANT ADS	1,012	98.32%
JOBOTHER	AI18-SOMETHING ELSE TO FIND WORK	1,012	98.32%
JOBACTY	AI19-ACTIVITY DONE MOST LAST WEEK	5,103	90.71%
JOBTAKE	AI20-COULD HAVE TAKEN JOB LAST WEEK	948	95.25%
JOBEVER	AI21-EVER WORKED AT A JOB FOR PAY	3,172	97.42%
LEAVEYY	AI22-YEAR LEFT LAST JOB	4,250	90.38%
WORKNUM	AI23-HOW LONG WORKED FOR EMPLOYER	16,501	97.81%
WORKUNT	AI23-UNIT OF TIME WORKED FOR EMPLOYER	16,501	97.79%
IBWORKMO	AI24-MONTHS WORKED FOR PAY IN PAST YEAR	15,095	98.13%
UNEMLOOK	AI25-UNEMPLOYED & LOOKING FOR WORK	3,732	98.66%
JOBMORE	AI26-MORE THAN ONE JOB LAST WEEK	13,598	99.50%
PAYHRS	AI27-HOURS WORKED PER WEEK	13,598	98.66%
MEDICAL	AI28A/AI29A-MEDICAL/HOSPITAL INSURANCE	13,598	98.89%
SICKPAY	AI28B-LEAVE WITH FULL PAY	12,211	97.67%
VACATPAY	AI28C-VACATION WITH FULL PAY	12,211	98.77%
RETIRMNT	AI28D/AI29B-PENSION PLAN OR RETRMNT PGM	13,598	98.09%
EARNAMT	AI30-EARNINGS	16,501	77.51%
EARNUNT	AI30-UNIT OF EARNINGS	16,501	77.51%
LABUNION	AI33-MEMBER OF A LABOR UNION	11,957	97.33%
UNIONCON	AI34-UNION CONTRACT	1,828	97.87%
LAIDOFF	AI35-LIKELIHOOD OF LAY-OFF	12,211	94.00%
READENGL	AI36-HOW WELL READS ENGLISH	1,427	95.10%
WRITENGL	AI37-HOW WELL WRITES ENGLISH	1,427	95.10%
HOWNHOME	AJ1_CP1-OWN, RENT HOME, OR OTH ARRNGMENT	19,722	98.63%
HOTHNUM	AJ2_CP2-OTHER TELEPHONE NUMBERS IN HH	19,722	98.89%

Table 5.--Item response rates for imputed variables: AE interview--Continued

Variable	Label	Number Eligible	Item Response
HNUMUSE	AJ3_CP3-HOW MANY OTH PHN NUM FOR HM USE	2,574	98.56%
HPHONSVC	AJ4_CP4-EVER BEEN W/O PHONE SERV >24 HR	19,722	98.42%
HSVCNUM	AJ5_CP5-AMT OF TIME W/O PHONE SERVICE	1,427	94.25%
HSVCUNIT	AJ5_CP5-UNIT OF TIME W/O PHONE SERVICE	1,427	94.25%
HWIC	AJ7A_CP7A-FAMILY RECVD WIC PAST 12 MO	6,168	99.22%
HFOODST	AJ7B_CP7B-FAMILY RECVD FD STMPS PST 12MO	6,168	99.29%
HAFDC	AJ7C_CP7C-FAMILY RECVD AFDC PAST 12 MO	6,168	99.06%
HINCMRNG	AJ8_CP8-TOTAL HOUSEHOLD INCOME-RANGE	19,722	86.46%
HINCOME	AJ8_CP8-TOTAL HOUSEHOLD INCOME	19,722	79.85%
HINCMEXT	AJ8OV_CP8OV-EXACT HH INC NEAREST $1000	919	54.63%
FSOC1	OCCUPATION CODE - 1	14,782	97.00%
FSOC2	OCCUPATION CODE - 2	1,382	77.50%
FSOC3	OCCUPATION CODE - 3	192	94.27%
FSOC4	OCCUPATION CODE - 4	33	90.91%
FSIC1	INDUSTRY CODE - 1	14,745	97.63%
FSIC2	INDUSTRY CODE - 2	1,424	81.11%
FSIC3	INDUSTRY CODE - 3	201	99.01%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 6.--Item response rates for variables not imputed: AE interview

Variable	Label	Number Eligible	Item Response
MAINRSLT	RESULT CODE FOR EXTENDED	19,722	100.00%
ENGLSPAN	WHETHER EXTENDED IN ENGLISH OR SPANISH	19,722	100.00%
AGE	AGE AT SCREENER	19,722	100.00%
SEX	GENDER AT SCREENER	19,722	100.00%
SEX5	O/HH MEM - #5'S GENDER AT SCREENER	1,049	100.00%
SEX7	O/HH MEM - #7'S GENDER AT SCREENER	165	100.00%
SEX8	O/HH MEM - #8'S GENDER AT SCREENER	72	100.00%
SEX9	O/HH MEM - #9'S GENDER AT SCREENER	42	100.00%
SEX10	O/HH MEM - #10'S GENDER AT SCREENER	21	100.00%
AGE11	O/HH MEM - #11'S AGE AT SCREENER	11	100.00%
SEX11	O/HH MEM - #11'S GENDER AT SCREENER	11	100.00%
AGE12	O/HH MEM - #12'S AGE AT SCREENER	8	100.00%
SEX12	O/HH MEM - #12'S GENDER AT SCREENER	8	100.00%
AGE13	O/HH MEM - #13'S AGE AT SCREENER	5	100.00%
SEX13	O/HH MEM - #13'S GENDER AT SCREENER	5	100.00%
AGE14	O/HH MEM - #14'S AGE AT SCREENER	5	100.00%
SEX14	O/HH MEM - #14'S GENDER AT SCREENER	5	100.00%
ESPRTIME	AB22A-TIME WAS A BARRIER TO ESL	135	100.00%
ESPRCHIL	AB22C-CHILD CARE WAS A BARRIER TO ESL	80	100.00%
ESPRTRAN	AB22D-TRANSPRTATN WAS BARRIER FOR ESL	135	100.00%
ESPROTH	AB22E-SOMETHNG ELSE WAS BARRIER FOR ESL	135	100.00%
ESPROTHC	AB22-OTHER BARRIER CATEGORIES TO ESL	25	100.00%
ESPRGEN	AB23-MAIN GENERAL BARRIER TO ESL	133	100.00%
ESMOCHIL	AB24BC-COST-COST OF CHILD CARE	18	100.00%
ESMOTRAN	AB24BD-COST-COST OF TRANSPORTATION	32	100.00%
ESMOOTH	AB24BE-ANOTHER MONEY/COST PROBLEM	32	100.00%
ESCHCOST	AB24CA-CHILD-COST OF CHILD CARE	22	100.00%
ESCHAVAL	AB24CB-AVAILABILITY OF CHILD CARE	22	100.00%
ESTRCOST	AB24DA-TRANS-COST OF TRANSPORTATION	8	100.00%
ESTRAVAL	AB24DB-AVAILABILITY OF TRANSPORTATION	8	100.00%
ESTRTIME	AB24DC-TRANS-TRAVEL TIME TO/FROM CLASS	8	100.00%
ESTROTH	AB24DD-ANOTHER TRANSPORTATION PROBLEM	8	100.00%
BSAGAIN	AC17-WOULD TAKE ABE/GED CLASS AGAIN	456	100.00%
BSPRCOST	AC21B-MONEY/COST WAS BARRIER TO ABE/GED	179	100.00%
BSPRCHIL	AC21C-CHILD CARE WAS BARRIER TO ABE/GED	92	100.00%
BSPROTHC	AC21-OTHER BARRIER CATEGORIES TO ABE/GED	32	100.00%
BSTRCOST	AC23DA-TRANS COST OF TRANSPORTATION	17	100.00%
BSTRAVAL	AC23DB-AVAILABILITY OF TRANSPORTATION	17	100.00%
BSTROTH	AC23DD-ANOTHER TRANSPORTATION PROBLEM	17	100.00%
CRDIPLO2	AD3-TYPE OF DEGREE PROGRAMS-2	361	100.00%
CIPF2	MAJOR FIELD OF STUDY CODE-2	361	100.00%
CRDIPLO3	AD3-TYPE OF DEGREE PROGRAMS-3	10	100.00%
CRREASO3	AD5-MAIN REASON FOR CRED PROGRAM-3	10	100.00%
CRTRMFT3	AD7A-MTHS ENROLLED IN CRED FULL-TIME-3	10	100.00%
CR12NUM3	AD8-NUMBER OF CRED COURSES-3	10	100.00%
CRFTNUM3	AD9-NUMBER CRED CLASSES PART-TIME-3	5	100.00%
CRFTHRS3	AD12A-HRS/WEEK ATTENDED CRED FULL-TIME-3	6	100.00%

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Table 6.--Item response rates for variables not imputed: AE interview--Continued

Variable	Label	Number Eligible	Item Response
CRTUITO3	AD13-EXPENSES FOR CRED-3	10	100.00%
CR3PRTYP	AD13-TYPE OF INSTRUCTION PROVIDER-3	10	100.00%
CR3PREMP	AD16-CRED INSTRUCT PROVIDER WAS EMPLYR-3	9	100.00%
CR3ASSIS	AD16OV-ASSISTSHIPS/FELLOWSHIP/WK-STUDY-3	1	100.00%
CRUNION3	AD20-EMPLOYER SUPPORT THRU UNION AGREE-3	6	100.00%
APSTILL	AE1OV-STILL IN APPRENTICESHIP PROGRAM?	284	100.00%
APTEST	AE3-ADMISSION TEST REQUIRED	284	100.00%
WRPROTHC	AF22-O/BARRIER CATEGORIES TO WORK-REL	243	100.00%
ADOBYY	AI1-YEAR OF BIRTH	19,722	100.00%
FSIC4	INDUSTRY CODE - 4	33	100.00%
FSIC5	INDUSTRY CODE - 5	1	100.00%
FSOC5	OCCUPATION CODE - 5	1	100.00%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 7.--Percent of imputed cases imputed manually: AE interview

Variable	Label	No. cases imputed	Pct. imputed manually
AGE1	O/HH MEM - #1'S AGE AT SCREENER	23	100.00%
SEX1	O/HH MEM - #1'S GENDER AT SCREENER	1	100.00%
AGE2	O/HH MEM - #2'S AGE AT SCREENER	31	100.00%
SEX2	O/HH MEM - #2'S GENDER AT SCREENER	3	100.00%
AGE3	O/HH MEM - #3'S AGE AT SCREENER	29	100.00%
SEX3	O/HH MEM - #3'S GENDER AT SCREENER	1	100.00%
AGE4	O/HH MEM - #4'S AGE AT SCREENER	24	100.00%
SEX4	O/HH MEM - #4'S GENDER AT SCREENER	3	100.00%
AGE5	O/HH MEM - #5'S AGE AT SCREENER	9	100.00%
AGE6	O/HH MEM - #6'S AGE AT SCREENER	12	100.00%
SEX6	O/HH MEM - #6'S GENDER AT SCREENER	2	100.00%
AGE7	O/HH MEM - #7'S AGE AT SCREENER	4	100.00%
AGE8	O/HH MEM - #8'S AGE AT SCREENER	2	100.00%
AGE9	O/HH MEM - #9'S AGE AT SCREENER	3	100.00%
AGE10	O/HH MEM - #10'S AGE AT SCREENER	2	100.00%
IBGRAD1	AA1-ACTUAL GRADE 0-8 COMPLETED	8	100.00%
IBGRAD2	AA1-ACTUAL GRADE 9-11 COMPLETED	15	100.00%
IBGED	AA5-HIGH SCHOOL DIPLOMA THROUGH GED	87	25.28%
IBEMPL12	AA9-NUMBER OF EMPLOYERS IN PAST 12 MO	14	7.14%
ESWHEN	AB6-TIME SPENT IN ESL CLASSES	7	28.57%
ESWHENUN	AB6-UNIT OF TIME IN ESL CLASSES	7	28.57%
ESHRS	AB7-HRS ATTENDED ESL CLASSES	4	25.00%
ESHRSUNT	AB7-UNIT OF TIME ATTENDED ESL	4	25.00%
ESPRSPEC	AB25-MAIN SPECIFIC BARRIER TO ESL	3	33.30%
CIPF3	MAJOR FIELD OF STUDY CODE-3	1	100.00%
BSPROTH	C21E-OTHER GENERAL BARRIER TO ABE/GED	1	100.00%
CIPF1	MAJOR FIELD OF STUDY CODE-1	12	100.00%
CR1LENUM	D11-LENGTH OF VOC PROGRAM-1	99	2.02%
BSMOTUIT	AC23BA-AMOUNT OF TUITION AND FEES	2	50.00%
BSMOBOOK	AC23BB-COST OF BOOKS AND SUPPLIES	1	100.00%
BSMOCHIL	AC23BC-COST-COST OF CHILD CARE	1	100.00%
BSMOTRAN	AC23BD-COST-COST OF TRANSPORTATION	1	100.00%
BSMOOTH	AC23BE-ANOTHER MONEY/COST PROBLEM	2	50.00%
BSPRSPEC	AC24-MAIN SPECIFIC BARRIER TO ABE/GED	4	75.00%
CRPTHRS1	AD12B-HRS/WEEK ATTENDED CRED PART-TIME-1	67	23.80%
CRPTHRS2	AD12B-HRS/WEEK ATTENDED CRED PART-TIME-2	15	33.30%
CRPTHRS3	AD12B-HRS/WEEK ATTENDED CRED PART-TIME-3	1	100.00%
WRWKS1	AF6OV-HOW MANY WEEKS-1	3	100.00%
WRWKS3	AF6OV-HOW MANY WEEKS-3	2	100.00%
WR4EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-4	21	4.70%
WR4EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-4	20	5.00%
WR4EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-4	19	5.20%
WR4EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-4	20	5.00%
WR5EMREQ	AF13A-EMPLYR REQUIRED WORK-REL COURSES-5	17	11.70%
WR5EMPWP	AF13B-EMPL GAVE TIME OFF W/WO PAY-5	18	11.10%
WR5EMSPA	AF13C-EMPL PROVIDED CLASSROOM SPACE-5	18	11.10%
WR5EMPAY	AF13D-EMPL PAID ALL/PART OF COSTS-5	18	11.10%
SAWKS1	AG10OV-HOW MANY WEEKS-1	2	100.00%

Table 7.--Percent of imputed cases imputed manually: AE interview--Continued

Variable	Label	No. cases imputed	Pct. imputed manually
SAWKS2	AG10OV-HOW MANY WEEKS-2	1	100.00%
SAWKS3	AG10OV-HOW MANY WEEKS-3	1	100.00%
SAEMPSUP	AG13-EMPLOYER PROVIDES ANY SUPPORT	6	57.14%
SAUNION	AG14-EMPLOYER SUPPORT THRU UNION AGREE	26	15.38%
MILIDISC	AI9-YEAR DISCHARGED FROM ACTIVE DUTY	38	5.30%
JOBEVER	AI21-EVER WORKED AT A JOB FOR PAY	82	57.30%
LEAVEYY	AI22-YEAR LEFT LAST JOB	409	4.90%
WORKNUM	AI23-HOW LONG WORKED FOR EMPLOYER	361	23.00%
WORKUNT	AI23-UNIT OF TIME WORKED FOR EMPLOYER	364	20.10%
IBWORKMO	AI24-MONTHS WORKED FOR PAY IN PAST YEAR	283	38.50%
UNEMLOOK	AI25-UNEMPLOYED & LOOKING FOR WORK	50	54.00%
EARNAMT	AI30-EARNINGS	2,305	0.91%
EARNUNT	AI30-UNIT OF EARNINGS	2,305	0.91%
LABUNION	MEMBER OF A LABOR UNION	356	64.61%
FSOC4	OCCUPATION CODE-4	3	100.00%
FSIC2	INDUSTRY CODE-2	274	1.82%
FSOC2	OCCUPATION CODE-2	316	1.58%
WR1PREMP	F11-WORK-REL INSTRUC PROV WAS EMPLYR-1	7	28.57%
WRAWARE1	F12-EMPLYR AWARE WORK-REL CRSE TAKEN-1	19	10.53%
WRWKS2	F6OV-HOW MANY WEEKS-2	3	100.00%
WRPRCOST	F21B-COST BARRIER TO WORK-REL	14	7.14%
WRPRCHIL	F21C-CHILD CARE WAS BARRIER TO WORK-REL	2	100.00%
WRPROTH	F21E-OTHER GENERAL BARRIER TO WORK-REL	12	25.00%
WRTIFAM	F23AA-DESIRE TO SPEND TIME WITH FAMILY	2	100.00%
WRTICHOR	F23AB-NEED TO DO HOUSEHOLD CHORES	19	5.26%
WRTICHLR	F23AC-UNABLE TO TAKE CLASSES DURING WORK	15	13.33%
WRTIWORK	F23AD-WORK RESPONSBLTS DO NOT PERMIT	12	8.33%
WRTIACTI	F23AE-ACTIVITIES OUTSIDE WORK CONFLICT	20	5.00%
WRTITRAV	F23AF-TIME-TRAVEL TIME TO/FROM CLASSES	20	5.00%
WRTIOTH	F23AG-ANOTHER TIME RELATED PROBLEM	22	4.54%
WRMOTUIT	F23BA-AMOUNT OF TUITION AND FEES	15	33.33%
WRMOBOOK	F23BB-COST OF BOOKS AND SUPPLIES	18	22.22%
WRMOCHIL	F23BC-COST-COST OF CHILD CARE	6	33.33%
WRMOTRAN	F23BD-COST-COST OF TRANSPORTATION	11	36.36%
WRMOOTH	F23BE-ANOTHER MONEY/COST PROBLEM	12	33.33%
WRPRSPEC	F24-MAIN SPECIFIC BARRIER TO WORK-REL	58	27.59%
SA3PREMP	G8-STRUCT INSTRUC PROV WAS EMPLOYER-3	23	4.35%
UNIONCON	I34-UNION CONTRACT	44	20.45%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Table 8.--Variables with an item response rate of less than 90% and a sample size greater than 25: AE interview

Variable	Label	Number Eligible	Item Response
ESUNION	AB17-EMPLOYER SUPPORT THRU UNION AGREE	36	44.44%
ESEMPPAY	AB15D-EMPLOYER PAID ALL/PART OF COSTS	70	48.57%
ESEMPREQ	AB15A-EMPLOYER REQUIRED ESL CLASSES	70	50.00%
ESEMPWP	AB15B-EMPLOYER GAVE TIME OFF W/WO PAY	70	50.00%
ESEMPSPA	AB15C-EMPLOYER PROVIDED CLASSROOM SPACE	70	50.00%
ESPROVEM	AB13-INSTRUCTION PROVIDER WAS EMPLOYER	123	52.03%
ESAWARE	AB14-EMPLOYER AWARE OF ESL CLASSES	123	54.47%
HINCMEXT	AJ8OV_CP8OV-EXACT HH INC NEAREST $1000	919	54.63%
CR2LENUM	AD11-LENGTH OF VOC PROGRAM-2	62	77.42%
CRLENUN2	AD11-UNIT OF LENGTH - VOC PROGRAM-2	62	77.42%
EARNAMT	AI30-EARNINGS	15,095	84.73%
EARNUNT	AI30-UNIT OF EARNINGS	15,095	84.73%
HINCOME	AJ8_CP8-TOTAL HOUSEHOLD INCOME	19,722	79.85%
CR1LENUM	AD11-LENGTH OF VOC PROGRAM-1	552	81.03%
CRLENUN1	AD11-UNIT OF LENGTH - VOC PROGRAM-1	550	82.36%
ESTUITON	AB8-EXPENSES FOR ESL CLASSES	131	86.26%
HINCMRNG	AJ8_CP8-TOTAL HOUSEHOLD INCOME-RANGE	19,722	86.46%

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995.

Weighting and Standard Error Calculation Procedures

Introduction

The procedures for producing the weights to estimate characteristics from the NHES:95 sample and to estimate sampling errors for those estimates are described in this section. This report incorporates changes from the original weighting plan and reflects methods of estimation that are consistent with changes that occurred during the collection period.

The 1995 National Household Education Survey (NHES:95) utilized a random digit dial (RDD) sample of telephone numbers in the 50 States and the District of Columbia, with interviews conducted from January to April 1995. The objective of the sample is to make inferences about the entire civilian, noninstitutionalized population. For this reason, the estimates derived from the telephone households are adjusted to totals that include both telephone and nontelephone households.

The survey consisted of a screening interview and extended interviews with sampled members of the households. The two components of the NHES:95 were the Early Childhood Program Participation (ECPP) and the Adult Education (AE) components. The ECPP component included children from birth through third grade, up to and including age 10. Age was calculated as of December 31, 1994. The parent or guardian who knew the most about the child's care and education was interviewed. For the AE component, interviews were conducted with adults 16 years old and older who were not currently enrolled in secondary school and were not on active duty in the U. S. Armed Forces.

The NHES:95 also included two methodological samples. A special splice AE methodology sample was selected to compare the 1991 and 1995 AE interviewing procedures and determine if differences in participation rates, if any, between the periods could be the result of changes in the instruments. The other methodological sample was selected as an experiment to assess the results of asking all sampled households a set of items rather than restricting the interviewing to households eligible for the extended interviews. This experiment is called the Expanded Screener methodology sample.

Other reports that contain more detailed information on the sample design and the unit response rates for the NHES:95 that would be very useful to understanding the weighting and standard error procedures are a working paper entitled *Design, Data Collection, Interview Administration Time, and Data Editing in the 1995 National Household Education Survey* (Collins et al. forthcoming) and the earlier section of this paper, entitled "Unit Response Rates." These reports contain essential information for readers of this detailed and relatively technical report on estimation methods.

The section below describes the weighting procedure associated with the sample of telephone numbers. This weight is the basic building block for all subsequent weights. All of the subsequent weights are person-level weights, i.e., weights used to estimate the number of persons based on records of sampled persons. The person level weights are described in the subsequent sections. The last section describes methods for computing sampling errors.

Household Weights

The household weight is equal to the product of three weights; (1) the weight associated with the oversampling of telephone numbers in high minority exchanges; (2) the weight associated with the number of telephone numbers in the household; and (3) a weight adjustment associated with nonresponse. The Expanded Screener and the splice sample are included in this and the other weighting steps. Special steps would have been taken if there were indications that the response rates in these subsets were very different from the regular sample. The specifications for the household weights are given below.

1. During the sample selection, households were divided into two strata, high and low minority, by exchange. Telephone numbers in high-minority exchanges were sampled at a rate twice as high as in the low-minority exchanges. Therefore, households in the high-minority stratum are given a weight of 1/2. Households in the low-minority stratum are assigned a weight of 1. The actual probability of selection is the inverse of the base sampling rate times these factors. Since the base rate is a constant and adjustments to control totals are used, this constant is suppressed for this step of weighting. Let

   $L_i = 1$ if household i is in a low-minority strata, and

   $L_i = \frac{1}{2}$ if household i is a high-minority strata.

2. A weight of unity is assigned to households reporting one telephone number in the household. A weight of 1/2 is assigned to households with more than one residential telephone number. Technically, if the other number(s) of households with multiple residential telephone numbers is in the zero-listed stratum, the household should get a weight of 1. The practice of looking up the other phone numbers in these households is impractical and the percent of such numbers in the zero-listed stratum is believed to be minimal.

   Let

   $I_i = 1$ if household i has one telephone number, and

   $I_i = \frac{1}{2}$ if household i has more than one telephone number.[6]

[6] The weight could be modified by a factor equal to the reciprocal of the number of residential telephone numbers in the household, but the adjustment by a factor of 2 is thought to be somewhat better. Massey and Botman (1988) comment on this adjustment.

Two households were sampled twice through two different telephone numbers. Only one of the interviews was kept in the sample for these households and these households were assigned a result code indicating "duplicated" sample and I_i was set equal to unity at this stage.

3. The next step was a household-level nonresponse adjustment. Adjustment cells were based on a cross-classification of the following variables obtained at the area code/exchange level from the sampling frame: metropolitan status, census division, percent renters, percent owner occupied, percent college graduates, median income, percent black, percent Hispanic, and percent age 0-17. These data were based on the 1990 Census of Population. The adjustment cells were created separately for high and low minority strata because the nonresponse adjustments are applied within groups with the same base sampling rate.

A categorical search algorithm called CHAID[7] was used to divide the NHES:95 sample telephone numbers into adjustment cells. One general approach to adjusting for nonresponse is to use explanatory variables correlated with response propensity to define nonresponse adjustment cells. Once these cells are defined, typical nonresponse adjustment methods such as weighting the respondents by the inverse of the within-cell response rate can be used to adjust the weights and reduce the bias due to nonresponse. The CHAID method was used to define the nonresponse adjustment cells for the NHES:95.

The CHAID algorithm is very similar to the continuous search algorithms LISREL and AID (Automatic Interaction Detector) that have been available for a number of years, but it is designed especially to handle categorical data. The procedure works by dividing the entire data set into cells by attempting to determine sequentially the cells that have the greatest discrimination with respect to the response rates. In other words, it attempts to divide the data set into groups so that the response rate within cells is as constant as possible and the response rate between cells is as different as possible. This automatic procedure was done specifying that the minimum number of households in any group had to be greater than or equal to 500 and the split of the variables into subgroups had to be statistically significant using a chi-square test at the 95 percent significance level.

All of the characteristics in the CHAID model are tested and the one with the response categories having the largest discrimination with respect to the response rates is identified. Table 1 gives the cells formed in this procedure. For example,

[7] A reference that used this same approach to adjust for nonresponse is: Lepkowski, J., Kalton, G., and Kasprzyk, D. (1989). "Weighting Adjustments for Partial Nonresponse in the 1984 SIPP Panel," Proceedings of the Section on Survey Research Methods, American Statistical Association, p. 296-301. Another reference that describes the CHAID methodology in more detail is: Kass, G.V. (1980). "An Exploratory Technique for Investigating Large Quantities of Categorical Data," *Applied Statistics*, 29:119-127.

Metro status was the variable chosen as most indicative of differential response rates for the low minority stratum and it was used first to partition the data set. Different variables were then used within the cells defined by Metro status. Within Metro status=3 (subcounty of MSA), for example, the percent of renters in the area was next used to split the data set. No other splits were defined, so two nonresponse adjustment cells were formed with Metro status=3 and different values of percent renters. In other splits, up to four variables were used to define the cells. The splitting process continued until either the minimum cell size of 500 was encountered or the introduction of a new variable was not statistically significant. The final 21 cells (12 in the high minority concentration stratum and 9 in the low minority concentration stratum) are shown in the table.

Many of the variables in the CHAID model, such as Census division, have multiple response categories. The program took this into account in two ways. First, it allows the data set to be split into more than one subgroup at a time (with binary data there is only one split possible). For example, Census divisions are split differently within different Metro status response categories. Second, the procedure follows a relatively complex procedure to check all possible binary splits of the data and equalize the chance of selecting variables irrespective of the number of response categories that variable may have.

Table 1 shows how the cells are defined along with the number of telephone numbers in each cell and the percent of those that were completed screening interviews. These percents are not response rates because the denominators include all telephone numbers that might have been residential, including those numbers that were never classified as either residential or nonresidential. As described in the "Unit Response Rates" section of this paper, only about 40 percent of the telephone numbers that were never classified by residential status are actually residential. The Screener response rate takes this into account as well as weights the observations by their probability of selection while the percent reported in table 1 does not.

The household-level nonresponse adjustment is the inverse of the observed percent complete in a cell. The observed percent complete is shown in table 1. If X_i is the household-level nonresponse adjustment weight (the inverse of the percent in table 1), then the household level weight, HW_i, is equal to

$$HW_i = L_i * I_i * X_i.$$

ECPP Person Weights for Children Less than 9 Years

In sampling for the ECPP component, every sampled household that had a child from birth through third grade, up to and including age 10, was included with certainty. This section describes person weights for children from birth through age 8. Person weights for 9- and 10- year olds in the ECPP component are discussed in the next section.

All of the age-eligible children in the household were potential subjects for the ECPP interview, but not all were sampled. Up to two children were sampled from any one household. The parent or guardian most knowledgeable about the care and education of each child was asked to complete the interview for that child. The basic weight assigned to each selected child j in household i in the sample is given below. The raking adjustment is then described.

1. The first step was weighting for the probability of sampling the child for the ECPP interview. The sampling adjustment depends on the number of ECPP eligible children in the household (S_i), the cumulative measure of size in the household (MOS_i), and whether the selected child was in kindergarten.

   The cumulative measure of size in the household is defined as the sum across the household of factors assigned to each eligible child. The factor is:

   $h_{ij} = 1.5$ if the child is in kindergarten
   $h_{ij} = 1.0$ otherwise.

   The measure of size is then $MOS_i = \sum_j h_{ij}$

   The sampling adjustment, R_{ij}, is:

   $R_{ij} = 1$ if $S_i = 1$ or 2

   $R_{ij} = \frac{S_i}{2}$ if $S_i > 2$ and there are no kindergarteners in the household

   $R_{ij} = \frac{MOS_i}{3}$ if $S_i > 2$ and child j is in kindergarten

   $R_{ij} = \frac{MOS_i}{2}$ if $S_i > 2$ and child j is not in kindergarten but there is at least one kindergartener in the household.

   For each eligible child from birth through age 8, the person weight is:

   $RHW_{ij} = HW_i * R_{ij}$

2. The person weights were examined and the amount of variability in the weights was greater than desired due to the earlier stages of weighting. To reduce the variability in the final weights, the weights were trimmed before raking. In all, 48 cases with weights in excess of 3.0 prior to raking (the mean weight for this group was 3.4) were trimmed to be equal to 3.0. These were the weights that were then subject to raking.

3. The final weight is produced by adjusting RHW_{ij} to known totals using a raking procedure. Because of the high completion rate for this component, no additional nonresponse adjustments were made before raking. Raking adjusts for any residual

nonresponse and the undercoverage due to sampling only telephone households. Three dimensions were used for this raking. The first dimension was the cross of race/ethnicity and household income categories; the second dimension was the cross of census region and urbanicity (urban/rural); and the third dimension was the cross of home type (rented/owned) and age.

The same variables were used for raking in the NHES:91 ECE survey, with the exception of urbanicity. The variables were selected because they were available and thought to be correlated to telephone coverage and, to a lesser extent, response propensity. The urbanicity variable was added to the NHES:95 raking variables after research suggested it might be correlated with the coverage loss from list-assisted sampling.

The dimensions and control totals are listed in table 2. The control totals for NHES:95 are the totals from the February 1995 CPS allocated according to the October 1993 CPS distributions. In other words, the number in a cell is the proportion in that cell from the October 1993 CPS multiplied by the total count from the February 1995 CPS. For example, the percent of children in owned homes that were 3 years old was estimated from the October 1993 CPS and then multiplied by the total number of children based on the February 1995 CPS to give the control total for this dimension. This allocation was necessary because the control totals use data from the October supplement while the number of persons was needed from a point closer in time to the 1995 survey date. The 1990 Census of Population distribution was used to estimate the percentage of persons in the urban/rural cells within Census region. These percentages were then applied to the February 1995 CPS control totals to get the NHES:95 control totals.

Raking was then applied. When the weights were raked at first, the dimension with household income had three levels (less than $10,000, $10,000 to $24,999, and over $24,999). This dimension was responsible for a significant portion of the overall adjustment of the weights. To reduce the variability due to this dimension, the number of levels in the income dimension was reduced to the two levels shown in the table.

Raked weights are formed by iteratively modifying the person weights so that, when taken together, they correspond to the control totals. A table of estimates is formed using the person weights. The person weights are multiplied by the constant that will force the sum of the tabled values to equal the control totals along the first dimension. The revised table is then multiplied by the constant required so that the second dimension totals are obtained, and the same process is repeated for the third dimension. When the third dimension is done, one iteration of raking is complete. Further iterations are employed so that the estimates will converge to the control totals across all three dimensions. The iterations were continued until all the tabled totals were within one of the control totals across all dimensions.

The final weight for each child from birth through age 8 is given by

$$FCW_{ij(c)} = RHW_{ij(c)} * F_{ij(c)}$$

where $F_{ij(c)}$ is the raking adjustment factor that is the multiplicative factor described above, and c is the adjustment cell corresponding to the three dimensions of the control totals. Note that before the raking was done, all the variables given in table 2 were fully imputed.

ECPP Person Weights for 9-and 10-Year-Old Children

The weighting scheme for children ages 9 and 10 and enrolled in third grade or less was not the same as for the children from birth through age 8 because only a fraction of the older children were eligible to be included in the study. Those children in fourth grade or higher were excluded from the study.

A different weighting procedure was used to accomplish the goals of adjusting for nonresponse and undercoverage for the older children. The weight assigned to each selected older child j in household i in the sample is given below.

1. The first step was the poststratification of all (both eligible and ineligible) enumerated older children in completed households to control totals defined by census region and age given in table 3. The counts were weighted by HW_i rather than RHW_{ij}, since the latter weight includes an adjustment for the sampling (R_{ij}) and this procedure operated on all children sampled or not. The sampling adjustment for this group of children is taken into account in the next step.

   For each older child, the poststratified person weight is

   $$QW_{ij(c)} = HW_i * Q_{ij(c)}$$

   where $Q_{ij(c)}$ is the poststratification adjustment factor that is the multiplicative factor described above, and c is the adjustment cell corresponding to the cell of the control totals. All the variables given in table 3 were fully imputed before this poststratification.

2. The next step was weighting for the probability of sampling the child for the ECPP interview as described earlier. A weight of zero was assigned to each ineligible child. (Ineligibles do not appear in any data file.)

   For each eligible child age 9 or 10, the person weight adjusted for the probability of sampling is

   $$RW_{ij} = QW_{ij(c)} * R_{ij}$$

   The subscript (c) is dropped from the adjusted person weight RW_{ij} but will be included in the final person weight.

3. The next step was to adjust for nonresponse at the extended interview level, since the adjustment to the control totals was done before accounting for nonresponse. Since so little was known about these children (only grade and age from the Screener) and there was a relatively high response rate, a single nonresponse adjustment cell was formed. The nonresponse adjustment factor is given by

$$A_1 = \frac{\sum_{k \in (R,\, NR)} RW_{ij}}{\sum_{k \in (R)} RW_{ij}}$$

The summation in the numerator is over all person records that are classified as either respondents (R) or nonrespondents (NR), while the denominator is only over the respondents.

The final person weight for each older child is

$$FCW_{ij(c)} = RW_{ij} * A_1$$

AE Person Weights for Adults 20 Years and Older

In sampling for the AE component of the NHES:95, every adult 16 years and older not currently enrolled secondary school was eligible. This section describes person weights for adults 20 years and older for all households except those in the splice sample. Person weights for adults 16 to 19 years old and adults in the splice sample are discussed in subsequent sections.

All of the adults in the household were potential subjects for the AE interview but not all were sampled. Adults were sampled within the household based on their educational attainment and adult education participation status. In the Screener, each adult was classified by the household respondent into one of the following categories:

LP = low education, involved in adult education;
LU = low education, not involved in adult education;
HP = high education, involved in adult education; and
HU = high education, not involved in adult education.

Adults were sampled at different rates in these 4 categories. The basic weight assigned to each selected adult j in household i in the sample is given below. The raking adjustment is then described.

1. The first step was weighting for the probability of sampling the adult for the AE component. The sampling for this component depended on the following household counts: eligible adults, LPs, LUs, HPs, HUs. The counts are SACNT, $LPCNT_i$, $LUCNT_i$, $HPCNT_i$, and $HUCNT_i$, respectively. The adjustment also depended on

the cumulative measure of size in the household (MOS_i) that incorporates the differential probabilities of selecting adults.

The cumulative measure of size in the household is defined as the sum of the factors assigned to each eligible adult in the household. The factor is

$h_{ij} = 1.0$ if the adult was an LP

$h_{ij} = 0.5$ if the adult was an HP

$h_{ij} = 0.2$ if the adult was an LU or HU.

The measure of size for the household is then $MOS_i = \sum_j h_{ij}$.

Early during the data collection period, two errors in the computer program for sampling adults were discovered and a flag (FLG_i) was put on all households to indicate the nature of the error. One of the problems was that the number of digits was truncated incorrectly to one rather than three significant digits. Thus, some cases that should have been sampled with probability of 0.2 were actually sampled with probability 0.3. The other problem was in the computation of the measure of size within household. The measure of size was being multiplied by the number of persons in a sampling category. Thus, in the formula given above h_{ij} was multiplied by the number of adults in the category before being summed over all persons in the household. The value of FLG was set to 2 if the sampling took place after both of these problems were fixed; it was set to 1 if both of these problems happened in the household; and, it was set to -1 if only the measure of size problem happened in the household (the significant digits problem was fixed a few days before the measure of size problem).

The weighting procedures accounted for both of these probems by computing two intermediate values (RWT1 and RMOS) that are then used in creating the sampling adjustments. In the table below, SLX is used to identify the sampling category of enumerated adults. Since none of the problems affected adults selected with certainty (SLX=LP), these persons are omitted from the table. The variable RMOS is the revised measure of size for the household, taking the problems described above into account.

RWT1 =	if
.2	SLX = LU or HU and FLG = 2
.5	SLX = HP and FLG = 2
.2*LUCNT	SLX = LU and FLG = 1 or -1
.2*HUCNT	SLX = HU and FLG = 1 or -1
.5*HPCNT	SLX = HP and FLG = 1 or -1

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RMOS =	if
1.0	SACNT = 1 and SLX = LP
0.2	SACNT = 1 and SLX = HU or LU
0.5	SACNT = 1 and SLX = HP
MOS	otherwise

The sampling adjustments are as follows:

D_{ij} = 1 if SLX =LP and {LPCNT = 1 or (LPCNT = 2 and SACNT = 2)}

$$D_{ij} = \frac{1}{RWT1} \qquad \text{if SLX =(LU, HU, or HP) and RMOS < 1}$$

$$D_{ij} = \frac{RMOS}{RWT1} \qquad \text{if SLX =(LU, HU, or HP) and RMOS} \geq 1$$

$$D_{ij} = \frac{LPCNT * RMOS}{2*(LPCNT-1)+(LUCNT*.2)+(HPCNT*.5)+(HUCNT*.2)}$$

if SLX= LP and LPCNT > 1 and FLG = 2

$$D_{ij} = \frac{LPCNT * RMOS}{RMOS+(LPCNT-1)^2} \qquad \text{if SLX=LP and LPCNT >1 and FLG=1 or -1}$$

For each eligible adult 20 years and older in the regular sample, the person weight is

$$DHW_{ij} = HW_i * D_{ij}$$

2. The next step was to adjust for nonresponse at the extended interview level. Nonresponse adjustments were computed separately for LPs, LUs, HPs, and HUs because of dirrerential completion rates for these adults. The nonresponse adjustment factor is given by:

$$A1 = \frac{\sum_{k \in (R, NR)\, LPs} DHW_{ij}}{\sum_{k \in (R)\, LPs} DHW_{ij}} \qquad \text{for LPs;}$$

$$A2 = \frac{\sum_{k \in (R, NR)\, LUs} DHW_{ij}}{\sum_{k \in (R)\, LUs} DHW_{ij}} \qquad \text{for LUs;}$$

$$A_3 = \frac{\sum_{k \in (R, NR)\, HPs} DHW_{ij}}{\sum_{k \in (R)\, HPs} DHW_{ij}} \quad \text{for HPs; and}$$

$$A_4 = \frac{\sum_{k \in (R, NR)\, HUs} DHW_{ij}}{\sum_{k \in (R)\, HUs} DHW_{ij}} \quad \text{for HUs.}$$

The summation in the numerator is over all person records that are classified as either respondents (R) or nonrespondents (NR), while the denominator is only over the respondents.

The nonresponse-adjusted person weight for each adult 20 years and older in the regular sample is

$$PW_{ij} = DHW_{ij} * A_b \quad \text{where} \quad \begin{array}{ll} b = 1 & \text{for LPs,} \\ b = 2 & \text{for LUs,} \\ b = 3 & \text{for HPs, and} \\ b = 4 & \text{for HUs.} \end{array}$$

3. The person-level weights, PW_{ij}, were examined to see if there was substantial variability in the weights. Trimming of the extreme weights was employed to reduce the variability and improve the mean square error of the estimates. The weights were trimmed by type of sampled person. For b=1 (LPs), the weights for 4 cases (with a mean weight of 5.4) were trimmed to 3.0; for b=2 (LUs), the weights of 10 cases (with a mean weight of 16.2) were trimmed to 12.0; for b=3 (HPs) the weights for 10 cases (with a mean weight of 9.2) were trimmed to 8.0; and, for b=4 (HUs) the weights for 38 cases (with a mean weight of 14.3) were trimmed to 12.0. The points at which the weights were trimmed was determined for each type of sampled person by visually inspecting the distribution of the weights prior to trimming.

4. The final weight for the AE regular sample data is produced by adjusting PW_{ij} to known totals using a raking procedure. Four dimensions were used for this raking. The first dimension crosses race/ethnicity and household income categories, the second dimension crosses age and gender, the third dimension crosses census region and urbanicity (urban/rural), and the fourth dimension is home type (rented/owned/other). The dimensions and control totals are listed in table 4.

   The variables used for the raking were those used in the NHES:91 plus gender and urbanicity. As noted in the previous section, urbanicity was added to attempt to adjust for undercoverage arising from the list-assisted sampling method. Gender was added because some research has suggested that adult males respond at lower rates than adult females in telephone surveys.

The raked weights are formed as described for the ECPP component. The iterations were continued until all the tabled totals are within 1 of the control totals across all dimensions.

The final weight for each adult 20 years and older in the regular sample is given by

$$FPW_{ij(c)} = PW_{ij} * F_{ij(c)}$$

where $F_{ij(c)}$ is the raking adjustment factor that is the multiplicative factor described above, and c is the adjustment cell corresponding to the four dimensions of the control totals. Before the raking was done, all the variables given in table 4 were fully imputed.

AE Person Weights for Adults 16 to 19 Years Old

The weighting scheme for adults 16 to 19 years old (young adults) in the regular sample was not the same as for the adults 20 years and older because only a fraction of the young adult population was included in the study (those not in secondary school). Raking the completed interviews for young adults to the population of all adults would not have been appropriate. A weighting procedure similar to that used for the 9 and 10 year old children in the ECPP was used to accomplish the goals of adjusting for nonresponse and undercoverage.

Young adults were sampled based on their educational attainment and adult education participation status, as described in the previous section. The weight assigned to each selected young adult j in household i in the sample is given below.

1. The first step was the poststratification of all (both eligible and ineligible) enumerated young adults in completed households to the control totals of census region and age given in table 5. The counts were weighted by HW_i rather than PW_{ij}, since the latter weight has an adjustment for the sampling of adults by their adult education participation status and this sampling adjustment is handled in the next step for these adults.

   For an enumerated young adult in the sample, the poststratified person weight is

   $$QW_{ij(c)} = HW_i * Q_{ij(c)}$$

   where $Q_{ij(c)}$ is the poststratification adjustment factor that is the multiplicative factor described before, and c is the adjustment cell corresponding to the cell of the control totals. Note that before the poststratification was done, all the variables given in table 5 were fully imputed.

2. The next step was weighting for the probability of sampling the young adult for the AE component as described above for adults age 20 and older. A weight of zero was assigned to each ineligible young adult. (Ineligibles do not appear on any data file.)

For each eligible young adult in the regular sample, the person weight adjusted for the probability of selection is

$$DW_{ij} = QW_{ij(c)} * D_{ij}$$

To simplify notation, the subscript (c) is dropped from this adjusted weight.

3. The next step was to adjust for nonresponse at the extended interview level. Nonresponse adjustments were defined separately for LPs, LUs, HPs, and HUs. The nonresponse adjustment factor is given by:

$$A_1 = \frac{\sum_{k \in (R, NR)\, LPs} DW_{ij}}{\sum_{k \in (R)\, LPs} DW_{ij}} \qquad \text{for LPs;}$$

$$A_2 = \frac{\sum_{k \in (R, NR)\, LUs} DW_{ij}}{\sum_{k \in (R)\, LUs} DW_{ij}} \qquad \text{for LUs;}$$

$$A_3 = \frac{\sum_{k \in (R, NR)\, HPs} DW_{ij}}{\sum_{k \in (R)\, HPs} DW_{ij}} \qquad \text{for HPs; and}$$

$$A_4 = \frac{\sum_{k \in (R, NR)\, HUs} DW_{ij}}{\sum_{k \in (R)\, HUs} DW_{ij}} \qquad \text{for HUs.}$$

The summation in the numerator is over all person records that are classified as either respondents (R) or nonrespondents (NR), while the denominator is only over the respondents.

The final person weight for each young adult in the regular sample is

$$FPW_{ij(c)} = DW_{ij} * A_b \qquad \text{where } b = 1 \text{ for LPs, } b = 2 \text{ for LUs, } b = 3 \text{ for HPs, and } b = 4 \text{ for HUs.}$$

AE Splice Sample Person Weights for Adults 20 Years and Older

This section describes person weights for adults 20 years and older in the splice sample. Person weights for adults 16 to 19 years old in the splice sample are discussed in the next section. All of the adults in a splice sample household were potential subjects for the AE interview, but only one adult was randomly sampled per household. The basic weight assigned to each selected adult j in household i in the sample is given below. The raking adjustment is then described.

1. The first step was weighting for the probability of sampling the adult. The sampling depended on the count of eligible adults in household i, $ASCNT_i$. Let

   $T_{ij} = ASCNT_i$ for sampled adult j in household i.

   For each eligible adult 20 years and older in the splice sample, the person weight is

   $THW_{ij} = HW_i * T_{ij}$

2. The next step was to adjust for nonresponse at the extended interview level. Nonresponse adjustments were formed by age groups to allow for differential nonresponse. Age and sex were virtually the only two variables that could be used for this adjustment because no other information about the sampled adults were known at this time. In the splice sample, the questions about involvement in adult education activities and graduation from high school were not asked in the Screener. The nonresponse adjustment factor is given by:

$$A1 = \frac{\sum_{k \in (R,\, NR) \text{ adults age } 20\text{-}29} THW_{ij}}{\sum_{k \in (R) \text{ adults age } 20\text{-}29} THW_{ij}} \quad \text{for adults age 20 - 29;}$$

$$A2 = \frac{\sum_{k \in (R,\, NR) \text{ adults age } 30\text{-}49} THW_{ij}}{\sum_{k \in (R) \text{ adults age } 30\text{-}49} THW_{ij}} \quad \text{for adults age 30-49; and}$$

$$A3 = \frac{\sum_{k \in (R,\, NR) \text{ adults age } 50+} THW_{ij}}{\sum_{k \in (R) \text{ adults age } 50+} THW_{ij}} \quad \text{for adults 50+.}$$

The summation in the numerator is over all person records that are classified as either respondents (R) or nonrespondents (NR), while the denominator is only over the respondents.

The nonresponse adjusted person weight for each adult 20 years and older in the splice sample is

$GW_{ij} = THW_{ij} * Ab$ where b = 1 for adults age 20-29,
b = 2 for adults age 30-49, and
b = 3 for adults age 50+.

3. The person-level weights, GW_{ij}, were examined and substantial variability in the weights was found. The 15 most extreme weights (with a mean weight of 8.2) were trimmed to a value of 7.0 to reduce the variability and improve the mean square error of the estimates.

4. The final weight for the AE splice sample data is produced by adjusting GW_{ij} to known totals using a raking procedure. The control totals are identical to those given in table 4. The control totals were identical to make it easy to compare the splice sample estimates to those from the regular sample.

   The raked weights are formed as before. The iterations were continued until all the tabled totals were within 1 of the control totals across all dimensions.

   The final weight is given by

   $$FSW_{ij(c)} = GW_{ij} * F_{ij(c)}$$

   where $F_{ij(c)}$ is the raking adjustment factor that is the multiplicative factor described before, and c is the adjustment cell corresponding to the four dimensions of the control totals.

AE Splice Sample Person Weights for Adults 16 to 19 Years Old

The weighting scheme for young adults in the splice sample is different from the adults 20 years and older in the splice sample for the same reasons that the young adults were weighted by different procedures in the regular sample. The weight assigned to each selected young adult j in household i in the sample is given below.

1. The first step was the poststratification of all (both eligible and ineligible) enumerated young adults in completed households to control totals defined by census region and age given in table 5. The counts were weighted by HW_i rather than GW_{ij} because the latter includes an adjustment for the probability of sampling an adult and this is handled in the next step for this group of adults.

   For each young adult, the poststratified person weight is

   $$FW_{ij(c)} = HW_i * F_{ij(c)}$$

where $F_{ij(c)}$ is the poststratification adjustment factor that is the multiplicative factor described above, and c is the adjustment cell corresponding to the cell of the control totals. All the variables given in table 5 were fully imputed prior to weighting.

2. The next step was weighting for the probability of sampling the young adult for the splice sample. A weight of zero was assigned to each ineligible young adult. The probability of selection depends on the count of eligible adults, $ASCNT_i$. Let

$$T_{ij} = ASCNT_i$$

For each eligible young adult in the splice sample, the person weight adjusted for the probability of selection is

$$TW_{ij} = FW_{ij(c)} * T_{ij}$$

The subscript (c) is dropped from the adjusted person weight TW_{ij} but was included in the final person weight.

3. The next step was to adjust for nonresponse at the extended interview level. The nonresponse adjustment factor is given by:

$$A_1 = \frac{\sum_{k \in (R,NR)} TW_{ij}}{\sum_{k \in (R)} TW_{ij}}$$

The summation in the numerator is over all person records that are classified as either respondents (R) or nonrespondents (NR), while the denominator is only over the respondents.

The final person weight for each young old adult in the splice sample is

$$FSW_{ij(c)} = TW_{ij} * A_1$$

4. Because the splice sample will be used to compare against the regular AE sample, a final adjustment was made to make the estimated number of adults in the two samples consistent. The final raking stage resulted in the number of adults 20 years and over being consistent, so the only adjustment needed was for those adults 16 to 19 years old. The splice sample weight was multiplied by the constant (4,621,527/4,957,710) needed to make the number of adults from the splice sample equal to the number from the regular sample. The difference between the regular and splice sample totals before the adjustment is due to sampling (each is an estimate of the number of civilians, 16 to 19 years old who were not enrolled in secondary school) and other nonsampling errors like differential nonresponse that could have occurred in both components.

Methods for Computing Sampling Errors

The sampling errors for the NHES:95 can be computed with a jackknife replication method using either WesVarPC or WESVAR. The JK1 method of jackknife replication was chosen for the NHES:95 rather than JK2 that was used in the NHES:93 to make it easier to do analysis of change between NHES:91 and NHES:95. The JK1 method was used in the NHES:91. The JK1 method is also more appropriate for the list-assisted sampling approach.

For the JK1 method, the NHES:95 sample was divided into 50 groups or replicates based upon the sampled telephone numbers. In each replicate, a replicate weight was developed using the same procedures that were used for the full sample weight. Using these replicate weights, estimates can be produced for each replicate and compared to the full sample estimate to estimate the sampling error of a statistic.

Replicate weights were created for all three of the final weights: the final ECPP person weight for children; the final person weight for adults in the regular sample; and the final person weight for adults in the splice sample.

The procedures for forming the replicate weights for each of these three weights are given below. The variables needed to compute sampling errors with a Taylor series variance estimation method, in particular the SUDAAN software, are then presented.

1. The 120,459 sampled telephone numbers were sorted separately for low minority and high minority in the same order used in the initial sample selection.

2. Fifty replicates were formed. This was done by assigning the 1st, 51st, 101st, 151st... telephone numbers in the list to replicate 1, the 2nd, 52nd, 102nd, 152nd... telephone numbers in the list to replicate 2, ... the 50th, 100th, 150th, ... telephone numbers in the list to replicate 50.

3. The telephone numbers that were residential were then assigned 50 weight variables (REPL1 through REPL50) using the following procedures. The replicate base weights were assigned by multiplying the full sample base weight (which is HW_i divided by X_i, as defined above in the Household Weight section) by either zero or 50/49. This procedure is the standard jackknife method of dropping one unit (in this case a group of households with the same replicate number) and weighting up the remaining units to account for the dropped unit. For example, to construct replicate 1 base weights, a replicate base weight of 0 was assigned to respondents from REPL1, the base weights of all respondents in REPL2 through REPL50 were multiplied by a factor of 50/49.

4. The other adjustments, including the nonresponse adjustments at the household level, the sampling and nonresponse adjustments at the person level, and the raking adjustments at the person level were applied to every replicate base weight. This was done using exactly the same procedures described in this document for the full

sample weights. The only exceptions are noted below. In other words, the weighting steps described above were applied 50 times, including each of the raking steps. The splice sample replicate weights were also multiplied by the final constant to make the replicate estimates of the number of adults consistent with the full sample estimates.

5. Two differences in the methods used for the full sample and for the replicate weights were: a) the raking iterations were stopped when the replicates converged to within 10 of the control totals rather than 1 that was used in the full sample weighting; and b) the trimming of the weights was not applied at the replicate level because the theory for this type of adjustment is not developed.

Another approach to the valid estimation of sampling errors for complex sample designs is to use a Taylor series approximation to compute sampling errors. The software available to compute sampling errors using this method typically requires that two variables, stratum and PSU, be available for all the completed interviews. One example of this type of software is SUDAAN (Shah et al. 1995). To support users with this type of software, the stratum and PSU variables were computed based on the sample design and have been included in the ECPP and AE data files as STRATUM and PSU. For the NHES:95, there are two strata corresponding to the high and low minority concentration telephone number exchanges. The PSUs refer to the clusters of persons living together at telephone numbers, that is, there is a unique PSU value for each unique telephone number. The full sample weight to be used for ECPP analysis is EWEIGHT, and for AE analysis, AEWEIGHT. To produce sampling errors for estimates from the NHES:95 data using SUDAAN, the appropriate statements include the DESIGN=WR and NEST STRATUM PSU statements.

Data users should be aware that the use of different approaches or software packages in the calculation of standard errors may result in somewhat different standard errors. Estimates of standard errors computed using the replication method and the Taylor series method are nearly always very similar, but not identical.

Approximate Sampling Errors

Although the methods of directly calculating the sampling errors using the methods described above are recommended for many applications, simple approximations of the sampling errors may be valuable for some purposes. One such approximation is discussed below.

Most statistical software packages compute standard errors of the estimates based upon simple random sampling assumptions. The standard error from this type of statistical software can be adjusted for the complexity of the sample design to approximate the standard error of the estimate under the actual sample design used in the survey. For example, the variance of an estimated proportion in a simple random sample is the estimated proportion (p) times its complement (l-p) divided by the sample size (n). The standard error is the square root of this quantity. This estimate can be adjusted to more closely approximate the standard error for the estimates from the NHES:95.

A simple approximation of the impact of the sample design on the estimates of the standard errors of the estimates that has proved useful in previous NHES surveys and in many other surveys is to adjust the simple random sample standard error estimate by the root design effect (DEFT). The DEFT is the ratio of the standard error of the estimate computed using the replication method discussed above to the

standard error of the estimate under the assumptions of simple random sampling. An average DEFT is computed by estimating the DEFT for a number of estimates and then averaging. A standard error for an estimate can then be approximated by multiplying the simple random sample standard error estimate by the mean DEFT.

In complex sample designs, like the NHES:95, the DEFT is typically greater than one due to the clustering of the sample and the differential weights attached to the observations. In the NHES:95 both of these factors contributed to making the average DEFT greater than one for the ECPP and AE data files.

The estimated DEFT computed for a particular estimate in the NHES:95 AE data was typically between 0.8 and 1.3. Variables used in this analysis included AE participation status measures (AEPARANY, AEPARTIC, BSIMPROV, CRDEGREE, CRDIPART, CRVOCDIP, ESLANG, SAACTY, WRACTY), employer support for AE (ANYSUPP), self-report English language facility (READENGL, WRITENGL), and demographic and personal characteristics (SEX, RACEETHN, IBDIPL, IBGED, AELABOR, CENREG). In all, DEFTs were examined for 50 estimates. The average DEFT did not vary considerably for subgroups defined by the size of the estimate or by race and ethnicity (the median DEFT for blacks and Hispanics was 1.2). Since participants and nonparticipants in adult education were sampled at different rates, the average DEFTs for these groups were also examined. The average DEFT for participants was 1.1, while the average DEFT for nonparticipants was 1.3.

To be conservative, **it is recommended that an average DEFT of 1.3 be used for approximating the standard error of the AE estimates.** This conservative approach is suggested because it will be appropriate for most subgroups (including nonparticipants) while the overall average design effect would underestimate the standard error for nonparticipants. Also, this recommendation is made even though the overall average DEFT was 1.2, where the average was computed over a range of estimated proportions with at least 30 estimates in each of the subgroups described above. This value should result in approximate standard errors that are larger than the actual standard errors in most cases.

The estimated DEFT computed for a particular estimate in the NHES:95 ECPP data was typically between 0.8 and 1.4. The mean of the DEFTs was 1.1. Variables used in this analysis included early childhood program arrangements (ARNGNOW, NCNOW, CPNNOW, NCNOW, HSNOW), child characteristics (AGE94, RACEETHN, CRACE), enrollment status and grade in school (ALLGRADE), and parent and household characteristics (MOMGRADE, MOMDIPL, DADGRADE, DADDIPL, HINCOME). This analysis included 65 estimates. The average DEFT did not vary considerably for subgroups defined by age or enrollment (infants/toddlers, preschoolers, kindergartners, or primary school students) or by race and ethnicity; the average DEFT for virtually all subgroups was 1.2. **It is recommended that an average DEFT of 1.3 be used for approximating the standard error of the ECPP estimates**, since this was the average across for all the subgroups.

The average DEFT can be used to approximate the standard error for a **percentage** estimate. For example, if a weighted estimate of 40 percent is obtained for some characteristic (for example, the overall adult education participation rate), then an approximate standard error can be developed in a few steps. First, obtain the simple random sampling error for the estimate using the weighted estimate in the numerator and the unweighted sample size in the denominator: the standard error for this 40 percent statistic would be the square root of ((40 x 60)/19,722) = 0.35, where the weighted estimate is 40 percent (p), 60 is 100 minus the estimated percent (100-p), and the unweighted sample size is 19,722 (n). The approximate standard error of the estimate from the NHES:95 is this value (the simple random sample standard error) multiplied by the DEFT of 1.3. In this example, the estimated standard error would be 0.46 percent (1.3 x 0.35).

The approximate standard error for a **mean** can be developed using a related procedure. First, the mean is estimated using the full sample weight in a standard statistical package like SAS or SPSS. Second, the simple random sample standard error is obtained through a similar, but unweighted, analysis. Third, the standard error from the unweighted analysis is multiplied by the DEFT of 1.3 to approximate the standard error of the estimate under the NHES:95 AE design. For example, suppose that the estimated (weighted) mean number of hours per week in a basic skills program was 20 and the simple random sampling standard error (unweighted) was 5 hours. Then, the approximate standard error for the estimate would be 6.5 hours (5 x 1.3).

Users who wish to adjust the standard errors for **parameter estimates of regression models** should follow a procedure similar to that discussed for means, above. Specifically, the parameter estimates of the model can be estimated using a weighted analysis in a standard statistical software package such as SAS or SPSS. A similar, but unweighted, analysis will provide the simple random sample standard errors for these parameter estimates. The standard errors can then be multiplied by the DEFT to arrive at the adjusted standard error for the NHES:95 design. For example, if a given variable has a an unweighted standard error of 0.45, then the adjusted standard error would be 1.3 x 0.45 = 0.59.

It should be noted that direct computation of the standard errors is always recommended when the statistical significance of statements would be affected by small differences in the estimated standard errors.

Weighting Tables 1 - 5

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Table 1.--NHES:95 household-level nonresponse adjustment cells

Explanatory variables	Number of telephone numbers	Percent complete
High minority		
Census division (1, 4, 5, 6), metropolitan status (1, 2, 3, 4)	8,749	69.6%
Census division (1, 4, 5, 6), metropolitan status (5)	2,3[illegible]	79.6
Census division (2), median income (0-27K)	1,210	61.7
Census division (2), median income (28K+), percent owner occupied (0-55%)	2,345	56.9
Census division (2), median income (28K+), percent owner occupied (56%+)	1,351	63.3
Census division (3, 7, 8), percent college graduates (0-25%), percent renters (0-33%), and percent black (0-19%)	1,747	74.1
Census division (3, 7, 8), percent college graduates (0-25%), percent renters (0-33%), and percent black (20%+)	1,317	70.6
Census division (3, 7, 8), percent college graduates (0-25%), percent renters (34%+)	5,839	68.2
Census division (3, 7, 8), percent college graduates (26%+)	1,677	64.4
Census division (9, 10), percent age 0-17 (0-29%), metropolitan status (1)	1,582	55.1
Census division (9, 10), percent age 0-17 (0-29%), metropolitan status (2, 3, 4, 5)	2,905	61.2
Census division (9, 10), percent age 0-17 (30%+)	2,581	68.3
Low minority		
Metropolitan status (1, 2), percent Hispanic (0-9%), median income (0-27K)	1,881	72.8
Metropolitan status (1, 2), percent Hispanic (0-9%), median income (28-37K)	5,477	71.6
Metropolitan status (1, 2), percent Hispanic (0-9%), median income (38K+), census division (1, 4, 7, 8, 9, 10)	2,715	64.8
Metropolitan status (1, 2), percent Hispanic (0-9%), median income (38K+), census division (2, 3, 5, 6)	3,198	67.1
Metropolitan status (1, 2), percent Hispanic (10%+)	1,878	63.7
Metropolitan status (3), percent renters (0-33%)	6,528	71.1
Metropolitan status (3), percent renters (34%+)	1,868	63.6
Metropolitan status (4)	1,511	60.5
Metropolitan status (5)	7,572	75.3

Census division:
1 - New England
2 - Mid Atlantic
3 - East North Central
4 - West North Central
5 - South Atlantic
6 - East South Central
7 - West South Central
8 - Mountain
9 - Pacific
10 - Alaska/Hawaii

Metropolitan status:
1 = in county of central city
2 = in county outside of central city
3 = sub county of MSA
4=MSA in its own county
5=non-MSA area

SOURCE: U.S. Department of Education, National Center for Education Statistics. National Household Education Survey (NHES), spring 1995

Table 2.--Control totals for raking children from birth through age 8 in the NHES:95 ECPP component

Race/ethnicity	Household income	Control totals
Non-Hispanic/non-black	Less than $10,000	2,690,522
Non-Hispanic/non-black	$10,000 or more	22,944,750
Hispanic	Less than $10,000	1,437,596
Hispanic	$10,000 or more	3,116,528
Black/non-Hispanic	Less than $10,000	2,344,426
Black/non-Hispanic	$10,000 or more	3,209,517
Census region	**Urbanicity**	**Control totals**
Northeast	urban	5,761,826
Northeast	rural	1,540,538
Midwest	urban	6,147,854
Midwest	rural	2,426,973
South	urban	8,428,279
South	rural	3,849,558
West	urban	6,544,605
West	rural	1,043,705
Home type	**Age**	**Control totals**
Owned or other	0	2,180,596
Owned or other	1	2,248,972
Owned or other	2	2,266,811
Owned or other	3	2,515,111
Owned or other	4	2,484,989
Owned or other	5	2,472,898
Owned or other	6	2,503,904
Owned or other	7	2,505,505
Owned or other	8	2,341,162
Rented	0	1,977,104
Rented	1	1,778,010
Rented	2	1,740,513
Rented	3	1,631,112
Rented	4	1,651,239
Rented	5	1,472,713
Rented	6	1,376,640
Rented	7	1,380,622
Rented	8	1,215,437
Grand total		35,743,339

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995

Table 3.--Control totals for poststratifying 9- and 10-year-old children in the NHES:95 ECPP component

Census region	Age	Control totals
Northeast	9	715,335
Northeast	10	703,853
Midwest	9	981,875
Midwest	10	961,320
South	9	1,288,337
South	10	1,353,151
West	9	803,862
West	10	840,091
Grand total		7,647,824

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995

Table 4.--Control totals for raking adults age 20 years and older in the NHES:95 AE regular and splice samples

Race/ethnicity	Household income	Control totals
Non-Hispanic/non-black	Less than $10,000	15,958,260
Non-Hispanic/non-black	$10,000 or more	133,637,820
Hispanic	Less than $10,000	3,457,282
Hispanic	$10,000 or more	11,654,140
Black/non-Hispanic	Less than $10,000	5,963,521
Black/non-Hispanic	$10,000 or more	14,283,152
Age	**Gender**	**Control totals**
20 to 29 years	male	18,341,877
20 to 29 years	female	19,047,689
30 to 49 years	male	39,681,845
30 to 49 years	female	41,033,240
50 years and older	male	30,105,466
50 years and older	female	36,744,058
Census region	**Urbanicity**	**Control totals**
Northeast	urban	29,814,613
Northeast	rural	7,971,525
Midwest	urban	31,812,118
Midwest	rural	12,558,388
South	urban	43,612,194
South	rural	19,919,565
West	urban	33,865,109
West	rural	5,400,662
Home type		**Control totals**
Owned or other		131,565,993
Rented		53,388,182
Grand total		184,954,175

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995

Table 5.--Control totals for poststratifying young adults in the NHES:95 AE regular and splice samples

Census region	Age	Control totals
Northeast	16	636,782
Northeast	17	628,551
Northeast	18	614,011
Northeast	19	604,423
Midwest	16	905,416
Midwest	17	819,446
Midwest	18	861,713
Midwest	19	842,692
South	16	1,208,377
South	17	1,148,100
South	18	1,209,436
South	19	1,217,132
West	16	793,579
West	17	759,306
West	18	685,663
West	19	710,028
Grand total		13,644,655

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995

References

Brick, J.M. *Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey*. NCES Working Paper No. 96-29. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Collins, M.A., Brick, J.M., and Kim, K. (1997). *Measuring Participation in Adult Education*. Technical Report. NCES Publication No. 97-341. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Brick, J.M., Wernimont, J., and Montes, M. (1996). *The National Household Education Survey: Reinterview Results for the Adult Education Component*. NCES Working Paper No. 96-14. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Collins, M.A., Brick, J.M., S., Loomis, L.S., Nicchitta, P.G., and Fleishman, S. (forthcoming). *Design, Data Collection, and Data Editing in the 1995 National Household Education Survey*. NCES Working Paper. Washington, DC: U.S. Department of Educaiton, National Center for Education Statistics.

Kim, K., Loomis, L.S., and Collins, M.A. *Comparison of Estimates from the 1995 National Household Education Survey*. NCES Working Paper No.96-30. Washington, DC: U. S. Department of Education, National Center for Education Statistics.

Kass, G.V. (1980). "An Exploratory Technique for Investigating Large Quantities of Categorical Data," *Applied Statistics*.29:119-127.

Lepkowski, J., Kalton, G., and Kasprzyk, D. (1989). "Weighting Adjustments for Partial Nonresponse in the 1984 SIPP Panel," Proceedings of the Section on Survey Research Methods, American Statistical Association. Alexandria, VA: American Statistical Association, p. 296-301.

Massey, J.T. and Botman, S.L. (1988). "Weighting Adjustments for Random Digit Dialed Surveys," in R.M. Groves, P.P. Biemer, L.E. Lybers, J.T. Massey, W.L. Nicholls, and J. Waksberg (eds.), Chapter 9. Telephone Survey Methodology. New York: J. Wiley and Sons.

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Listing of NCES Working Papers to Date

Please contact Ruth R. Harris at (202) 219-1831
if you are interested in any of the following papers

Number	Title	Contact
94-01 (July)	Schools and Staffing Survey (SASS) Papers Presented at Meetings of the American Statistical Association	Dan Kasprzyk
94-02 (July)	Generalized Variance Estimate for Schools and Staffing Survey (SASS)	Dan Kasprzyk
94-03 (July)	1991 Schools and Staffing Survey (SASS) Reinterview Response Variance Report	Dan Kasprzyk
94-04 (July)	The Accuracy of Teachers' Self-reports on their Postsecondary Education: Teacher Transcript Study, Schools and Staffing Survey	Dan Kasprzyk
94-05 (July)	Cost-of-Education Differentials Across the States	William Fowler
94-06 (July)	Six Papers on Teachers from the 1990-91 Schools and Staffing Survey and Other Related Surveys	Dan Kasprzyk
94-07 (Nov.)	Data Comparability and Public Policy: New Interest in Public Library Data Papers Presented at Meetings of the American Statistical Association	Carrol Kindel
95-01 (Jan.)	Schools and Staffing Survey: 1994 Papers Presented at the 1994 Meeting of the American Statistical Association	Dan Kasprzyk
95-02 (Jan.)	QED Estimates of the 1990-91 Schools and Staffing Survey: Deriving and Comparing QED School Estimates with CCD Estimates	Dan Kasprzyk
95-03 (Jan.)	Schools and Staffing Survey: 1990-91 SASS Cross-Questionnaire Analysis	Dan Kasprzyk
95-04 (Jan.)	National Education Longitudinal Study of 1988: Second Follow-up Questionnaire Content Areas and Research Issues	Jeffrey Owings
95-05 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses of NLS-72, HS&B, and NELS:88 Seniors	Jeffrey Owings

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
95-06 (Jan.)	National Education Longitudinal Study of 1988: Conducting Cross-Cohort Comparisons Using HS&B, NAEP, and NELS:88 Academic Transcript Data	Jeffrey Owings
95-07 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings
95-08 (Feb.)	CCD Adjustment to the 1990-91 SASS: A Comparison of Estimates	Dan Kasprzyk
95-09 (Feb.)	The Results of the 1993 Teacher List Validation Study (TLVS)	Dan Kasprzyk
95-10 (Feb.)	The Results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation	Dan Kasprzyk
95-11 (Mar.)	Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work	Sharon Bobbitt & John Ralph
95-12 (Mar.)	Rural Education Data User's Guide	Samuel Peng
95-13 (Mar.)	Assessing Students with Disabilities and Limited English Proficiency	James Houser
95-14 (Mar.)	Empirical Evaluation of Social, Psychological, & Educational Construct Variables Used in NCES Surveys	Samuel Peng
95-15 (Apr.)	Classroom Instructional Processes: A Review of Existing Measurement Approaches and Their Applicability for the Teacher Follow-up Survey	Sharon Bobbitt
95-16 (Apr.)	Intersurvey Consistency in NCES Private School Surveys	Steven Kaufman
95-17 (May)	Estimates of Expenditures for Private K-12 Schools	Stephen Broughman
95-18 (Nov.)	An Agenda for Research on Teachers and Schools: Revisiting NCES' Schools and Staffing Survey	Dan Kasprzyk
96-01 (Jan.)	Methodological Issues in the Study of Teachers' Careers: Critical Features of a Truly Longitudinal Study	Dan Kasprzyk

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-02 (Feb.)	Schools and Staffing Survey (SASS): 1995 Selected papers presented at the 1995 Meeting of the American Statistical Association	Dan Kasprzyk
96-03 (Feb.)	National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues	Jeffrey Owings
96-04 (Feb.)	Census Mapping Project/School District Data Book	Tai Phan
96-05 (Feb.)	Cognitive Research on the Teacher Listing Form for the Schools and Staffing Survey	Dan Kasprzyk
96-06 (Mar.)	The Schools and Staffing Survey (SASS) for 1998-99: Design Recommendations to Inform Broad Education Policy	Dan Kasprzyk
96-07 (Mar.)	Should SASS Measure Instructional Processes and Teacher Effectiveness?	Dan Kasprzyk
96-08 (Apr.)	How Accurate are Teacher Judgments of Students' Academic Performance?	Jerry West
96-09 (Apr.)	Making Data Relevant for Policy Discussions: Redesigning the School Administrator Questionnaire for the 1998-99 SASS	Dan Kasprzyk
96-10 (Apr.)	1998-99 Schools and Staffing Survey: Issues Related to Survey Depth	Dan Kasprzyk
96-11 (June)	Towards an Organizational Database on America's Schools: A Proposal for the Future of SASS, with comments on School Reform, Governance, and Finance	Dan Kasprzyk
96-12 (June)	Predictors of Retention, Transfer, and Attrition of Special and General Education Teachers: Data from the 1989 Teacher Followup Survey	Dan Kasprzyk
96-13 (June)	Estimation of Response Bias in the NHES:95 Adult Education Survey	Steven Kaufman
96-14 (June)	The 1995 National Household Education Survey: Reinterview Results for the Adult Education Component	Steven Kaufman

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-15 (June)	Nested Structures: District-Level Data in the Schools and Staffing Survey	Dan Kasprzyk
96-16 (June)	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
96-17 (July)	National Postsecondary Student Aid Study: 1996 Field Test Methodology Report	Andrew G. Malizio
96-18 (Aug.)	Assessment of Social Competence, Adaptive Behaviors, and Approaches to Learning with Young Children	Jerry West
96-19 (Oct.)	Assessment and Analysis of School-Level Expenditures	William Fowler
96-20 (Oct.)	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96-21 (Oct.)	1993 National Household Education Survey (NHES:93) Questionnaires: Screener, School Readiness, and School Safety and Discipline	Kathryn Chandler
96-22 (Oct.)	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
96-23 (Oct.)	Linking Student Data to SASS: Why, When, How	Dan Kasprzyk
96-24 (Oct.)	National Assessments of Teacher Quality	Dan Kasprzyk
96-25 (Oct.)	Measures of Inservice Professional Development: Suggested Items for the 1998-1999 Schools and Staffing Survey	Dan Kasprzyk
96-26 (Nov.)	Improving the Coverage of Private Elementary-Secondary Schools	Steven Kaufman
96-27 (Nov.)	Intersurvey Consistency in NCES Private School Surveys for 1993-94	Steven Kaufman

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Number	Title	Contact
96-28 (Nov.)	Student Learning, Teaching Quality, and Professional Development: Theoretical Linkages, Current Measurement, and Recommendations for Future Data Collection	Mary Rollefson
96-29 (Nov.)	Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
96-30 (Dec.)	Comparison of Estimates from the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
97-01 (Feb.)	Selected Papers on Education Surveys: Papers Presented at the 1996 Meeting of the American Statistical Association	Dan Kasprzyk
97-02 (Feb.)	Telephone Coverage Bias and Recorded Interviews in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-03 (Feb.)	1991 and 1995 National Household Education Survey Questionnaires: NHES:91 Screener, NHES:91 Adult Education, NHES:95 Basic Screener, and NHES:95 Adult Education	Kathryn Chandler
97-04 (Feb.)	Design, Data Collection, Monitoring, Interview Administration Time, and Data Editing in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-05 (Feb.)	Unit and Item Response, Weighting, and Imputation Procedures in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-06 (Feb.)	Unit and Item Response, Weighting, and Imputation Procedures in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler

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