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ABSTRACT

The National Household Education Survey (NHES) is a data collection system of the National Center for Education Statistics that concentrates on aspects of education that can best be addressed through contacts with households rather than institutions. The NHES is a telephone survey of the noninstitutionalized civilian population of the United States that has been conducted in 1991, 1993, 1995, and 1996. In the 1996 NHES (NHES:96), the primary topics addressed were parent and family involvement in education and civic involvement. This working paper presents information on the survey design, data collection, interview timing, and data editing for the NHES:96. The section on "Design Overview" describes the four interviews that evaluated the three substantive topics of the NHES:96, household members' use of public library services, parent and family involvement in education, and civic involvement. "Sample Design" describes the sample design, the way sample sizes were determined, the random digit dialing method, and sampling of households and within households. "Data Collection" describes supervisor and interviewer training, data collection procedures, special data collection activities, and data quality. The data editing process that ensures the completeness and quality of the data is described in the last section. Six appendixes present materials used for the interviews, edit specifications, and a database design diagram. (Contains 18 tables and 7 references.) (SLD)

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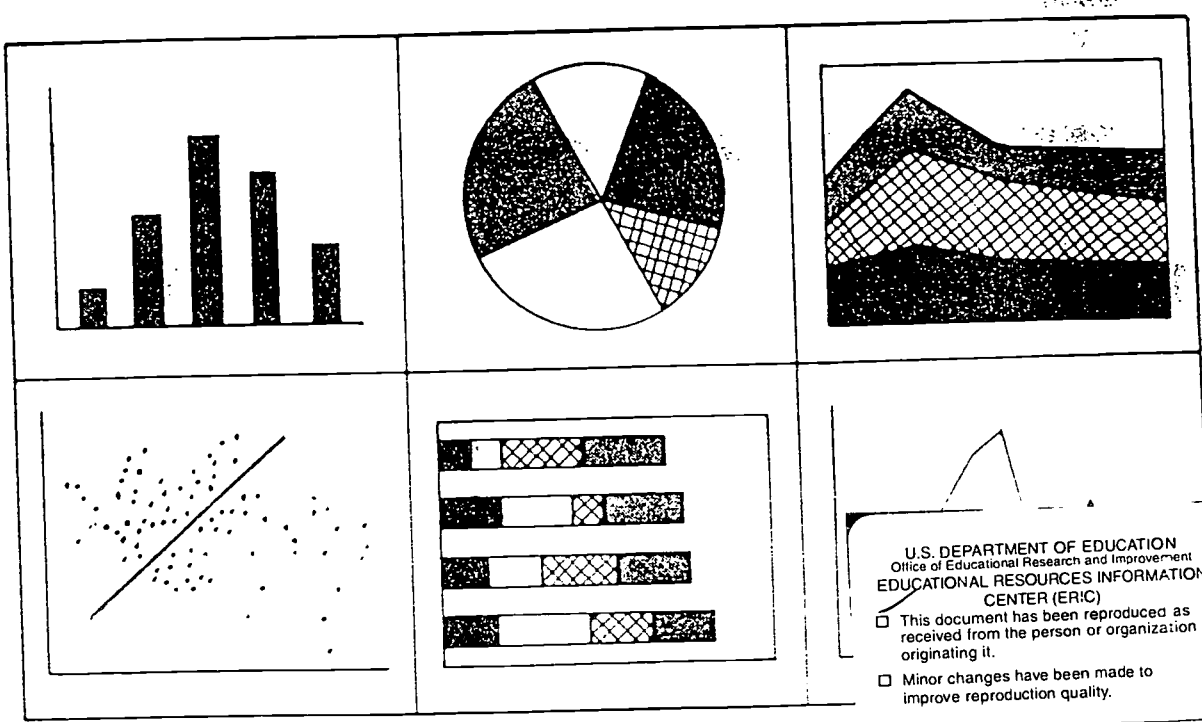

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Design, Data Collection, Interview Administration Time, and Data Editing in the 1996 National Household Education Survey

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Foreword

Each year a large number of written documents are generated by NCES staff and individuals commissioned by NCES which provide preliminary analyses of survey results and address technical, methodological, and evaluation issues. Even though they are not formally published, these documents reflect a tremendous amount of unique expertise, knowledge, and experience.

The ***Working Paper Series*** was created in order to preserve the information contained in these documents and to promote the sharing of valuable work experience and knowledge. However, these documents were prepared under different formats and did not undergo vigorous NCES publication review and editing prior to their inclusion in the series. Consequently, we encourage users of the series to consult the individual authors for citations.

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Design, Data Collection, Interview Administration Time, and Data Editing in the 1996 National Household Education Survey

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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. About 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 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. 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, the expanded screener is designed to include a brief set of questions on an issue of interest to education program administrators or policymakers. In 1996, this topic was household use of public libraries. 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, reflect methodological advancements since 1991 and develop new measurement approaches. In the NHES:96, the topical components were parent and family involvement in education and civic involvement.

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 and other RDD surveys.

This working paper presents information on the survey design, data collection, interview timing, and data editing in the 1996 National Household Education Survey. Readers may also wish to review *Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey* (Montaquila and Brick forthcoming), *Reinterviews and Telephone Coverage Bias in the 1996 National Household Education Survey*, (Montaquila, Smith, and Brick, forthcoming) and *Comparison of Estimates in the 1996 National Household Education Survey* (Nolin et al., 1997) for additional information on the survey.

Design Overview

The 1996 National Household Education Survey (NHES:96) addressed three substantive topics. In addition, the expanded household screening feature of the NHES:96 provided information on the educational status and background of all persons, providing an enhanced monitoring capability. The topics addressed in the NHES:96 were:

- Household members' use of public library services;
- Parent and Family Involvement in Education (PFI); and
- Civic Involvement (CI).

The NHES:96 topical components were addressed through four interviews.

- The ***Household Screener***, which forms the basis of the Household & Library data file, included full enumeration (rostering) of household members, information on the educational status of persons age 3 and older, demographic information on all household members, and, in most cases, a brief set of questions about the use of public library services by household members.
- The ***Parent PFI/CI interview*** addressed parent and family involvement in education for children age 3 through 5th grade and both parent and family involvement in education and civic involvement for children in grades 6 through 12.
- The ***Youth CI interview***, conducted with youth in grades 6 through 12, focused primarily on civic involvement, but also contained some questions related to parent and family involvement in education.
- The ***Adult CI interview*** addressed civic involvement and was administered to a national random sample of adults that included both parents and nonparents.

In the library services component, information was collected about the use of a variety of public library services by any member of the household. If any household member had used library services in the past month, a series of questions about the purposes of use were also asked. The library component was administered as part of the expanded Screener described above except in those households in which someone was sampled for a Parent interview; in those cases, the library services component was administered at the extended interview level.

The PFI and CI topical components are related to the National Education Goals for the year 2000. The PFI component of the NHES:96 addressed National Education Goal 1, readiness for school, and Goal 8, parent participation. Goal 1, Objective 2, states that "Every parent in the United States will be a child's first teacher and devote time each day to helping such parent's preschool child learn, and parents will have access to the training and support parents need." Goal 8 states that "By the year 2000, every school will promote partnerships that will increase parental involvement...."

The CI component also focused on two other National Education Goals. It addressed aspects of Goal 3, student achievement and citizenship, and Goal 6, adult literacy and lifelong learning, by assessing knowledge, attitudes, and behaviors that are related to responsible citizenship for adults and youth. Goal 3, applicable to youth, states that students in America's schools will learn to "use their minds

well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy." Goal 6 maintains that adults should possess "...the knowledge and skills necessary to...exercise the rights and responsibilities of citizenship."

Target Populations and Sample Sizes

The NHES:96 used a list-assisted random digit dialing approach to sample households in the 50 States and the District of Columbia; 55,838 households were screened. This national sample (which was supplemented in several states to achieve a target sample size of 500) was designed to permit the development of state-level estimates of educational characteristics and public library use. Respondents for the Screener must have been at least 18 years old and a member of the household, that is, someone whose normal place of residence is that household. Further details about the sample design follow this overview.

Children from age 3 through 20 as of December 31, 1995, and enrolled in 12th grade or below were sampled as subjects of the Parent PFI/CI interview. The parent or guardian who was reported to know the most about the child's education was interviewed. Typically, the respondents to the Parent PFI/CI interview were the mothers of the sampled children. Up to two Parent PFI/CI interviews were conducted in each household. In households with one or more children from age 3 through 5th grade (younger children), one child in that age/grade range in the household was sampled for the survey. In households with one or more children in 6th through 12th grade (older children), one child in that grade range in the household was sampled for the survey. Thus, two children were sampled only when both younger and older children were living in the household. The within-household sample size was limited to two eligible children so that the amount of time required for the survey for parents in households with a large number of eligible children was limited.

For the Youth CI interview, the sample population included youth in the 6th through the 12th grades. Only one Youth CI interview was conducted in each household. The study protocol permitted the conduct of an interview with a youth in 6th through 12th grade only after the Parent PFI/CI interview for that youth had been completed.

For the Adult CI interview, adults were randomly selected from each household in a special sample of households that was separate from that used for the Parent PFI/CI and Youth CI interviews. Using a separate subsample for the Adult CI interview assured that no household would be burdened with all four NHES:96 interviews. Only one adult, defined as a person 18 years of age or older who was not enrolled in 12th grade or below and not on active duty in the military, was sampled in each household.

In addition to the interviews described above, brief Parent and Youth reinterviews were conducted. These reinterviews included a subset of items from the Parent PFI/CI and Youth CI interviews, and were conducted at least two weeks after the original interview. The goals of the reinterviews were to identify any questionnaire items that are not reliable, to quantify the magnitude of response variance for groups of items collected from the same respondent at two different times, and to provide feedback to improve the design of future questionnaires.

Content of the NHES:96 Parent/Family Involvement (PFI) Component

The PFI component focused on family involvement in several areas: children's schooling, communication with teachers or other school personnel, children's homework (for 1st through 12th graders) and behavior, and learning activities with children outside of school. Also included are some questions about the involvement of a non-residential parent (or parents), if applicable. The majority of the PFI questions were asked only of parents; however, some questions were asked of both parents and youth and a small number of questions were asked only of youth.

The PFI component also focused on school practices to involve families in their child's education. For example, questions were asked about how well the school makes families aware of opportunities to volunteer at the school and how effective the school is in making the family aware of how to help their child plan for college. In addition to these questions, the component collected information about several other issues, such as the school environment and barriers to family involvement.

The NHES:96 Parent PFI/CI interview has five major "paths," or sets of questions that are appropriate to the subgroups of interest: preschoolers (children age 3 to 6 years old and not yet in kindergarten), elementary school students (children in kindergarten through the 5th grade), middle or junior high school students (youth in the 6th through 8th grades), senior or high school students (youth in the 9th through 12th grades), and children receiving home schooling. Table 1 shows the specific topics for each path.

In the PFI component, information was collected about student experiences that may be correlates of family involvement, such as parents' reports of their child's enjoyment of school, feedback from teachers, student grades, grade retention, school suspension/expulsion, and students' reports of whether their family is as involved in their school as they would like. Topics that were specific to the preschooler path include the child's attendance at center-based care (including Head Start), feedback from teachers or care providers about problems the child may be having in preschool or child care, and support and training received for parenting. There were also some questions specific to the path for parents of children who are being schooled at home.

In addition, information was collected from respondents about characteristics of the child's school or preschool, the child, the family, and the household. Some of these characteristics, such as the age of the child, provide a context for family involvement and school practices. Others, such as the household characteristic of family income, represent potential risk factors for family involvement and student experiences.

Table 1.—NHES:96 Parent PFI/CI interview: Distribution of Parent and Family Involvement topics by population

Sections	Preschool (N)		Grades K–5 (E)		Grades 6-8 (M) and 9-12 (S)	Home Schooled (H)
	Not enrolled	Center-based*	Kindergarten	Grades 1–5		
Current School Status	X	X	X	X	X	X
Head Start/Center-based	X	X				
Preschool/School Characteristics		X	X	X	X	
Student Experiences		X	X	X	X	
Family/School Involvement and School Practices		X	X	X	X	
Family Involvement in Homework				X	X	
Support for Families of Preschoolers	X	X				
Family Involvement Outside School	X	X	X	X	X	X
Health and Disability	X	X	X	X	X	X
Parent/Guardian Characteristics	X	X	X	X	X	X
Involvement of the Nonresidential Parent	X	X	X	X	X	X

* Center-based programs include day care centers, nursery schools, preschools, and prekindergartens.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), PFI/CI interview, spring 1996.

Content of the NHES:96 Civic Involvement (CI) Component

The CI component of the NHES:96 collected information from youth, parents, and a national sample of adults on attitudes that relate to democratic values and civic participation. It included a brief knowledge of government assessment and an assessment of the opportunities that youth have to develop the personal responsibility and skills that would facilitate their taking an active role in civic life. It gathered information from both parents and youth related to the diverse ways that parents may participate in socializing their children for informed civic participation.

Within these broad areas, a number of specific topics were covered in the CI component. Youth were asked about involvement in several types of activities that could indicate an inclination toward participation or a sense of personal responsibility and that also may develop skills that could be

transferred to civic life. Activities included those connected with school, particularly student government, out-of-school activities, and work for pay. A major focus was on participation in ongoing community service activities, either through the school, through other organizations such as a church or synagogue, or on an individual basis. Youth were asked to report on whether their school organized such activities, whether they were required, and whether they were integrated into the curriculum. Youth were also asked about whether they knew about the Peace Corps, Vista, and AmeriCorps, organizations which might afford them the opportunity for future participation in service activities.

The CI component also included items about family socialization for civic involvement in several areas: through exposure to information about politics or national issues, through discussion of politics and national issues, and by the example of parents who participate in community or civic life. Questions about sources of information concerning the national news were asked of parents and youth. Both parents and youth were also asked about discussing politics or national issues with each other. The Parent PFI/CI interview also included several items measuring participation in organizations, political participation such as voting and working for political candidates, and doing any type of volunteer or community service work. Youth were asked if their parents participated in community service activity as well.

Some of the CI items were administered only to youth in a specific grade range. The Youth CI interview had two paths, one for junior high or middle school students (6th through 8th grades) and one for senior high school students (9th through 12th graders). CI component questions about attitudes, efficacy, and knowledge related to civic life were administered to youth in the senior high path and their parents. Two items assessed adherence to the democratic values of freedom of speech and freedom of the press. Other items for parents and 9th through 12th grade youth measured political efficacy, including the perception that one possesses some of the skills necessary for civic participation, and that one can have an effective role in the political process. Parents of 6th through 12 graders and youth were also administered a five-item scale testing their knowledge of government. Finally, all youth, regardless of their path, were asked about their opportunity to learn about government and national issues at school (other than home schoolers) and to learn skills that could be transferred to the area of civic involvement.

The Adult CI interview provided national estimates of civic involvement for all adults, not just for parents of students in 6th through 12th grade. The items measured sources of information about politics and national issues, organizational participation, civic participation, political attitudes, and knowledge of government. Additional items constituted a brief measure of general literacy and tapped the opinions of adults on actions that might be taken to improve public education. Table 2 shows the NHES:96 civic involvement topics that were included in interviews with parents, youth, and adults.

Table 2.—NHES:96 distribution of Civic Involvement topics by interview

Sections	Parent PFI/CI Interview	Youth CI Interview	Adult CI Interview
Activities that promote civic involvement	X	X	X
Activities that promote or indicate personal responsibility		X	
Service activities		X	
Opinions about improving public education			X

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Sample Design

The 1996 National Household Education Survey (NHES:96) was a telephone survey conducted from January through April of 1996 using random digit dialing methods. Telephone numbers were randomly sampled, and a Screener was administered to sampled households. The purpose of the NHES:96 Screener was threefold. First, it provided information about standard educational and sociodemographic characteristics of households and their members. Second, the Screener included a brief set of substantive questions on household use of public libraries. Third, it collected information necessary for identifying and sampling household members for the PFI and CI component.

The NHES:96 PFI component focused on family involvement in children's education. The core of this survey collected extensive information on family involvement in four areas: children's schools, communication with teachers or other school personnel, children's homework and behavior, and learning activities with children outside of school. Other information collected in this component pertains to student experiences, children's personal and demographic characteristics, household characteristics, and children's health and disability statuses.

The NHES:96 CI component focused on sources of information, civic participation, and attitudes about government. The CI component also provided an assessment of the opportunities that youth have to develop the personal responsibility and skills that would facilitate their taking an active role in civic life.

Children from age 3 through 20 as of December 31, 1995, and enrolled in 12th grade or below were sampled as subjects of the Parent PFI/CI interview. The parent or guardian who knew the most about the child's care and education was interviewed. In addition, children in grades 6 through 12 were administered the Youth CI interview, which contained some questions on parent/family involvement, but focused primarily on civic involvement. The youth was only interviewed if the parent or guardian had completed an interview and permitted the interview with the youth. Any youth who did not live with a parent/guardian or with an adult at least 12 years older than him/herself was ineligible for the Youth CI interview.

The Adult CI interview focused on civic involvement and civic knowledge. Adults 18 years of age and older were eligible for sampling if they were not currently enrolled in 12th grade or below and were not on active duty in the U.S. Armed Forces.

In the sections that follow, the sample design for the NHES:96 is described in detail. The next section presents the precision requirements used to determine the sample sizes for the NHES:96. The random digit dialing method is introduced in the following section. The subsequent sections describe the sampling of households and persons within households.

Precision Requirements

The number of telephone numbers needed in the NHES:96 was based upon precision requirements for the household-level estimates at the state level, as well as national estimates required for the Parent PFI/CI, Youth CI, and Adult CI interviews. In this section, the precision requirements and how they are associated with the total number of telephone numbers needed for the NHES:96 are discussed.

Household Estimates. The NHES:96 is the first year in which the new Screener was fully implemented; the questions from this instrument form the Household & Library data file for the NHES:96. The enhanced data collection associated with the Screener introduced new statistical issues for the NHES, such as producing household-level estimates along with person-level estimates that have been produced for each of the previous NHES administrations

Having estimates of household public library use at the state level, in addition to the national level, increases the utility of the data. The goal for the Screener/Household & Library interview was to estimate characteristics that are possessed by 30 percent of the households within a state with a relative standard error of 10 percent or less. These precision levels required 500 completed screeners per state.

Several options for allocating the national sample to each state were considered. One approach was to assume that the overall number of completed interviews was not fixed and could be increased to achieve a minimum sample size in each state. A second approach was to fix the overall sample size at the lowest level sufficient to achieve the desired reliability for estimates from the Parent PFI/CI and Youth CI interviews and obtain the minimum sample size in each state by lowering the sample size in states with larger samples. In this method, the precision of the national estimates for other statistics would be lower than if no supplemental sampling were conducted. A third approach considered was to arrive at an allocation of the sample to states that would meet the minimum requirement by state and would not increase the variances of the national estimates. The first method, supplementing sample sizes in smaller states was selected because it did not increase the variances of the national estimates and because the resulting sample size of 59,000 households was also appropriate for the precision requirements for the Parent PFI/CI, Youth CI, and Adult CI interviews.

Supplementation was done in states where response rates or residency rates were expected to be comparatively low, based on previous experience. Despite this supplementation, the number of completed screeners fell short of 500 in ten states (District of Columbia, Delaware, Hawaii, Iowa, Kansas, Maine, Nebraska, New Hampshire, Nevada, and Vermont). This was due in part to an overall screener completion rate that was lower than expected, but in some states was also attributable to lower-than-expected state-level residency and response rates. Analysts should be aware of these shortfalls, since the precision of state-level estimates for these states will be somewhat lower than the target level of precision. If state-level estimation is an objective in future NHES studies, the observed state-level residency and response rates from NHES:96 should be taken into consideration when allocating the national sample.

Parent PFI/CI and Youth CI Interviews. The precision requirement for both the Parent PFI/CI and Youth CI interviews was the ability to detect differences between estimated percentages of children for 2-year or 2-grade groups in different domains defined by race and ethnicity of the child. For example, an analyst may want to compare the estimated percentage of 7th and 8th graders to 9th and 10th graders whose parents have met with their teacher since the beginning of the school year by race and ethnicity. The precision requirement for black and Hispanic children was that, assuming at least 40 percent of the children in the domain have the characteristic, a relative difference of 20 percent or more at the 95 percent confidence level should be detected. If race and ethnicity was not of interest then the precision requirement was for a relative difference of 9 percent or more at the 95 percent confidence level to be detected, assuming at least 30 percent of the children in the domain have the characteristic.

To achieve this level of precision, a sample size of 2,000 children for each of the 2-year groupings was required (as illustrated in the example below). As a result of oversampling households in areas with 20 percent or more black residence or 20 percent or more Hispanic residence (described later in this

section), it was expected that there would be about 270 completed interviews for black children in 2-year groups and 330 completed interviews for Hispanic children in 2-year groups.

To illustrate this precision requirement, assume 60 percent of Hispanic 6th and 7th graders have a characteristic and 50 percent of black 6th and 7th graders have the same characteristic. In this case, the estimated relative difference (equal to 20 percent since 100 {60 - 50} / 50 = 20 percent) was expected to be statistically significant at the 95 percent confidence level. The standard error for this estimate was calculated assuming a design effect of 1.25. The variance of an estimate is the simple random sampling variance multiplied by the design effect. The standard error for the difference computed above is approximately 4.5 percent, since the standard error is the square root of the variance of the estimate given by {(60(100-60)/330 + 50(100-50)/270) x 1.25}. Finally, the 95 percent confidence interval for the estimated difference is from 1 percent to 19 percent (10 ± 2 x 4.5 percent).

A sample of 7,400 completed youth interviews would provide the sample size required to achieve this level of precision. The number of completed Parent PFI/CI interviews is larger than the number of completed Youth CI interviews because the Youth CI interview is subject to additional nonresponse. Therefore, if the sample sizes for the Youth CI interview were large enough to satisfy the precision requirements for the youth component, then the sample sizes for the Parent PFI/CI interview would attain or exceed the requirements. Assuming the selection of all sampled youth for youth interviews and a youth completion rate of 83[1] percent, 9,000 completed Parent PFI/CI interviews would be required to obtain 7,400 completed youth interviews. Obtaining 9,000 completed Parent PFI/CI interviews requires 56,000 completed screeners, as illustrated below.

Estimates from the October 1992 Current Population Survey (CPS) showed that 12.4 percent of all households have one or more younger children (age 3 through 5th grade) but no older children, 11.3 percent of all households have one or more older children (grades 6 through 12) but no younger children, and 6.7 percent of all households have both older and younger children. The expected number of younger children sampled for an interview in 56,000 Screened households would be about 10,700 (56,000 times {0.124 + 0.067} equals 10,696). The expected number of older children sampled for an interview in 56,000 households with completed Screeners would be about 10,100 (56,000 times {0.113 + 0.067} equals 10,080). Assuming a completion rate of 89 percent[2], the expected number of completed Parent PFI/CI interviews for younger children would be about 9,500 and the expected number of completed Parent PFI/CI interviews for older children would be about 9,000. The expected total number of completed Parent PFI/CI interviews would thus be about 18,500, and the number of Parent PFI/CI interviews for older children would be sufficient to support the required 7,400 completed Youth CI interviews.

Adult CI Interviews. The Adult CI component consists of civic involvement items drawn from the Parent PFI/CI interview, but generalized to all adults who are not on active military duty. The goal was to have a sample of sufficient size to support estimates comparing adults in households without

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[1]The completion rate for the NHES:93 School Safety and Discipline component for the Youth interview was 83 percent. Although this completion rate is not conditional on completing any other extended interview, it was used as a conditional completion rate (conditional on completing the Parent interview) for the purpose of estimating sample size requirements for the NHES:96. This resulted in a larger number of completed Youth CI interviews than initially expected.

[2]The completion rate for the NHES:93 School Safety and Discipline component for the parents of 3rd to 5th graders was 89 percent. The completion rate for the NHES:93 School Safety and Discipline component for the parents of 6th through 12th graders was 90 percent.

children age 3 through 12th grade to adults in households with children in this age/grade range. The precision requirement was the ability to detect relative differences of 5 percent at the 95 percent confidence level between households with and without children age 3 through 12th grade. To support this level of precision, about 2,500 completed Adult CI interviews were needed. Assuming an adult response rate of 85 percent[3], 3,000 households would yield the desired number of interviews (3,000 X .85 = 2,550 completed interviews). As a result, 5 percent of the sample of telephone numbers (expected to yield 3,000 completed household screeners) was set aside for the Adult CI sample. Adults were randomly sampled from the approximately 3,000 Screened households that were not included in the parent/youth sample. Only one adult, defined as a person 18 years of age or older who is not enrolled in 12th grade or below and is not on active duty in the U.S. Armed Forces, was sampled in a household.

The total number of completed household Screeners needed in the NHES:96 was 59,000; of these, 56,000 were needed to support the parent/youth portion of the study, and 3,000 to support the Adult CI portion of the study. The 59,000 household Screeners were also sufficient to support a minimum of 500 completed Screeners per state. In order to obtain 59,000 households, a total of 161,466 telephone numbers were sampled. This number was determined by assuming an observed residency rate of 49 percent (based on recent experience with list-assisted samples) and a Screener response rate of 75 percent (based on experience from the NHES:96 field test, phase two) (161,466 X .49 X .75= 59,339).

In the section that follows, the random-digit-dial sampling approach and the implementation of household and within household sampling in the NHES:96 are discussed.

Random Digit Dialing (RDD) Sampling Approach

The sampling method used for the NHES:96 was a list-assisted method described by Casady and Lepkowski (1993). The list-assisted method is a single stage, unclustered method that produces a self-weighting sample. In a list-assisted sample, a simple random sample of telephone numbers is selected from all telephone numbers that are in 100-banks (the set of numbers with the same first 8 digits) in which there is at least one residential telephone number listed in the White Pages directory. This is called the listed stratum. Telephone numbers in 100-banks with no listed residential telephone numbers, the zero-listed stratum, are not sampled. The telephone numbers in the listed stratum include both listed and unlisted numbers since the listed stratum has all possible numbers if there is at least one residential listed telephone number in the 100-bank.

Coverage bias arises with this scheme because not all telephone households are included in the listed stratum; households in the zero-listed stratum have no chance of being included in the sample. Empirical findings were presented by Brick, Waksberg, Kulp, and Starer (1995) to address the question of coverage bias. These results show that the percentage of telephone numbers in the zero-listed stratum that are residential is small (about 1.4 percent), and that about 3 to 4 percent of telephone households are in the zero-listed stratum. Furthermore, the bias resulting from excluding the zero-listed stratum is generally very small.

A stratified list-assisted sample was used in the NHES:96 in order to support design goals for state-level household and public library use statistics and national-level and subdomain statistics for the PFI and CI components. These goals and the methods used to achieve them are described below.

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[3]This assumption is based on completion rates observed for the NHES:91 and NHES:95 Adult Education components, which were 85 percent for the NHES:91 and 80 percent for the NHES:95.

Oversampling by State and for Blacks and Hispanics

One of the goals of the NHES:96 was to produce reliable state-level estimates of households and household public library use. As described above, a minimum sample size requirement of 500 screened households in each state was a feature of the NHES:96 design. This minimum sample size in each state was accomplished by allocating the national sample to each of the states proportionally then increasing the sample size in states with fewer than 500 expected completed Screener interviews. The sample had to be supplemented in 17 states and the District of Columbia (hereafter, these 17 states and the District of Columbia are referred to as 18 states, for ease of discussion) to meet the minimum size requirement.

In order to produce more reliable national estimates from the extended interviews for subdomains defined by race and ethnicity, telephone numbers in areas with high percentages of blacks and Hispanics were sampled at higher rates. The sampling frame used in the study contained the 1990 census counts of persons in the area by race and ethnicity. A 100-bank was classified in the high minority concentration stratum if its population was either at least 20 percent black or at least 20 percent Hispanic. The banks that did not meet this requirement were classified in the low minority concentration stratum. The sampling rate in the high minority concentration stratum was twice that of the low minority stratum.

The sample for the Adult CI interview was obtained by taking a random subsample of the telephone numbers selected and assigning these numbers for this component of the study. The details on these sampling steps are given below.

The sampling frame for the NHES:96 study was the Genesys frame of all telephone numbers in 100-banks with one or more listed telephone numbers as of December 1995. Genesys is the commercial firm which produced the list of telephone numbers. To accomplish the goals described above, telephone numbers were stratified by state (such that each of the 18 states where oversampling would be necessary were separate strata, and the remaining states constituted a single stratum) and by minority concentration. Sampling rates were set for each of the strata, as described below. The sampling frame contained data on both the state and the 1990 census count of the percentage of persons in the telephone exchange by race and ethnicity. These data were used to stratify telephone exchanges into low and high minority concentration strata; for the 18 states where oversampling was required, this high/low minority stratification was done by state. A high minority concentration stratum was defined as having at least 20 percent black or 20 percent Hispanic residence in the exchange. Thus, each telephone number in the sampling frame was assigned to a state and to a high or low minority stratum.

The number of telephone numbers that were to be sampled was determined by incorporating information on precision requirements and estimated residency rates, response rates, and the distribution of telephone numbers by state/minority concentration stratum. Specifically,

- Based on previous experience with list-assisted samples, about 53 percent of telephone numbers sampled within a listed stratum were expected to be residential, but only about 49 percent were expected to be identified as households because some households never answer their telephones even after repeated calls. Of the 18 states where oversampling was needed, two states had estimated residency rates that were quite a bit below 49 percent (in Alaska and the District of Columbia the estimated residency rates were 35 and 40 percent, respectively). These lower estimated residency rates were used to modify the number of telephone numbers sampled in these states.

- A response rate to the household Screening interview of 75 percent was assumed across states based on experience in the field test of the NHES:96.

- The sample size in 18 smaller states was supplemented to meet the minimum size of 500 Screener interviewers. This was accomplished by increasing the sampling rate in these states by factors ranging from 1.24 to 4.99, depending on the state.

- Across states, the telephone numbers in the high minority strata were sampled with a probability that was twice as large as the probability used in the low minority concentration strata.

Given this sample design, and the precision requirements described above, 161,466 telephone numbers were needed to obtain about 59,000 completed household screening interviews for the parent and youth interviews. About 95 percent of this total sample was needed to obtain the 56,000 completed Screeners for the parent and youth interviews [153,374 X .49 (residency) X .75 (response) = 56,365]. About 5 percent was needed to obtain the 3,000 completed Screeners for the adult interviews [8,072 X .49 (residency) X .75 (response) = 2,966]. Table 3 shows the number of telephone numbers sampled from each state and the oversampling fraction used to meet the minimum size requirement.

After the telephone numbers were sampled, the resulting national sample (161,446 numbers) was randomly divided into two groups. The first group (153,374 telephone numbers, or 95 percent of the sample) were those telephone numbers where a screening interview would be conducted and eligible children and youth (if any) would be sampled for Parent PFI/CI and Youth CI interviews. The second group (8,072 numbers, or 5 percent of the sample) were those telephone numbers where a screening interview would be conducted and an Adult CI interview would be administered to an eligible household member. It was expected that this division would result in 59,000 completed screening interviews with about 56,000 completed screening interviews in households where Parent PFI/CI and Youth CI interviews would be attempted and about 3,000 completed screening interviews in households where Adult CI interviews would be attempted. In fact, of the 55,838 completed Screening interviews, 53,211 interviews (95.3 percent) were completed in households assigned to the Parent and Youth sample and 2,627 interviews (4.7 percent) were completed in households assigned to the Adult CI sample. The lower yield of households was due to a response rate of 70 percent rather than the assumed rate of 75 percent. The response rates are discussed in detail in *Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey* (Montaquila and Brick forthcoming).

Within-Household Sampling

The methods for sampling persons within sampled households for Parent PFI/CI, Youth CI, and Adult CI interviews are discussed below for each component.

Parent PFI/CI Interviews

The Parent PFI/CI interview was conducted with the parents of a sample of children from age 3 through 20 and enrolled in 12th grade or below. In households with one or more children from age 3 through 5th grade (younger children), one child in the household was sampled for the survey. In households with one or more children in 6th through 12th grade (older children), one child in the household was sampled for the survey. In this way, the within-household sample size was limited to two

Table 3.—NHES:96 sample of telephone numbers in each state and oversampling factors

State	Number of sampled telephone numbers	Oversampling factor
Alabama	1,947	1.00
Alaska	2,298	4.36
Arizona	1,219	1.00
Arkansas	2,115	1.00
California	20,435	1.00
Colorado	2,009	1.00
Connecticut	1,774	1.00
Delaware	1,361	3.33
District of Columbia	1,702	2.81
Florida	8,723	1.00
Georgia	4,531	1.00
Hawaii	1,361	1.91
Idaho	1,361	2.18
Illinois	6,697	1.00
Indiana	2,888	1.00
Iowa	1,289	1.00
Kansas	1,153	1.00
Kentucky	1,598	1.00
Louisiana	2,547	1.00
Maine	1,361	1.54
Maryland	3,025	1.00
Massachusetts	2,832	1.00
Michigan	4,724	1.00
Minnesota	1,994	1.00
Mississippi	1,532	1.00
Missouri	2,692	1.00
Montana	1,361	2.67
Nebraska	1,361	1.24
Nevada	1,362	1.50
New Hampshire	1,361	1.88
New Jersey	4,509	1.00
New Mexico	1,361	1.69
New York	10,776	1.00
North Carolina	4,502	1.00
North Dakota	1,361	3.47
Ohio	6,018	1.00
Oklahoma	1,501	1.00
Oregon	1,478	1.00
Pennsylvania	5,614	1.00
Rhode Island	1,361	2.52
South Carolina	2,337	1.00
South Dakota	1,361	3.36

Table 3.—NHES:96 sample of telephone numbers in each state and oversampling factors—Continued

State	Number of sampled telephone numbers	Oversampling factor
Tennessee	2,585	1.00
Texas	11,987	1.00
Utah	1,361	1.55
Vermont	1,361	3.34
Virginia	3,800	1.00
Washington	2,553	1.00
West Virginia	1,361	1.54
Wisconsin	2,285	1.00
Wyoming	1,361	4.99
Total	161,446	

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

eligible children, and two children were sampled only when both younger and older children were in the household. This limited the amount of time required of parents in households with a large number of eligible children.

For the NHES: 96, the actual number of completed Parent PFI/CI interviews for younger children was 11,400 and the actual number of completed Parent PFI/CI interviews for older children was 9,392, a total of 20,792 Parent PFI/CI interviews. The number of Parent PFI/CI interviews completed exceeded the expected number despite the fact that only 53,211 households in the Parent/Youth portion of the sample completed the Screener interview because the percentage of households with children differed from the October 1992 CPS estimates. This is discussed further in *Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey* (Montaquila and Brick forthcoming).

Youth CI Interviews

In most cases exactly one child was sampled for a Youth CI interview in households with one or more children in grades 6 through 12 (older children). Occasionally two Youth CI interviews were conducted when a child who was thought to be a younger child at the time of sampling was subsequently found to be an older child and there was already a sampled older child in the household. The interviews with older children were conducted after the Parent PFI/CI interview was completed. Since most items in the Youth CI interview were drawn from the Parent PFI/CI interview, this allowed the parent the opportunity to give informed consent for the interviewing of their child.

All children in grades 6 through 12 and under age 21 whose parents completed a Parent PFI/CI interview were selected for the Youth CI interview. The actual number of completed Youth CI interviews was 8,043, which is larger than the expected 7,400 due to the larger number of completed Parent PFI/CI interviews than originally expected.

Adult CI Interviews

One adult was randomly sampled from each household assigned to the Adult CI sample. An adult was defined as a person 18 years of age or older who was not currently enrolled in 12th grade or below and was not currently on active duty in the U.S. Armed Forces. Members of the U.S. Armed Forces on active duty were excluded so that the estimates would correspond to the civilian, non-institutionalized population, an approach consistent with the reports from many other federal surveys such as the CPS.

The sample size for the Adult CI interview was designed to be large enough to provide sufficient precision of a variety of estimates by the characteristics of the adult or the household. The actual number of completed Adult CI interviews was 2,250, providing somewhat less precision than the target sample size of 2,550.

Table 4 summarizes the number of completed interviews that were planned for the NHES:96 and the number of completed interviews that were actually obtained.

Table 4.—Summary of expected and actual number of completed interviews for the NHES:96

Component	Expected number of completed interviews	Actual number of completed interviews
Screener interviews	59,000	55,838
Parent PFI/CI interviews	18,500	20,792
Younger children (age 3 through 5th grade)	9,500	11,400
Older children (6th through 12th grade)	9,000	9,392
Youth CI interviews	7,400	8,043
Adult CI interviews	2,550	2,250

SOURCE: U.S. Department of Education, National Center for Statistics, National Household Education Survey (NHES), spring 1996.

Data Collection

This section describes the 1996 National Household Education Survey (NHES:96) data collection experience. Included are discussions of supervisor and interviewer training, data collection procedures and their results, special data collection activities such as refielding cases, and data quality control.

Supervisor/Interviewer Staff Training

A series of training sessions was held to prepare supervisors and interviewers for NHES:96 data collection. Training materials were prepared by project staff members and included an interviewer's manual, lecture material, interactive scripts presenting interview concepts and definitions, an exercise on household enumeration procedures, and dyad role play scripts.

Project staff trained four trainers and four supervisors on December 5 and 6, 1995. Some supervisors were trained with trainers in order to prepare them for an early training session with experienced interviewers. Other supervisors were trained on December 19 and 20. As a result of comments and questions from the trainers, some changes were made in training scripts. The Telephone Research Center (TRC) trainers conducted the latter training sessions for the most part, with project staff present to respond to any questions that arose.

Although most interviewer training took place between January 2 and January 21, one group of experienced interviewers was trained by TRC staff on December 16 and 17. Given the large number of interviewer hours scheduled for the study, this early training was done so interviewing could begin on January 2. Interviewers who were trained in December were scheduled for role play sessions beginning January 2, and began interviewing immediately thereafter. Because the first group of interviewers had worked on RDD CATI surveys before (with many having worked on previous NHES surveys), there was no concern that they would forget what they had learned during the winter holidays prior to the beginning of data collection in the first week of January.

Interviewer training was conducted by supervisors and trainers. Due to severe winter storms early in the data collection period, which disrupted the training schedule, an additional group of interviewers was later added and was trained on January 20 and 21. Based on experience with the previous NHES surveys and other similar surveys, 16 hours of project specific training were allocated for each training group.

The goal of training was to make interviewers knowledgeable about the NHES:96 survey instruments and efficient at collecting information from respondents. This included familiarizing interviewers with the questions asked in the Screener and the three extended components, the flow of the interviews, and using the CATI system. Training activities included interactive and role-play scripts. Interactive scripts were delivered in lecture format, with the trainer acting as the respondent and the interviewers asking the questions. In addition, the trainer would take time to explain or define concepts pertinent to the NHES:96 interviews, or to ask an interviewer to read a definition or procedure from the interviewer's manual. Role-play scripts contained more practice interviews and were conducted by pairs of interviewers at actual interviewing stations. The role play scripts were used to reinforce training concepts, to provide interviewers with the opportunity to practice the interviews, and to provide trainers, supervisors, and project staff with an opportunity to monitor the interviewers conducting whole interviews before actual interviewing began.

Exercises were used in addition to the scripts to reinforce the rules for enumerating household members. Based on previous experience with the NHES, it was believed that extra instruction in this area would be helpful.

The training program was divided into 4-hour sessions. Evening training periods consisted of one session each night, and weekend training periods included two sessions each day. The first session of training provided an introduction to the background and purpose of the NHES and an overview of the instruments that would be used in the study. Interactive lectures in this session focused briefly on all four instruments in order to acquaint interviewers with the study and provide an idea of the flow of interviewing. Particular attention was given to the Screener in a separate interactive lecture. During this session, interviewers also learned about answering respondent questions. The second session included an exercise on household enumeration, an interactive lecture on contact procedures, and contact procedure role plays. The third session included interactive scripts on all four instruments (with some extended interviews beginning after the Screener had been completed, and one extended interview beginning in the middle after a restart) and training on refusal avoidance (including a review of how to answer respondent questions). The fourth session of training included five role play interviews.

From past experience, it has been found that one of the most difficult tasks for interviewers in the first weeks of data collection is answering respondent questions. For this reason trainees were given multiple opportunities to practice answering respondent questions during the training sessions and were also supplied with a set of potential respondent questions and appropriate answers printed on card-stock paper to review on their own and keep in their interviewing carrels for easy reference.

Altogether, seven groups of interviewers were trained at the Twelve Oaks TRC, and six groups at the Frederick TRC. In total, 388 interviewers completed training for the NHES:96.

Spanish Interviewer Training

Fourteen bilingual interviewers were trained in English and Spanish. These bilingual interviewers received the same English training as other interviewers in addition to a training session on February 1 that focused on the Spanish versions of NHES:96 CATI instruments. During this additional day of training, the bilingual interviewers completed role plays and participated in interactive scripts in Spanish with their bilingual trainer. All of the CATI screens were translated into Spanish, and these screens were available to bilingual interviewers at a keystroke during interviewing should they encounter a respondent who preferred to answer in Spanish.

Refusal Avoidance Meetings

Beginning about two weeks after the start of data collection, trainers at each of the TRCs held refusal avoidance meetings with interviewers. These sessions focused on information about obtaining respondent cooperation, and reinforced concepts provided in the General Interviewer Training and project training sessions. In addition, specific objections or questions about the NHES posed by respondents, and ways of addressing them, were discussed with the interviewers.

Refusal Conversion Training

All interviewers were given strategies on how to avoid refusals during the regular project training sessions and in the refusal avoidance meetings. In addition, supervisors selected experienced interviewers with higher than average cooperation rates in either the Screener, the extended interviews, or both to be trained for refusal conversion activities. Refusal conversion attempts to persuade respondents who have previously refused to participate to complete an interview. The refusal conversion training lasted approximately one and one-half hours and covered specific conversion strategies, common reasons for refusals, reasons specific to the NHES:96 for refusal, the importance of addressing people's concerns, and appropriate responses to respondents' concerns. The session was interactive with the interviewers helping one another with strategies for handling specific cases. During the second half of data collection, when the amount of new work to be done was relatively low compared to the amount of conversion work to be done, additional groups of interviewers were trained in refusal conversion. By the last three weeks of data collection, virtually all NHES interviewers still on the study (about 9 out of 10) had been trained in refusal conversion.

Data Collection Procedures

Data for the NHES:96 were collected by telephone interviewers from January 2 through April 12, 1996. Screening of households ended on April 11, extended interviews and reinterviews were stopped on April 12. General data collection procedures used in the NHES:96 are described in this section.

During data collection, contact at a telephone number was often made on the first or second call attempt, and the case was finalized as a complete interview or was identified as a nonworking or nonresidential telephone number. In the NHES:96, about 51 percent of completed Screeners (n = 28,292 out of 55,838), 87 percent of nonworking (NW) Screener numbers (32,489 out of 37,385), and 68 percent of nonresidential (NR) Screener numbers (10,526 out of 15,541) were finalized in one or two calls.

Prior to the start of data collection, two procedures were used to eliminate some of the nonworking and nonresidential numbers. These procedures were:

> **Business purge** - all telephone numbers were matched against residential White Pages listings and Yellow Pages business listings, with numbers appearing in both listings classified as White Pages listings. Numbers that appeared only in the Yellow Pages business listings were classified as nonresidential.
>
> **Tritone test** - the telephone numbers were computer dialed by a vendor; those that received tritone signals (the three-bell sound heard when dialing a nonworking number) prior to a ring on two separate calls on different days were classified as nonworking.

Of the 161,446 telephone numbers in the NHES:96 sample, 7,218 were deemed to be nonresidential through the business purge. Tritone tests were conducted on 101,428 of the telephone numbers in the sample (those not identified as business numbers or listed residential numbers), and 15,590 were deemed nonworking as a result. These cases were assigned final disposition codes before data collection began.

The CATI system scheduled cases for telephone calls automatically. The system assigned cases to interviewers in the following order of priority:

- Cases that had specific appointments;
- Cases that had unspecified appointments/general callback times;
- Cases that were busy signals on previous attempts in the same time period (these came up 15 minutes after the first busy signal and, if still busy, 15 minutes after that);
- Interim cases that had been attempted with no contact in other time periods; and
- Cases that were new and had never been worked.

For cases in which call attempts resulted in no answer, an answering machine, a callback, or another non-problem status, interviewers initially made at least seven attempts to reach households in order to complete the screening and determine whether any household members were sampled for interviews. These calls were staggered on different days of the week and at different times of the day over a period of at least two weeks, including at least two daytime calls, three evening calls, and two weekend calls. All cases for which this seven-call limit was reached were later refielded for additional attempts (see discussion, below).

Cases that were classified as refusals were placed in a holding queue for later conversion attempts by interviewers who had been selected for, and received, refusal conversion training. Refusal cases were initially held for 13 days before conversion was attempted. This "aging" period was reduced during the last two weeks of data collection. Cases that were coded as a problem were referred to a telephone supervisor to discuss appropriate methods of completing an interview.

When the person answering the telephone was not able to speak English, and the interviewer was not bilingual and was not able to identify an English-speaking household member, the interviewer coded the case as a "language problem" and further specified the case as either "hearing/speech problem," "Spanish," or "language other than English or Spanish." All cases coded as non-English language problems were placed in a special queue so that only bilingual interviewers could access these cases for followup. On the other hand, if a bilingual interviewer encountered a Spanish-speaking respondent on an initial call, the interviewer could immediately begin to conduct the interview in Spanish without ever coding the case as a language problem. (Additional information on the number and disposition of language problem cases is provided in the section on Unit Response Rates in the paper entitled *Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey* (Montaquila and Brick forthcoming).

The NHES:96 calling protocol included a number of procedures designed to maximize the survey response rate. While these procedures are not typical of most random digit dial (RDD) surveys, many are standard procedures in the NHES. Because most nonresponse in a RDD survey occurs at the screening level, these procedures emphasized increasing the Screener response rate. The approaches used included an advance mailing to addresses obtained for listed telephone numbers, refusal conversion attempts for all Screener interviews except those coded as hostile, refielding Screeners that had a final status of maximum calls or no answer, and selective refielding of cases that had received two refusals. At the extended level, refusal conversion was also conducted (although cases receiving two refusals were not refielded) and "maximum call" cases were also refielded. Cases in which parental permission to conduct a Youth CI interview was initially refused were also selectively refielded.

Advance Mailing

In an attempt to increase the Screener response rate in the NHES:96, a letter describing the study, its importance, and some frequently asked questions and their answers (a copy appears in appendix A) was mailed to those households for which an address could be obtained. Phone numbers in the sample were sent to Telematch for their "ReverseMatch" service in three separate batches, as determined by the phone number's randomly assigned CATI scheduler load wave indicator. As Telematch returned "mailable" residential addresses (street, city, state and ZIP code were complete and a residential indicator set), the addresses were printed on the stuffed envelopes and mailed from the NCES mailroom (due to the federal government shutdown in January 1996, one batch of letters was mailed from the Westat mailroom). The intent of this stepped "wave" approach was that the advance letter should have reached the household no more than two weeks before the phone number became available for calling in the CATI scheduler. Table 5 shows the results of the Screener advance mailing effort.

A total of 47,878 letters were mailed (table 5). A higher percentage of cases for which a letter was mailed were completed, compared to cases for which no letter was mailed. Nearly three quarters of the mailing cases were completed (73 percent) compared to 58 percent of cases for which no letter was mailed. This confirms one of the findings of the NHES:96 field test, which was that households for whom addresses cannot be obtained (and thus to whom no letters were mailed) tend to be less likely to respond.

Some letters (approximately 3,774 or 8 percent) were returned as undeliverable. Because the address list was destroyed after the mailing, it is not possible to separate the completion rates for the Postmaster returns and other mailing cases. However, this issue was examined during the NHES:96 field test, phase two, in which no statistically significant differences in completion rates were found between cases whose letters were returned by the Postmaster and other cases whose letters were not returned.

Table 5.—Results of the Screener advance mailing effort in the NHES:96.

	No letter mailed		Letter mailed	
Final Result	Number	Percent	Number	Percent
Complete	26,114	58	29,724	73
Refusal	8,926	20	7,934	19
Maximum call	1,293	3	751	2
Other nonresponse	8,539	19	2,431	6
Ineligible telephone number	68,696	--	7,038	--
Total	113,568	100	47,878	100

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Refusal Conversion

An initial refusal case was attempted again after a period of time (generally two weeks), regardless of the type of interview (i.e., Screener or extended). Exceptions were cases in which the interviewer stated that the respondent was hostile, meaning threatening, abusive, or profane; these cases were not refielded. Interviewers specially trained for refusal conversions were assigned to call the eligible refusal

cases again and attempt to complete the interview. In the case of a Screener, another household member may have answered the telephone and completed the Screener; in other cases, an effort was made to convert the person who originally refused to be a respondent.

Classification of Refusals. Whenever an interviewer received a refusal, information about the case was added to a CATI database segment specifically for noninterview cases. The information included a rating of the refusal as "mild," "firm," or "hostile." These ratings were, of course, subjective assessments by the interviewer. In many of the refusal cases, interviewers encountered situations where the person would hang up the telephone without saying anything, other than having said "hello" when answering the telephone. In these instances, the interviewers were instructed to code the case a "mild" refusal. If a refusal was coded as hostile, it was reviewed by a supervisor, who would determine whether the "hostile" designation was warranted. If the supervisor did not concur with the "hostile" code, the case was released for a conversion attempt.

Refielding Refusals. As in past NHES data collections, efforts to increase Screener response involved the refielding of some of the cases that had received a second refusal on the conversion attempt. Screener refusals that were coded as mild or firm for the two previous refusals were considered eligible for refielding. No Screener that had been coded as hostile by an interviewer was released for an additional conversion attempt. Some refusals that occurred very late in the data collection period were not refielded because there was not enough time to let the cases "age" before refielding.

Screeners. Table 6 shows the results of refusal conversion efforts at the Screener level. In the first column, the results of the first refusal conversion approach are shown. The total number of cases that received a refusal was 31,315 and 9,635 Screeners were completed as a result of first-round conversion attempts. The conversion rate for these Screeners was about 32 percent, lower than would be expected from previous NHES collections. Higher conversion rates at the Screener level were observed in the NHES:91 and NHES:93. The NHES:96 rate is closer to, but still slightly lower than, the NHES:95 rate. One reason for the decline might be that the NHES:95 and NHES:96 both included full enumeration of all households, whereas this was not true in the NHES:91 or the NHES:93.

Of the cases that resulted in second refusals, 16,496 were refielded for an additional conversion attempt. These included only those cases for which neither the first nor the second refusal received a code of "hostile." Some refusals that occurred very late in data collection were not refielded because there was insufficient time available for a holding period. This effort resulted in the completion of 2,589 additional Screeners, about 16 percent of the refielded refusal cases, and about 5 percent of all completed Screeners. The overall Screener conversion rate for the NHES:96 was 39 percent; that is, 12,224 Screeners were completed out of 31,314 cases that had ever refused.

Tabulations during data collection revealed that most Screener-level breakoffs (more than 90 percent) occurred prior to the matrix, so full enumeration of households, although it may have played a role, did not solely account for the high refusal rate. Anecdotal information from TRC staff indicate that many respondents hung up without listening to the entire introduction, so that they often did not know what it was that they were refusing. Among the final refusal cases at the Screener level (n = 16,860), 14,261 (or 85 percent) of the cases were broken off at the introductory screen. Another 1,530 cases (9 percent) were broken off at other early screens, such as the screen at which the interviewer asks to speak with a household member who is at least 18, or asks to speak with a male or female head of household, or at the question just prior to the enumeration matrix ("Are any of the people who normally live in your household age 20 or younger?"). Only 3 percent of final refusal cases (n = 475) occurred at the enumeration matrix.

Discussions with telephone center supervisors and monitors and project staff did not suggest specific reasons for the lower cooperation rate. Various reasons for the decline have been considered but cannot be measured quantitatively. One potential factor may be an implied "administration burden." Knowing that full enumeration and an expanded screener were to be conducted in each household may have adversely and unconsciously influenced interviewers' refusal avoidance practices. Also impossible to measure was the public's potential distrust of federal government activities during the budget standoff and government shutdown that occurred early in data collection. For further information about the NHES:96 response rates, refer to the document *Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey* (Montaquila and Brick forthcoming).

Table 6.—Results of refusal conversion at the Screener level in the NHES:96

Final Result	Standard procedure		Refielded refusals	
	Number	Percent	Number	Percent
Complete	9,635	32	2,589	16
Refusal	19,924	67	13,416	83
Other nonresponse	331	1	140	1
Ineligible (e.g., nonresidential)	1,425	--	351	--
Total	31,315	100	16,496	100

NOTE: Ineligible cases are those found to be nonresidential or nonworking during re...lding attempts. These cases are excluded from the calculation of percents. Other nonresponse includes language problems, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Percents may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Extended Interviews. Table 7 shows the results of refusal conversion efforts at the extended interview level. The refusal conversion rates for the extended interviews are typically lower than the Screener refusal conversion rates. Refusals at the extended level tend to be more firm than those at the Screener level because, oftentimes, the person is already aware of the survey content and chooses not to respond. Also, at the extended level, the same person must be converted, while other adult household members can respond to the Screener. Among the Parent PFI/CI interviews, 2,306 were coded as refusals at some point during data collection. Of these, 715 were finalized successfully, including 702 completed interviews and 13 confirmed ineligible. This resulted in a conversion rate of 31 percent for Parent PFI/CI cases, slightly lower than the initial conversion rate for the Screeners. This conversion rate is comparable to that obtained for the early childhood component in the NHES:95 (33 percent). Among the Youth CI interviews in which parent/guardian permission was granted immediately upon Parent PFI/CI interview completion, 417 cases were coded as refusals at some point during data collection (discussion of permission refusal conversion follows). Of these, 204 were finalized successfully, including 200 completed interviews and 4 confirmed ineligible, resulting in a 49 percent conversion rate. This number is relatively high when compared to the Screener, but demonstrates that youths are easier to convert than adult respondents. Among the Adult CI interviews, 315 were coded as refusals at some point during data collection. Eighty-five of these were eventually converted and completed, resulting in a

27 percent conversion rate. In comparison, the conversion rate for the adult education component in the NHES:95 was only three percentage points higher.

For refusals at the extended interview level, only the "standard" procedure of one conversion attempt was used. Unlike the Screeners, final extended refusals were not refielded.

Table 7.—Results of refusal conversion efforts at the extended interview level in the NHES:96

Final Result	Parent PFI/CI		Youth CI		Adult CI	
	No.	Pct	No.	Pct	No.	Pct
Complete or ineligible person*	715	31	204	49	85	27
Refusal	1,501	65	180	43	213	68
Other nonresponse	90	4	32	8	17	5
Ineligible telephone number*	--	--	1	<1	--	--
Total	2,306	100	417	100	315	100

* Ineligible telephone numbers are those found to be nonresidential or nonworking during refielding attempts. These cases are excluded from the calculation of percents. Ineligible persons are those whose age, or enrollment status, or grade is outside the study range. Other nonresponse includes language problems, maximum call cases, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Percents may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

For the first time in the history of the NHES, Parent PFI/CI interview respondents were explicitly asked for permission to speak with the youth sampled for the Youth CI interview; whereas in the past, implicit permission was granted when the parent was told we would like to interview the youth and asked to speak to him or her. Early in data collection, it was noticed that the rate of parent refusals to give permission was higher than during the field test, and that the Youth CI interview completion rate was lower than expected. Two changes to procedures were enacted in an effort to increase the Youth CI interview completion rate. First, a modification was made to the CATI to collect a Non-Interview Report Form (NIRF) when a Parent PFI/CI interview respondent refused to grant permission for the youth to be interviewed. This NIRF collected the hostility level of the refusal and text about the reason for the refusal. NIRFs were reviewed by survey managers, and they revealed that often the parent/guardian had no issues with the survey itself, but believed the youth would not want to participate. On March 8, Youth CI interviews that had been finalized as parental refusals in households in which there had never been a refusal other than this permission refusal (in other words, the interview was not in the refusal "strategy"), were not hostile refusals, and had sufficiently "aged," were refielded and called by a select group of experienced interviewers. These interviewers followed a script prepared by project staff that explained the importance of the study to the Parent PFI/CI interview respondent and asked again for permission to speak with the youth. A second permission refusal resulted in the CI interview being assigned a final refusal code and never being refielded again. If permission was granted, the interviewer asked to speak with the youth and conducted the Youth CI interview if the youth agreed to participate. Over the course of data collection, a total of 510 Youth CI interviews were refielded. In 117 of the cases (23 percent), the conversion attempt resulted in a completed Youth CI interview; in 56 cases, parent/guardian permission was granted, but the sampled youth refused to participate and the Youth CI interview was assigned a final

refusal code that was different from that for the permission refusals; in 323 cases, the parent/guardian again refused permission or interviewers were unable to re-establish contact with the household and the case remained coded a parental refusal; the remaining 14 cases were finalized as language problems or other nonresponse.

Refielding Other Nonresponse Cases

Maximum Call Cases. As noted previously, at least seven attempts were made to complete a Screener at each telephone number sampled for the NHES, except for refusals or language problem cases. Cases with which human contact had been made, but no Screener had been completed by the time the maximum number of calls was reached, were coded as "maximum call" cases. The maximum call cases were refielded periodically during the data collection period. A CATI utility developed for this purpose permitted the release of "fresh" maximum call cases (i.e., those that had not been released previously) or the release of all maximum call cases.

Initially, only "fresh" Screener cases were released, and then, as the end of the data collection period neared, all Screeners (including those that had been previously refielded) were released for additional attempts. On the Saturday before the end of screening (April 6), all Screener maximum call cases were released. On the day prior to the end of extended interview data collection (April 11) all fresh extended interview maximum call cases were released. For Screener refields, the number of additional calls specified was four, with the exception of the final refielding, when two additional calls were specified. Similarly, four calls were also specified for extended interview refields, with the exception of the last night of data collection. In the final releases, two calls were specified so that more interviews had an opportunity to be called on the last day.

Table 8 shows the results of refielding the maximum call cases at the Screener level. A total of 7,603 maximum call Screener cases were released. Of these cases, 2,256 (32 percent) resulted in completed Screeners, 2,879 (41 percent) were refused, and 1,690 (24 percent) were finalized as maximum call cases after additional attempts. In comparison: in the NHES:91, 38 percent of refielded Screeners were completed; in the NHES:93, 20 percent were completed; and in the NHES:95, 29 percent were completed.

No Answer Cases. Another effort to increase the Screener response rate was the refielding of "no answer" cases (NA) for additional attempts. The no answer category includes two types of cases. The "pure" NA cases were those numbers at which neither a person nor an answering machine has ever answered the telephone number on any attempt. The "answering machine no answer's" (NM) were cases in which the telephone has been answered only by an answering machine. The CATI utility that is used to refield the pure NA's treats them as new numbers and releases them for a full round of calls. These cases were carefully monitored during data collection, as they are often unproductive. Refielded pure NA's that had received many additional calls were pulled out of the CATI scheduler and assigned a final code periodically after refielding. In this way, cases were consistently available to interviewers, but the most unproductive numbers were pulled out to allow calls on more productive work. Virtually all of the Screeners finalized as NA received 14 or more calls.

Table 8.—Results of refielding maximum call Screener cases in the NHES:96

Final Result	Screener	
	Number	Percent
Complete	2,256	32
Refusal	2,879	41
Maximum call	1,690	24
Other nonresponse	219	3
Ineligible telephone number	559	--
Total	7,603	100

NOTE: Ineligible telephone numbers are those found to be nonresidential or nonworking during refielding attempts. These cases are excluded from the calculation of percents. Other nonresponse includes language problems, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Percents may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

As shown in table 9, at the extended interview level, 1,862 Parent PFI/CI interview maximum call cases were released, of which three were found to be ineligible telephone numbers. In all, 927 (50 percent) were completed or found to be ineligible due to age or enrollment status, 451 (24 percent) were refused, and 354 (19 percent) were finalized as maximum call cases. Among the 467 Youth CI interview cases that were refielded, over half (270, or 58 percent) were completed, 72 (15 percent) were refused, and 70 (15 percent) were finalized as maximum call cases. Among the Adult CI interviews, 150 maximum call cases were refielded. Of these, 65 (43 percent) were completed, 43 (29 percent) were refused, and 21 (14 percent) were finalized as maximum call cases. Again, other nonresponse such as language problems, and problem cases that could not be resolved during data collection, were less common and are shown in the table.

A new CATI utility for refielding NM's was introduced in the NHES:96. This utility allowed specification of the additional number of calls desired for each batch of phone numbers refielded. NM's were refielded for four additional calls until the last week of data collection, when they were refielded for two additional calls. If this maximum was reached and human contact had not been made, the Screener disposition code was set to final NM and the case was not refielded again.

Table 10 shows the results of refielding the Screener no answer cases. An important result of the refielding of the "pure" NA cases is that 1,684 ineligible phone numbers (nonworking or nonresidential) were identified. Of the 11,608 numbers presumed to be eligible, the great majority were finalized as "pure" NA cases (7,725, or 67 percent) or answering machine NM cases (12 percent).

Table 9.—Results of refielded maximum call cases at the extended interview level in the NHES:96

Final Result	Parent PFI/CI		Youth CI		Adult CI	
	No.	Pct.	No.	Pct.	No.	Pct.
Complete or ineligible	927	50	270	58	65	43
Refusal	451	24	72	15	43	29
Maximum call	354	19	70	15	21	14
Other nonresponse	127	7	55	12	21	14
Ineligible telephone number	3	--	--	--	--	--
Total	1862	100	467	100	150	100

NOTE: Ineligible household telephone numbers are those found to be nonresidential or nonworking during refielding attempts. These cases are excluded from the calculation of percents. Ineligible persons are those whose age, or enrollment status, or grade is outside the range for the study. Other nonresponse includes language problems, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period, respondents who were ill or not competent to answer the survey). Refusals at the Youth CI interview level include parent/guardian permission refusals. Percents may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

The yield in completed Screeners from the refielded answering machine NM cases is not as dramatic as in the NHES:95, when 31 percent of the refielded cases resulted in completes. Instead, only 355 of the 2,401 eligible telephone numbers resulted in completed Screeners, while 63 percent (1,505 Screeners) remained in the answering machine NM status. The NM cases were handled slightly differently in the NHES:96 than in previous NHES data collections. In the past, these cases were refielded for another entire complement of seven calls, essentially being treated as new telephone numbers in the refielding process. In the NHES:96, these cases were handled in the same way as "maximum call" cases, described above, and were released for four additional calls, then returned to NM status (if not completed or refused), and were refielded for another two calls. The goal of this approach was to keep the cases that were potentially most productive in the system. By the end of data collection, nearly all final NM cases had received at least 14 calls. Thus, the answering machine cases received about the same number of calls in the NHES:96 as they did in the NHES:95.

Table 10.—Results of refielding Screener "no answer" cases in the NHES:96

Final Result	"Pure" NA		Answering Machine NM	
	Number	Percent	Number	Percent
Complete	1,308	11	355	15
Refusal	734	6	263	11
Maximum call	358	3	268	11
No answer, "pure"	7,725	67	0	0
No answer, answering machine	1,424	12	1,505	63
Other nonresponse	59	<1	10	<1
Ineligible telephone number	1,684	--	186	--
Total	13,292	100	2,587	100

NOTE: "Pure" NA's are no answer cases for which neither a person nor an answering machine has answered on any attempt. Answering machine NM cases are those that have been answered by machines only on any attempts resulting in contacts. Percents may not sum to 100 due to rounding. Ineligible telephone numbers are nonworking or nonresidential numbers.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Weekly Progress in Completing Cases

Table 11 shows data collection progress by week. Included in this presentation are the numbers of Screeners and extended interviews completed each week, the number of interviewer hours each week, and the number of interviewer hours per completed interview, a commonly used measure of interviewing productivity. (Note that table 5 does not include reinterviews, which are addressed below.)

About half of the total number of Screeners (or 25,166 out of 55,838) were completed during the first 5 weeks of the data collection period, that is, by February 4. About three-fourths of the completed Screeners (36,448) were done by February 18, the seventh week of data collection. The number of Screeners completed each week was much lower after that point, reflecting the greater difficulty of completing Screeners with the outstanding cases. The Screener cases remaining at this stage of data collection included large numbers of persistent answering machine cases, refusal conversion cases, and refielded "maximum" call cases (those that had received the maximum number of call attempts according to the original protocol, but were refielded for additional attempts).

About half of the extended interviews were completed by February 11, that is, 15,184 out of 31,085 extended interviews. About three-fourths of extended interviews were completed by the middle of the eighth week of data collection (the week ending March 3). These benchmarks lag slightly behind those for the Screener. This is expected, because 61 percent of completed Screeners were in households in which no one was sampled for an extended interview, and because in some cases later callbacks were required to complete the extended interviews.

The amount of interviewer labor hours for completed extended interviews is shown in the last column of the table. The hours per completed interview varied over the course of data collection and

showed no obvious trend as in other NHES data collections. This was influenced by many factors unique to the NHES:96. First, the Tritone check and listed business purging of the sample, done before the start of data collection, removed many of the non-working and nonresidential phone numbers from the database. More "productive" phone numbers (i.e., phone numbers that were more likely to be residential and thus eligible for the NHES:96) were reached early in data collection, increasing the hours per complete early in data collection. Second, administering the expanded version of the Screener in every household had the affect of increasing the hours per complete, as it is impossible to truly separate interviewer labor hours for Screeners and extendeds. As mentioned above, only 39 percent of completed screeners resulted in a household member being sampled for an extended interview, but the impact of the length of the expanded Screener on average time per case was observed throughout the data collection.

Table 11.— Weekly progress in completing cases in the NHES:96

Week	Week ending	Screeners Completed	Extendeds Completed	Interview Hours	Hours per Complete
1	January 7	1,596	625	914	1.46
2	January 14	2,551	973	1,429	1.47
3	January 21	7,143	3,344	4,476	1.38
4	January 28	7,345	3,611	5,469	1.51
5	February 4	6,552	3,393	4,937	1.48
6	February 11	5,949	3,159	4,934	1.47
7	February 18	5,362	2,790	4,049	1.34
8	February 25	5,474	3,141	3,990	1.19
9	March 3	3,845	2,435	3,559	1.35
10	March 10	2,907	1,494	2,854	1.72
11	March 17	1,899	1,036	2,437	2.06
12	March 24	1,583	1,540	2,215	1.25
13	March 31	1,983	1,492	2,522	1.57
14	April 7	1,450	1,150	2,121	1.59
15	April 14	517	1,015	1,119	1.06
16	April 21	17	135	4	0.03
17	April 28	1	0	0	0
	Total	55,838	31,233	47,082	1.51

NOTE: Hours per completed interview equals the number of interviewer labor hours divided by the number of completed extended interviews. Screeners completed after April 14 reflect the resolution of problem cases and not continued interviewing. Extended interviews completed after April 14 represent the Parent PFI/CI interview "partial completes"--interviews that were completed up to Section L, and had the remainder of the items set to missing and imputed. Some Screeners and extended interviews were removed from completed status as a result of problem sheet resolution (e.g., nonresidential number, ineligible screener respondent, sampled child was enrolled in a GED program or was not really a household member).

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Item Clarification Callbacks

During data collection, it is not uncommon to call back into a household to re-ask some items and clarify responses. During the NHES:96, the following item clarification callbacks were conducted. For

each of these problems, the households were called back, the questions were administered, and the data were entered or the disposition of the interview changed.

1. Ninety households were called back because response 3, "Not my number" was recorded at the household characteristics item in the Screener (SX28) ("Besides (PHONE NUMBER), do you have other telephone numbers in your household?" (HOTHNUM)). The results of the callback efforts and action taken are described below:

   Twenty-nine Screeners were recoded as non-working or non-residential based on data supplied at the time recontact was made.

   Four Screeners were cleaned out and the households rescreened, because the recontact revealed the sample phone number was reached, but none of the people listed on the matrix were household members.

   Sixteen cases had HOTHNUM recoded to 1 ("yes") when a recontact determined there was a second telephone line (for home use) in the household.

   Fifteen cases resulted in HOTHNUM being recoded to 2 ("no") when the recontact revealed that a change in area code had prompted the "not my number" response and there were no additional phones in the household.

   Eighteen cases resulted in HOTHNUM being recoded to 2 ("no") because the recontact revealed that the sample phone number was reached and the screener respondent was a household member and there were no additional phone numbers in the household.

   Five cases resulted in HOTHNUM being recoded to 2 ("no") because the sampled child was living in the household at the time of screening, but had moved to a different household upon completion of the extended interview (the phone number given in comments was for the "new" household).

   One case resulted in HOTHNUM being recoded to 2 ("no") because the phone number was changed between completion of the screener and completion of the extended interview, and there were no other phone numbers in the household.

   In the two remaining cases, HOTHNUM was recoded to 2 ("no") for the following reasons: 1) repeated callback attempts received the "telephone is temporarily disconnected" message, or 2) interviewers were never able to establish contact with the household before the end of the data collection period.

2. In approximately 160 households, an interviewer received the response "Never heard of that respondent" when he/she called back into a household to administer an extended interview about a sampled household member. Some of these were veiled refusals and some were caused by incorrect information entered at the matrix. These households were all called back to determine the nature of the problem. In 16 percent of them, the interviewer reached the respondent or subject and was able to continue with the interview. In 38 percent, the entire household enumeration was identified as incorrect, the Screener data were cleaned out, and the household rescreening attempted. In 11 percent of the cases, corrections were made to enumeration information (name misspellings were corrected, ages and sexes corrected) and the interviews were continued. In 19 percent, interviewers received refusals.

Mild and firm refusals were attempted a second time. Hostile refusals were given a final refusal code and not called back. In 16 percent, another final disposition code (such as NW--Non-working, NR--Non-residential, or LP--Final Language Problem) was assigned.

Data Quality Control and Monitoring

Several methods were used to ensure the quality of the data collected in the NHES:96. These methods included cognitive laboratory activities, CATI testing, field testing, interviewer monitoring, and blind Parent and Youth reinterviews. The procedures used, beginning with cognitive laboratory activities, are described below.

Cognitive Laboratory Activities

In the design phase of the NHES:96, extensive cognitive laboratory research was done to provide a general evaluation of each survey component and to examine some specific measurement issues. This research consisted of multiple rounds of both individual interviews and focus groups to evaluate the extended survey instruments. Based on the findings from initial rounds of activities, revised questionnaire instruments were tested in subsequent rounds, and then all revisions to the instruments were implemented in the CATI system. For a more complete report of cognitive laboratory procedures, please refer to the *Comparison of Estimates in the 1996 National Household Education Survey* (Nolin et al. forthcoming).

CATI Testing

Data collection quality control efforts continued during the CATI development period. As the CATI system was programmed, extensive testing of the system was conducted. This testing included review by project research staff, telephone interviewing staff, data preparation staff, statistical staff, and the programmers themselves. The testing by staff members representing different aspects of the project was done to ensure that the system was working properly from all of these perspectives.

Field Testing

The NHES:96 was tested in three phases during the spring and summer of 1995. Phase 1 of the field test was conducted from May 9 through May 11, 1995 and included the Screener, Parent PFI/CI and Youth CI components. This phase was used primarily to determine whether there were any problems in terms of interview flow or redundancy or the meaning of items to respondents, and to assess interview administration time. In Phase 1, 114 Screeners, 73 Parent PFI/CI interviews and 19 Youth CI interviews were completed.

Revisions were made to the CATI instruments based upon Phase 1 field test findings and the revised instruments were tested in the larger Phase 2 from June 8 through July 9. In this phase, 3,102 Screeners, 897 Parent PFI/CI interviews, and 283 Youth CI interviews were completed to assess response variation, create new response categories and test the analytical utility of items. This phase was also designed to incorporate two methodological tests conducted on split-half samples. One split-half test involved testing the effect of mailing an advanced information letter to households with published addresses. The other test involved administering two versions of the Screener, one containing a question that screened out households with no children age 20 or younger before enumeration and one

enumerating every household contacted. The results of the field test did not show a statistically significant increase in response with the advance mailing alone, that is, among all cases in the test with mailable addresses. However, in households with mailable addresses in which all members were enumerated, the advance mailing did make a difference: a greater percentage of households to which a letter had been mailed responded to the study. Response was also higher in the half-sample in which only households with members age 20 or younger were enumerated. The expanded Screener design called for full enumeration in all households; therefore, the screen-out question was included and used to create a new path (in which, Library items were administered before the enumeration matrix) in the Screener.

The Adult CI interview was field tested August 28 through 31. A total of 80 Screeners and 37 Adult CI interviews were completed. This field test was a qualitative test designed to assess the flow of the Adult CI interview, the reactions of respondents who have no minor children to a request to participate in a Department of Education survey, new placement of the Library items in the Screener, and the clarity of questions measuring tolerance and efficacy that were part of all the extended interview components. Based on the field test findings, adjustments were made to the surveys, and the CATI instrument prior to the start of data collection.

Interviewer Monitoring

Throughout data collection, supervisors and telephone monitors (experienced telephone interviewers who were trained for monitoring) monitored the interviews by listening for about 15 minutes at a time to the interviewers from either a monitoring room or from a supervisor station on the floor of the telephone center. Project staff also monitored the interviewers, more heavily during the beginning of data collection and less frequently as collection progressed.

The monitoring form that was used by supervisors (see appendix B) covered five major areas of telephone interviewing:

- Reading and general skills;
- Listening skills and probing;
- Recording;
- Handling refusals and questions; and
- Telephone manner and relationship with respondent.

The monitors recorded their assessments of the interviewers' skills and abilities for 22 items within these five major areas using three categories: "no problem," "minor difficulty," and "major difficulty." If a skill was not rated during the monitoring session, a not applicable (N/A) code was used. The forms were shared with the interviewers, who signed the forms indicating that they had reviewed the supervisor's assessment of their performance.

Weekly monitoring reports were provided to NCES. The detailed reports (which were first generated February 4) showed, for each interviewer and the TRC, the number of monitoring forms completed, air time in hours (time spent on the phone), ratio of air time to completed forms (air time was

divided by 4, since air time is reported in hours and each form covered a monitoring session approximately 15 minutes), and the number of forms that contained a "major difficulty." Table 12 contains summary data about the monitoring effort. In all, 11,485 monitoring forms were completed for the NHES:96; of these 43 (less than one percent) contained a "major difficulty." As might be expected, this percentage was higher during the early part of data collection as new interviewers completed training and started work on the project, and lowest during the last month. Only 4 of the 10,533 forms completed from the week ending March 3 through the end of the study contained a major difficulty.

Table 12.—Numbers of monitoring sheets and number of sheets showing a "major difficulty" for the NHES:96, by week.

Week No.	Week Ending	Air Time (hours)	Total Sheets	Ratio Forms* .25 to Air Time	Sheets with Major Difficulty
1	February 4	3,071	2,412	0.20	9
2	February 11	2,930	1,859	0.16	3
3	February 18	2,617	1,165	0.11	2
4	February 25	2,712	945	0.09	3
5	March 3	2,265	880	0.10	2
6	March 10	1,777	641	0.09	0
7	March 17	1,499	513	0.09	0
8	March 24	1,394	456	0.08	0
9	March 31	1,629	307	0.05	0
10	April 7	1,290	285	0.06	2
11	April 12	679	166	0.06	0
	Total	30,165	11,485	0.10	43

*NOTE: Monitoring reports were first generated during the data collection week ending February 4.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

In addition to monitoring, at least once each week, the CATI management system produced computer-generated reports that displayed response rates, refusal rates, and refusal conversion rates for each NHES:96 interviewer. These reports assisted telephone center supervisors in identifying interviewer performance problems that might not be detected through monitoring. For example, those interviewers with low cooperation rates were assigned to refusal avoidance training, monitored more often, and given specific feedback; if their rates remained low, they were released from the study.

On-Line Help Screens

The question-by-question (QxQ) specifications that were provided in the interviewer's manual were also included in the CATI system. By pressing a specific key, interviewers could see the QxQ specification for the CATI screen he or she was viewing at the time.

There were 303 help screens in the NHES:96; 57 (19 percent) were never accessed; of those that were accessed, 153 (62 percent) were accessed 1 to 10 times, 44 (18 percent) were accessed 11 to 24 times, and 49 (20 percent) were accessed 25 or more times. Table 13 provides a summary of the commonly used help screens and the numbers of times they were accessed during interviews. These data represent help screen access for all cases, not just for the interviews that were ultimately completed. Only those help screens that were accessed 25 or more times are included in the table.

Reinterview Program

A blind reinterview program was instituted for the Parent and Youth components of the NHES:96. A random sample of respondents who had already completed either survey was called and re-administered a subsample of items from the original interview to check item reliability. The purposes of the reinterview were to:

- Identify survey items that were not reliable;
- Quantify the magnitude of the response variance for groups of items collected from the same respondent at two different times; and
- Provide feedback to improve the design of questionnaire items for future surveys.

A random sample of completed interviews was selected for reinterviews using the following criteria: only one reinterview was conducted in a household; none of the interviews in a household were eligible for sampling until all the extended interviews in the household were completed or coded ineligible; only interviews that had been conducted in English were eligible for reinterview sampling. The respondent was recontacted about 2 weeks after the completion of the initial interview and refusal conversion was not attempted on sampled reinterviews.

The reinterviews for the NHES:96 were conducted using the CATI system, which provided an opportunity to control interviewer access to earlier responses. After the entire reinterview was conducted, the CATI system produced a series of confirmation screens to resolve differences between responses from the initial interview and the reinterview for certain items. These screens were used to indicate to the interviewer that two different responses had been recorded for the item. Since many of the parent/family involvement and youth service activity items were time dependent, the confirmation screens simply asked if participation had started in the time period between administration of the original interview and the reinterview.

Interviewers at the Frederick TRC who were currently working on the NHES:96 were trained to conduct the reinterviews. There were 1,699 reinterviews completed and the reinterview data collection ended on April 12. For a more complete report on the procedures, response rates, and results of the reinterview program see *Reinterviews and Telephone Coverage Bias in the 1996 National Household Education Survey* (Montaquila and Brick, 1997).

Table 13.—Numbers of times NHES:96 CATI help screens were accessed, by item

CATI Screen*	Item	Times help accessed
Screener		
SINTRO	Introduction	178
SX7	Enrolled in school	86
SX9	Grade of school attending	49
SX11	Public or private school	62
SX12	Enrolled in school full time or part time	34
SX13	Highest grade attained	41
SX21	Race	30
SX22	Hispanic origin	195
Parent interview		
PA1	Month and year child born	34
PC1	Attending head start	36
PE1	Student experiences agreement scale	185
PE6	School contacted parent/guardian about behavior problems	42
PE7	School contacted parent/guardian about school work problems	26
PE12	Child has been suspended/expelled	39
PF1	Family/school involvement in activities (even phone numbers)	63
PF2	Family/school involvement in activities (odd phone numbers)	183
PF3	Number of times attended school meetings/activities	125
PF4	School has learning compact/agreement	146
PF5	Methods/times school has contacted parent/guardian	197
PF6	School practices agreement scale	227
PF7	School has provided student profile	64
PF8	School includes parent in policy decisions	37
PF9	Parents have a real say in school policy decisions	58
PI7	Participation in learning/athletic/cultural events outside of home	98
PJ2	Disabilities	288
PJ3	Condition which limits school work/other activities	173
PK10	Political participation	44
PN5	Nonresidential parent contact in typical month	43

Table 13.—Numbers of times NHES:96 CATI help screens were accessed, by item--Continued

Youth interview		
YA8	Student experiences agreement scale	29
YB1	School has student government	184
YB4	Participated in activities out of school	31
YC1	Participated in community service activity	26
YC2	Description of service activities	29
YC16	Ever heard of Peace Corps/VISTA/AmeriCorps	27
Adult interview		
R28	Opinions about improving public education	25
Household items (all interviews)		
SX27	Own/rent home	37
SX31	Community description	51
SX32	Social programs funds/services	39
SX33	Income	63
Library items (all interviews)		
L1	Distance to library	30
L2	Types of library use	54
L4PROBE	Probe for purpose of library use	52

* Includes only those screens accessed 25 times or more.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Summary

The 1996 National Household Education Survey data collection was conducted from January 2 through April 12, 1996. During this period, 55,838 Screeners, 31,085 extended interviews, and 1,699 reinterviews were completed (including 135 extended interviews that were largely, but not entirely, completed during data collection and which had the remaining data imputed). If the Parent PFI interview was completed up to the point of collecting data about background characteristics of the child's mother or father, the interview was considered complete.

The NHES:96 data collection experience was similar to previous NHES collections in many ways. As in the NHES:95, the level of Screener response was lower than anticipated. Many of the activities undertaken in the NHES:95 to increase response were repeated in the NHES:96. An advance mailing, refielding Screener no answer and answering machine only cases, refielding Screeners that had human contacted but reached the maximum number of calls, and refielding Screeners that received two non-

hostile refusals were all attempted to improve response. Each of these efforts is documented in this report.

Many factors may have contributed to the low Screener response rate. Full household enumeration, which was also used in the NHES:95 data collection, may have had an adverse impact on response rates. Although it cannot be measured, there may have been an interviewer effect associated with the longer expanded version of the Screener which was administered in all NHES:96 households (and a subset of the NHES:95 households). Also impossible to measure is the effect that the federal government shutdown, budget standoff, and political tensions during the collection period may have had on the willingness of respondents to participate in a Department of Education survey. A general feeling of government distrust may have made respondents unwilling to participate. Finally, an unwillingness of people to answer any questions over the telephone as suggested by the high rate of very early hang-ups may be partly responsible for the lower-than-expected response rate.

Further information about unit response in the NHES:96 is available in another NCES Working Paper entitled *Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey* (Montaquila and Brick forthcoming).

Interview Administration Time

This section reports the interview administration times for the various components of the 1996 National Household Education Survey (NHES:96). The time it takes respondents to complete survey interviews is an important factor in both the response rate and response quality. While surveys need to include all of the important analytic variables, they should also strive to be as brief as possible to reduce the burden on the public and to encourage complete and reliable responses. In addition to using interview administration timings to measure response burden, timings can also be used to measure the productivity of interviewers and to plan for future studies using similar questionnaire items.

The NHES:96 had several instruments for which administration times were recorded: the Screener, the Parent PFI/CI interview, the Youth CI interview, and the Adult CI interview. The amount of time it took to administer the Screeners and other interviews in the study was automatically recorded on the CATI database. The timings recorded include overall timings for each completed instrument as well as timings for several subcomponents of the interviews. Thus, the relative burden of specific sections of each interview can be assessed in addition to the time to complete entire interviews.

The following text describes the procedures used to edit some of the recorded interview timings before they were used in analyses. As explained below, the editing procedures involved assigning mean timings to any extreme outliers so that they did not have an undue influence on the timing analyses. The edited timing data were used in the analyses presented in this report. The remaining portions of this section discuss the results of the timing analyses that assessed the time to complete entire interviews as well as the administration times for specific interview paths and interview sections.

Editing the Administration Time and Other Data Considerations

The time required to complete each segment of each interview was recorded automatically by the NHES:96 CATI system. However, this recorded time does not always reflect the true administration time. For example, if the interviewer waited on the telephone while the respondent took care of other business, such as answering the door or tending to a child, the length of time recorded would be artificially inflated. In these instances, the interviewer had no formal way to record why the interview was taking longer than normal. Monitoring of interviews has indicated that such delays in interviews do occur and that provisions need to be made to give an accurate representation of the administration length.

Because the purpose of this analysis is to estimate respondent burden for the NHES:96 interviews, recorded times that were extreme outliers were edited. For the Screener, the process of editing the outliers involved analyzing the distribution of administration times by final Screener disposition. This was done because the household characteristics and library items were administered as part of the Screener in households in which no one was sampled. If someone was sampled in a Parent/Youth sample household, these components were administered at the end of the first extended interview. For households in the Adult CI sample in which someone was sampled, library items were administered as part of the Screener, but household characteristics data were collected at the end of the extended interview. The process of editing the outliers for the extended interviews involved analyzing the distribution of administration times for each of the 26 timing segments making up the three extended interviews (18 Parent PFI/CI interview segments, 4 Youth CI interview segments, and 4 Adult CI segments). The mean time was assigned to the top and bottom 1 percent of all outlying scores.

It should also be noted that when more than one child was sampled from the household as subjects for Parent PFI/CI interviews, some data items were collected only once per household or once per

respondent. This affected the administration time recorded for the parent information and household characteristics segments of the Parent PFI/CI interviews. For example, household characteristics such as income and ZIP code were asked only in the first Parent PFI/CI interview conducted in the household. Other items, such as mother's education, were asked only one time if the same person was the mother of more than one sampled child in the household. The rationale for collecting the information one time for all sampled members is obvious. However, this timesaving device does complicate the analysis of the timing data, since the time is recorded only for the first extended interview in the household. The impact of this method of collecting the data is to slightly suppress the mean time to complete each Parent PFI/CI interview while correctly reporting the overall response time for Parent PFI/CI interviews. When the mean time to complete a Parent PFI/CI interview is discussed, this factor should be kept in mind.

Results of Interview Timing Analyses

Tables 14 through 18 at the end of this section present the administration times in minutes for the Screener, the Parent PFI/CI interview, the Youth CI interview, and the Adult CI interview. The timings presented are for interviews that are considered complete; that is, the respondent provided answers to all items considered critical to fulfilling the purpose of the survey. The total interview times, in addition to the high item-response rates obtained, indicate that the NHES:96 was relatively successful in obtaining the required data without overburdening the respondents. These overall timings, however, are less informative than more detailed timings also presented in the tables. Because of the extensive skip patterns within each interview component, it is also important to examine interview timings by interview path, by participation status, and by interview segment. These are all discussed in the sections that follow.

Screener Administration Time

The time required to administer the Screener varied according to whether household members were sampled at all for any extended interviews, and by the type of interviews for which members were sampled. The average Screener administration time was highest among households with no members sampled for extended interviews, at 7.7 minutes. This is primarily because two entire sections of the Screener containing items related to use of public library services and household characteristics were administered in the Screener only for households in which no members were sampled for extended interviews. By design, the majority of Screener respondents received these components as part of the Screener.

The average Screener administration time was lowest among households in which members were only sampled for Parent PFI/CI interviews. In these circumstances, it took approximately 6 minutes, on average, to complete the Screeners. It took approximately one half minute longer to administer Screeners in households also containing children eligible for Youth CI interviews (6.6 minutes) and in households in which persons were sampled for Adult CI interviews (6.5 minutes). This small increase in time for these households was probably due to a few different factors. For households with both Parent PFI/CI and Youth CI interviews, there were probably more household members eligible for the Screener questions applying to persons age 16 or older (e.g., marital status). The somewhat longer Screener administration time for households with Adult CI interviews probably reflects the fact that these households receive the segment on public library use in the Screener interview, rather than in the extended interview.

Parent PFI/CI Interview Administration Time

The mean time to administer the Parent PFI/CI interview was 18.7 minutes; however, this varied somewhat according to children's interview paths (i.e., preschool, elementary, middle/junior high, high school, and home school). Table 15 shows that the shortest interview timings were observed for the Home School path, because several segments of the Parent PFI/CI interview were not administered for these children. Interviews for home schoolers took 12.5 minutes to administer on average. The next highest average administration time is for preschoolers and elementary students, at approximately 17 minutes. Interviews for older children took the longest, since they contained the most interview segments. Interviews for middle/junior high and high school students took an average of 21 minutes to complete.

Table 16 shows the average administration times for various segments of the Parent PFI/CI interview. For example, the first segment consisted of questionnaire items PA1 through PA7. These items were asked in all completed Parent PFI/CI interviews and had an average completion time of one minute. Other segments were not asked for children following some of the paths. For example, the Head Start/center-based program items were asked only for preschoolers.

Not surprisingly, the most time consuming segment of the Parent PFI/CI interview was that collecting detailed information about family involvement in school and school practices (section F of the Parent PFI/CI Questionnaire). The mean time required to complete this section was 4.5 minutes. Another interview segment that was relatively time consuming to administer was that collecting information about political attitudes and knowledge from parents of junior high and high school students. Parents took an average of 2.6 minutes to complete this section of the interview. Each other segment took about 1.9 minutes or less to complete, with several taking less than one minute.

Youth CI and Adult CI Interview Administration Times

As shown in table 15, the average administration time across all Youth CI interviews was 10.4 minutes. Table 17 presents the administration times for various segments of the Youth CI interview. Three of the four interview segments had a mean completion time of approximately three minutes. The section on activities that promote or indicate personal responsibility took less time (1.1 minutes), but also contained fewer items than the other sections.

As for the Adult CI interview, the interview completion time was 9.6 minutes. The first two segments of this interview, pertaining to civic involvement and respondent characteristics, took about three minutes to administer, as shown in table 18. The last two segments concerning opinions about improving public education and household characteristics each took about two minutes to administer.

Table 14.—Mean administration time (in minutes) of NHES:96 completed Screeners, by extended interview sampling status

Completed Screeners by sampling status	Interview length in minutes	
	Number	Mean
No one sampled	33,901	7.7
Only parent sampled	8,406	5.9
Both parent and youth sampled	10,931	6.6
Adult sampled	2,600	6.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Table 15.—Mean, median, and quartile administration time (in minutes) of NHES:96 completed extended interviews, by interview type

Completed extended interviews	Interview length in minutes					
	Number	Mean	Standard deviation	Quartiles		
				75%	Median	25%
Interview totals:						
Parent PFI/CI Interview	20,792	18.7	5.3	21.5	18.0	15.0
Youth CI Interview	8,044	10.4	2.3	11.7	10.2	8.8
Adult CI Interview	2,250	9.6	2.3	10.6	9.1	8.1
Parent PFI/CI Interview by path:						
Parent PFI/CI Interview						
Preschool / Elementary	11,290	17.0	4.4	19.3	16.5	14.1
Jr. High / High School	9,258	20.9	5.5	24.0	20.4	17.0
Home Schoolers	244	12.5	4.1	14.6	12.0	9.6

NOTE: During the file cleaning and preparation process, one completed Youth CI interview was found to be ineligible and was not delivered on the Youth CI interview public release file.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996.

Table 16.—Mean, median, and quartile administration time (in minutes) of completed NHES:96 Parent PFI/CI interviews, by interview segment

Parent PFI/CI Interview Components	Interview length in minutes					
	Number	Mean	Standard deviation	Quartiles		
				75%	Median	25%
Demographic Characteristics (PA1-PA7)	20,792	1.0	0.5	1.2	0.8	0.6
Current School Status (PB1-PB9)	20,792	0.2	0.2	0.2	0.2	0.1
Head Start/Center-based Programs (PC1-PC5)	3,013	0.7	0.5	1.0	0.7	0.3
Preschool or School Characteristics (PDINTRO-PD12)	20,550	1.1	0.5	1.3	1.0	0.8
Student Experiences (PEINTRO-PE12OV)	19,606	1.9	1.0	2.4	1.9	1.5
Family/School Involvement and School Practices (PFINTRO-PF9)	19,359	4.5	1.3	5.1	4.2	3.6
Family Involvement in Schoolwork (PGINTRO-PG4)	16,151	1.1	0.4	1.3	1.0	0.7
Support for Families of Preschoolers (PH1-PH4)	3,012	0.7	0.3	0.7	0.6	0.5
Family Involvement Outside of School (PIINTRO-PI8)	20,792	1.8	1.1	2.6	1.9	0.7
Health and Disability (PJINTRO-PJ7)	20,792	0.6	0.4	0.8	0.5	0.3
Activities that Promote Civic Involvement						
Information About Politics and National Issues (PKINTRO-PK6)	9,393	1.0	0.3	1.1	0.9	0.8
Participation in Community and Political Activity (PKINTRO2-PK11)	9,393	1.8	0.4	1.9	1.7	1.5
Political Attitudes and Knowledge (PK12-PK16)	9,393	2.6	0.7	2.9	2.4	2.1
Mother Items (PLINTRO-PL11)	16,606	0.7	0.3	0.8	0.6	0.4
Father Items (PM1-PM10)	13,049	0.4	0.3	0.5	0.3	0.2
Involvement of the Non-Residential Parent (PN1-PN9)	7,807	1.8	0.9	2.3	1.7	1.1
Household Public Library Usage (POINTRO-PO4)	16,745	1.7	0.5	2.0	1.7	1.2
Household Characteristics (PP1-PP8OV)	17,187	1.9	0.5	2.1	1.8	1.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996. Parent and Family Involvement in Education and Civic Involvement Parent component.

Table 17.—Mean, median, and quartile administration time (in minutes) of completed NHES:96 Youth CI interviews, by interview segment

Youth CI Interview Components	Interview length in minutes					
	Number	Mean	Standard deviation	Quartiles		
				75%	Median	25%
Family Involvement in Education (YA1-YA8)	8,044	3.5	0.8	3.8	3.3	2.9
Activities that Promote or Indicate Personal Responsibility (YBINTRO-YB7)	8,044	1.1	0.3	1.3	1.1	0.9
Service Activities (YCINTRO-YC17)	8,044	2.7	1.3	3.4	2.4	1.6
Activities that Promote Civic Involvement (YD1-YD13)	8,044	3.1	1.2	4.0	3.3	1.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996. Youth Civic Involvement component.

Table 18.—Mean, median, and quartile administration time (in minutes) of completed NHES:96 Adult CI interviews, by interview segment

Adult CI Interview Components	Interview length in minutes					
	Number	Mean	Standard deviation	Quartiles		
				75%	Median	25%
Activities that Promote Civic and Ivolvement political knowledge (RINTRO-R15)	2,250	3.2	0.7	3.5	3.0	2.7
Respondent Characteristics (RINTRO3-R27)	2,250	2.7	0.8	3.0	2.5	2.1
Opinions about Improving Public Education (R28)	2,250	2.0	0.7	2.2	1.8	1.5
Household Characteristics	2,250	1.8	0.5	2.0	1.7	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1996. Adult Civic Involvement component.

Data Editing

The final product of the NHES CATI data collection process is the delivery of edited data files and associated documentation. In order to ensure that the data are complete and of high quality, a series of data editing procedures were conducted. Data editing (correcting interviewer, respondent, and program errors) was performed throughout the data collection and potentially introduced other errors in data items that had been checked during the CATI administration. Therefore, extensive *post* data collection data editing procedures were instituted. These procedures included checking data alignment, confirming that data were within the defined range of values for each item, performing logic and structural edits, reviewing cross tabulations between data items, and reviewing frequency distributions for individual data items to ensure skip patterns were followed appropriately. After imputation of missing values was completed, these procedures were repeated to ensure that no errors were introduced during imputation.

In order to understand the data editing process in the NHES, it is necessary to understand the nature of the CATI data base. The CATI system used for the NHES:96 employed a hierarchical data base containing records for administrative purposes and records that held responses to interviews (see appendix F for a graphical presentation). Household-level records were BASE, containing administrative variables, LIBR, containing public library use items, SCRN and XSCR, containing household-level responses to Screener items, and HOME, containing the household characteristics that were asked in the Screener if there were no extended interviews, or asked in the first extended interview in the household. ENUM and EXPA contained person-level responses for the Screener items. Four administrative segments contained records associated with each interview: SKED, CATI scheduler records; SURV, records for each contact attempt; NIRF, non-interview (refusal, language, or problem) records; and MESS, messages left by one interviewer for another. BASM was the administrative record for each extended interview. Parent PFI/CI items were contained on PARN, which contained most items; DEMO, which contained relationships to the sampled child for all household members and demographic information on the child; MAMA, the mother's characteristics; PAPA, the father's characteristics; and NONR, items on non-residential parents. YUTH contained items from the Youth CI interview and ADLT contained items from the Adult CI interview.

Data Alignment

At the conclusion of data collection, alignment edits were run against the entire database to ensure appropriate alignment of data. These edits verified that character data were left justified ("John ") and numeric data were right justified (" 200.5"). This provided for clean frequency review by representing all identical values together. For example, " 1" and "1 " were represented in the database as " 1".

Range Edits

The ranges of responses for closed-ended items in the NHES CATI were determined by the permissible response codes. For open-ended items that required an entry by the interviewer (such as ages, dates, number of hours worked for pay, etc.), there was not a specific set of responses. Therefore, reasonable ranges were defined and applied to these items.

Range edits included both "hard" and "soft" ranges. A **soft range** was one that represented the reasonable expected range of values, but did not include all possible values. Responses outside the soft range triggered a message during data collection that the response was *unlikely*. The interviewer confirmed the response with the respondent and reentered it. For example, the number of hours each

week a child attended Head Start or a preschool program had a soft range of 1 to 50. A value outside this range may have been entered and confirmed as correct by the interviewer as long as it was within the hard range of values (1 to 70). A **hard range** represented the finite set of parameters for the values that could be entered into the CATI system. Responses outside the hard range triggered a message to the interviewer that the response was *unacceptable*. Hard ranges could not be exceeded by the interviewer, even with confirmation. For example, the range of possible values for the hours per week a youth worked during the school year was 1 to 40. It is extremely rare that a youth would work more than 40 hours per week while going to school. If the respondent insisted that this was, in fact, true, the interviewer would have recorded this in comments or on a problem sheet. All comments and problem sheets were reviewed by data preparation staff who had the ability to override hard ranges to input the value. Definitions of hard and soft ranges were reviewed after each of the field tests and adjusted as necessary. Soft and hard ranges were reviewed again during data collection to determine whether large numbers of out of range responses were being confirmed as corrected and entered into CATI comments. This was not found to be the case and ranges were not changed during the main study.

After the post data collection updating process was completed, range edits were re-run for all completed interviews to ensure that no outliers (other than those expected) were inadvertently introduced during updating.

Logic Edits

Logic edits involved the comparison of two or more items. They were used to examine the relationships between responses to be sure that they did not conflict with one another, and that the response to one item did not make the response to another item unlikely. If a discrepancy among responses was encountered during administration of the interview, an error message was displayed and the interviewer attempted to reconcile the difference while on the telephone with the respondent. Logic edits were implemented in the CATI using "confirmation screens" and "until statements." **Confirmation screens** displayed the discrepant items again and prompted the interviewer to reconfirm the responses. New values may have been entered or the old responses retained by pressing "enter" at each entry field. An example of a confirmation screen is the age/grade edit check. If a child was attending a grade that was outside the normal range of grades for his age, the interviewer was prompted to read the child's age and grade again and correct any errors (if they existed). **Until statements** were somewhat stricter than confirmation screens. With until statements, the interviewer was unable to leave the screen until he/she entered a response that met the consistency edit criteria. Questions in which a number and a unit were collected (i.e., length of time since child last had contact with non-residential parent) were programmed using until statements that required an entry within the hard range for each unit before the screen could be exited. Responses that legitimately violated the edit, as confirmed by the respondent, were entered into comments for further review.

During data collection, the logic edits were re-run for all completed cases as part of a "batch" program. This was done to catch potential discrepancies introduced by data prep updates. The attached Range and Logic Edit Specifications (appendix C) include the definition of the logic edits that were performed both during CATI interview administration and as a post data collection editing effort.

Batch Data Integrity Edits

In addition to the logic edits described above, a new category of edits was added for the NHES:96. These miscellaneous data integrity edits were run in batch mode after interview administration was complete. They checked complicated skip patterns (those very difficult to check with cross tabulations, for example) and consistency among data items copied from one interview to another. The data integrity edits were used by data preparation staff to be sure all post-interview updates were done correctly and that a change to one item did not adversely affect others. They are outlined in appendix D.

The batch logic edits and data integrity edits were run periodically during data collection to assist in cleaning efforts. They were also run after imputation of the data, during the file preparation task.

Structural Edits

The relationships of database records were often dependent on values of variables contained in other database records. Structural edits ensured the structural integrity of the database (i.e. all database records which should have existed did exist, and those which should not have existed did not exist) by checking these variable values and the existence/non-existence of other records. The structural edits were run against completed interviews only. They were grouped into four logical categories: edits that verified interview completeness, edits that confirmed the presence of appropriate person records, edits that verified parent relationships in the household, and edits that verified consistency of common items. The specification for the structural edits is included in appendix E. Some of these structural edits were run against field test data to verify that the CATI instrument was functioning as expected. Appendix F (as described above) is the NHES:96 Database Design diagram that displays the database hierarchy graphically. It may be helpful to refer to the diagram when reviewing the structural edits.

Skip Edits for the Parent PFI/CI Interview

Due to the complexity of the skips in the Parent PFI/CI interview, a batch skip edits program was written and run periodically during data collection. This program checked all the between-item skips in the Parent PFI/CI interview and printed messages that contained the interview ID and the error type. This program was very helpful in identifying errors introduced by post-data collection updates. Since the specification for these edits was the questionnaire itself, it has not been included as part of this report.

Frequency and Cross Tabulation Review

The frequencies of responses to all data items (both individually and in conjunction with related data items) were reviewed to ensure that appropriate skip patterns were followed. Members of the data preparation team checked each item to make sure the correct number of responses was represented. If a discrepancy was discovered, the problem case was identified and reviewed. If data were incorrectly stored in the database, the audit trail for the interview (which provided a keystroke-by-keystroke record of all responses entered), was retrieved to determine the appropriate response. If the audit trail revealed no additional information, an item clarification callback (attempting to recontact the respondent and administer the missing items) was made or the item was coded as "not ascertained". It was rarely necessary to retrieve audit trails during the NHES:96 Data Collection period.

Frequency Review of Text Items

The "other, specify" open-ended text responses (identified by variable names that end in "OS") were reviewed to determine if they should have been coded into one of the existing code categories. If so, the recoding was completed. Review of the open-ended text responses revealed that no one particular text item, with one exception, occurred frequently enough to warrant the creation of a new response category for any of the questionnaire items. However, several new categories were created for HSOTHER, the variable "reasons for home schooling" (PB9). For example, a category was added for "student behavioral problems." These additional categories appear in italics on the questionnaires.

Problem Areas and Suggestions for Improvements in Future Surveys

The following issues arose during data collection and were addressed and resolved as noted. Recommendations for improving survey items and collection procedures is included.

1. Inaccuracies in the enumeration of household members (Screener, S6) occasionally caused problems in the administration of the extended interviews. These inaccuracies included omission of household members (especially fathers of sampled children that were not mentioned until the Nonresidential Parent questions in the Parent PFI/CI interview), inclusion of nonhousehold members, and erroneous information about the household members listed. Based on problem sheets and review of interviewer comments, household members were added to 137 households and deleted from 41 households. This has been a recurring issue that was present in the NHES:93 and NHES:95, even with the matrix verification question ("Have we missed anyone else who usually lives here who is temporarily away from home or living in a dorm at school, or any babies or small children?"). We do not recommend a change in the enumeration process, but reiterating the importance of matrix verification during interviewer training and monitoring this item during data collection may prove helpful. It is unlikely that enumerator errors can be eliminated completely.

2. Early in data collection, survey managers noticed that respondents stated they had used a public library in the past month (Screener, L2), but responded "no" to all of the usage purposes listed in item L4. On January 16, a new item, L4PROBE was added. This item contained the probe "IF BORROWING BOOKS/TAPES, PROBE: Was that for school, for work, for employment, or something else? What? RECORD SPECIFIC PURPOSE.]." This new data item collected one purpose for public library use and recoded the appropriate L4 category to "yes." We recommend that any future administrations of this question include the probe above. If all L4 responses are "no," we recommend that an "Other, specify" screen appear that would collect the verbatim purpose for library use, so that the L4 data item could be recoded by data preparation staff, if appropriate.

3. Parent PFI/CI interview respondents were explicitly asked for permission to speak with the sampled youth for the first time in the history of the NHES. Early in data collection, it was noticed that the rate of permission refusals was higher than during the field test, and that the Youth CI interview completion rate was lower than expected. As described earlier, two changes to procedures were enacted. First, the CATI was modified to collect a Non-Interview Report Form (NIRF) and store it in the database when a Parent PFI/CI interview respondent refused to grant permission for the youth to be interviewed. This NIRF collected the hostility level of the refusal and text about the reason for the refusal. Second, the Youth

CI interview permission refusals were selectively refielded and called by a select group of experienced interviewers who followed a prepared script and asked again for permission to conduct the survey with the sampled youth. In future NHES administrations, when explicit parent/guardian permission is required, we recommend that a NIRF be collected (as above) if permission is refused. Also, refusal avoidance at this item must be stressed carefully during the initial interviewer training.

4. Parent PFI/CI interview respondents who stated the sampled child was currently being home schooled (HOMESCHL = 1), but had also attended a public or private school (EVRSCHL = 1) were asked item PB7 ("For which grades was (CHILD) schooled at home for all or part of the year?"). Survey managers noticed that the home schooling variable (item PB7, HOME(*n*)) for the child's current grade equivalent was not set to 1 (home schooled) for some of these home schoolers if the respondent failed to spontaneously report that the child was receiving home schooling for his or her current grade. On February 20, the question stem was changed in the CATI to read, "Including this year, for which grades has (CHILD) been schooled at home for all or part of the year?". At the close of data collection, the appropriate HOME*(n)* variable (appropriate to the child's current grade based on GRADE or GRADEEQ) was changed to 1 for these cases to maintain consistency. If this item is used in future administrations of the survey, we recommend the new wording be used and that a consistency edit be programmed into the CATI to verify that the child is currently being home schooled.

5. While reviewing Parent PFI/CI interview item PA5 ("How is (PERSON) related to (CHILD)?"), data preparation staff recognized that some of the responses of RELATION = 11 (husband/wife/boyfriend/girlfriend) seemed unlikely for children under 16 years of age. It is possible that the respondent was identifying the person's relationship to himself/herself instead of the relationship to the sampled child, or that a keying error occurred. In these instances, RELATION was changed (if the correct relationship could be determined from other data) or set to -9 to be imputed. Also, in an effort to ensure data quality during collection, a new consistency edit was added to the CATI (see appendix C, Range and Logic Edit Specifications). This edit verified the relationship of husband/wife/girlfriend/boyfriend if the child was under 16, and should be included in future administrations when relationships are collected.

6. During the first week of data collection, interviewers expressed a concern that respondents were giving their individual salary or income at Screener item SX33OV3 ("What was your total income last year, to the nearest thousand?"), the follow-up to the more general household income question for some households. This was causing the CATI error message, "ENTRY NOT WITHIN RANGE SPECIFIED PREVIOUSLY" (at Screener, SX33) to come up frequently. On January 16, the question stem was modified to read "What was your total household income..."). This change relieved much of the confusion at this item.

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Appendix A
Advance Letter

Appendix A
Advance Letter

U. S. DEPARTMENT OF EDUCATION
OFFICE OF EDUCATIONAL RESEARCH AND IMPROVEMENT

NATIONAL CENTER FOR EDUCATION STATISTICS

January, 1996

Dear Potential Study Participant,

I am writing to strongly encourage your participation in an upcoming telephone survey, the National Household Education Survey (NHES). One purpose of the NHES is to find out how families and schools work together to shape the learning experiences of children. We are also interested in how both young people and adults learn about and are involved in their communities and their country. Finally, we want to know about how people use public libraries. Your household may be asked about one or more of these topics.

The NHES is sponsored by the National Center for Education Statistics of the United States Department of Education. Your telephone number was selected for the study as part of a scientific random sample of all households in the nation, and another number cannot be substituted for yours. Your household represents thousands of households in the United States. It is very important that you take part in our survey so that our results show a true picture for the whole nation.

Westat, Inc., a professional research firm, will be conducting the NHES. The study will take place from January 2 to March 31. Sometime during that time, a Westat interviewer will call you. If we happen to call at an inconvenient time, please suggest a time that is better for you. If you would like to set an appointment anytime before we call, contact Westat at their toll-free number (1-800-862-9452). You will need to give your phone number and your preferred appointment time.

Some questions and answers about the NHES are printed on the back of this letter. I hope you will take part in this very important study.

Sincerely,

Kathryn Chandler
Project Officer
National Household Education Survey

WASHINGTON, D.C. 20208-5652

Some Frequently Asked Questions about the National Household Education Survey (NHES)

Q. How will the study results be used? What will you do with this information?

A. The information we collect will tell us about people's experiences with schools, libraries, and their communities, and help us understand educational experiences and needs. Some information from the study will be published in the annual report on the National Education Goals. Other findings will be published in U.S. Department of Education reports. Those reports will be widely distributed to educators, researchers, news organizations, and the general public.

Q. How did you get my telephone number?

A. Your telephone number was randomly selected from all of the possible telephone numbers in the nation. We do not use telephone directories to select telephone numbers.

Q. How did you get my address?

A. After the telephone numbers were randomly selected, we sent them to a company which provided addresses for those telephone numbers. That company gave us the file that was used to address the envelopes for this mailing. No records were kept of the addresses after this mailing was completed, and addresses are not on the file that contains the telephone numbers. Interviewers do not have the names or addresses for any telephone numbers.

Q. Will you keep my information confidential?

A. All information you give to the interviewer will be kept completely confidential. All employees of the U.S. Department of Education and Westat who are working on this study are required by law to protect the confidentiality of respondents. Also, individual responses are never published in reports; they are added to the responses of others and are published as combined information only.

Q. How long will the survey take?

A. All households are asked to participate in an initial interview that usually takes 5 to 7 minutes. This includes questions about household members and about public library use. We use information about household members to determine whether anyone in your household will be selected for an additional interview. In more than half of the households, no one is selected for an additional interview. In other households, we ask questions about how families and schools work together to shape children's learning experiences and/or how young people and adults learn about and are involved in their communities and their country. These additional interviews take about 15 to 20 minutes.

Appendix B
Monitoring Form

Appendix B

Monitoring Form

Interviewer _____ |__|__|__|__| |__|__| |__|__| |__|__|
NAME INITIALS MO DA YR

Monitor _____ |__|__|__|__|
NAME INITIALS

Project _____ |__|__|__|__|__|__|
NAME NUMBER

TIME

BEGIN |__|__| |__|__| AM PM
HR MIN

END |__|__| |__|__| AM PM
HR MIN

MONITORED IN THIS SESSION

Sample Characteristics:

	YES	NO
RDD	1	2
List HH	1	2
Business	1	2
CATI	1	2
Pretest	1	2
Other	1	2

(Specify) _____

Interview Type:

	YES	NO
Screener	1	2
Questionnaire	1	2
Data Retrieval	1	2
Refusal Conversion	1	2
Validation	1	2
Tracing	1	2
Prompt	1	2
Language	1	2
Other	1	2

(Specify) _____

Estimated Number of: Contacts |__|__| Questions Asked |__|__|__|

	N/A	NO PROBLEM	NEEDS ATTENTION: Minor Difficulty	NEEDS ATTENTION: Major Difficulty	COMMENTS (IF DIFFICULTY NOTED, PROVIDE Q# AND COMMENT)	DISCUSSED 1=YES 2=NO
1. READING & GENERAL SKILLS a. Identifies self and reads intro clearly and without pausing.		1	2	3		1 2
b. Reads all appropriate phrases and answer categories		1	2	3		1 2
c. Follows skip and box instructions		1	2	3		1 2
d. Reads questions clearly with appropriate volume		1	2	3		1 2
e. Verifies spelling, address, phone numbers, and other data as needed		1	2	3		1 2
f. Adjusts pace of interview to accommodate respondent		1	2	3		1 2

_____
Interviewer Signature

	N/A	NO PROB-LEM	NEEDS ATTENTION		COMMENTS (IF DIFFICULTY NOTED, PROVIDE Q# AND COMMENT)	DISCUSSED 1=YES 2=NO
			Minor Difficulty	Major Difficulty		
2. LISTENING SKILLS AND PROBING						
a. Listens to entire answer		1	2	3		1 2
b. Listens for what may not be said and probes		1	2	3		1 2
c. Probes unclear responses		1	2	3		1 2
d. Remains neutral when probing		1	2	3		1 2
3. RECORDING						
a. Records information accurately		1	2	3		1 2
b. Uses comments appropriately		1	2	3		1 2
c. Corrects coding errors		1	2	3		1 2
d. Uses control keys properly		1	2	3		1 2
e. Records result codes correctly		1	2	3		1 2
f. Moved through matrix and selection screens properly		1	2	3		1 2
g. Uses HH select screens properly and smoothly		1	2	3		1 2
4. HANDLING REFUSALS AND QUESTIONS						
a. Answers respondent questions and objections clearly, confidently, and briefly without hesitation		1	2	3		1 2
b. Offers verification number		1	2	3		1 2
5. TELEPHONE MANNER AND RELATIONSHIP WITH RESPONDENT						
a. Is pleasant, confident, and professional		1	2	3		1 2
b. Refrains from giving personal remarks or opinions		1	2	3		1 2
c. Accepts emotions and sentiments without becoming personally involved		1	2	3		1 2

COMMENTS: _____

Appendix C
Range and Logic Edit Specifications

Range and Logic Edit Specifications

The range and logic edits are defined below for each component. Edits noted with an asterisk (*) were added or modified based on data collection experience after the Data Editing Plan was delivered. The item numbering of the edit specifications reflects the numbering of the CATI screens. A renumbered questionnaire was produced after the instruments were finalized, and some new numbers will not match these specifications; a description of the item is given for each question below.

Screener

SX9. *Grade or year person is attending*

If age = 3 - 4, then grade = -1, N, T, K, P, U, S
If age = 5, then grade = -1, N, T, K, P, 1, U, S
If age = 6, then grade = -1, N, T, K, P, 1, 2, U, S
If age = 7, then grade = -1, T, K, P, 1, 2, 3, U, S
If age = 8, then grade = -1, 1, 2, 3, 4, U, S
If age = 9, then grade = -1, 2, 3, 4, 5, U, S
If age = 10, then grade = -1, 3, 4, 5, 6, U, S
If age = 11, then grade = -1, 4, 5, 6, 7, U, S
If age = 12, then grade = -1, 5, 6, 7, 8, U, S
If age = 13, then grade = -1, 6, 7, 8, 9, U, S
If age = 14, then grade = -1, 7, 8, 9, 10, U, S
If age = 15, then grade = -1, 8, 9, 10, 11, U, S
If age = 16, then grade = -1, 9, 10, 11, 12, U, S
If age = 17, then grade = -1, 10, 11, 12, U, S, 15, 16, 17
If age = > 18, then grade = -1, 11, 12, U, S, 15, 16, 17

SX10. *Grade equivalent*

If age = 3 - 4, then grade equivalent = -1, N, T, K, P, U
If age = 5, then grade equivalent = -1, N, T, K, P, 1, U
If age = 6, then grade equivalent = -1, N, T, K, P, 1, 2, U
If age = 7, then grade equivalent = -1, T, K, P, 1, 2, 3, U
If age = 8, then grade equivalent = -1, 1, 2, 3, 4, U
If age = 9, then grade equivalent = -1, 2, 3, 4, 5, U
If age = 10, then grade equivalent = -1, 3, 4, 5, 6, U
If age = 11, then grade equivalent = -1, 4, 5, 6, 7, U
If age = 12, then grade equivalent = -1, 5, 6, 7, 8, U
If age = 13, then grade equivalent = -1, 6, 7, 8, 9, U
If age = 14, then grade equivalent = -1, 7, 8, 9, 10, U
If age = 15, then grade equivalent = -1, 8, 9, 10, 11, U
If age = 16, then grade equivalent = -1, 9, 10, 11, 12, U
If age = 17, then grade equivalent = -1, 10, 11, 12, U, 15, 16, 17
If age = > 18, then grade equivalent = -1, 11, 12, U, 15, 16, 17

SX13. *Highest grade or year of school completed*

If age = 16, then SX13 = -1, 1, 2, 3, 4, 5, 6
If age = 17, 18 then SX13 = -1, 1, 2, 3, 4, 5, 6, 7
If age = 19, then SX13 = -1, 1, 2, 3, 4, 5, 6, 7, 8
If age = 20, then SX13 = -1, 1, 2, 3, 4, 5, 6, 7, 8, 9
If age = 21 then SX13 = -1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
If age = > 22 or age = -7,-8 then SX13 = -1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

SX17. *Country of origin*

If SX17 = 2 (not everyone in the household was born in this country), for at least one person in the household SX19 should not equal 1 (50 states of District of Columbia).

SX18. *English as a first language*

If SX18 = 2 (not everyone in the household learned English as their first language), for at least one person in the household SX20 should not equal 1 (English).

SX24. *Relationship between child and most knowledgeable parent/guardian*

If SX24 = 1, 2, then parent's age = > (child's age + 12)
If SX24 = 5, then parent's age = > (child's age + 24)
If SX24 = 1, then parent's gender = F
If SX24 = 2, then parent's gender = M
If SX24 = 3, then brother's gender = M
If SX24 = 4, then sister's gender = F
If SX24 = 6, then aunt's gender = F
If SX24 = 7, then uncle's gender = M
* If SX24 = 11, then child's age must be >= 16

SX29. *Number of additional telephone numbers for home use*

0 - 9 (hard range)
0 - 3 (soft range)

SX30. *ZIP code*

Match first three digits to three-digit ZIP code loaded with list-assisted sample from Genesys.
Edit will allow respondent to verify their response if other than the three-digit ZIP code
* ZIP code must be 5 characters in length

SX33. *Household income to the nearest five thousand*

Response must fall within the range reported in SX33.

Parent PFI/CI Interview

PA1. *Month and year of child's birth*

Month: 1 - 12 (hard range)
Year: 1975 - 1993 (all entries confirmed in PA2)

PA5. *Relationships of household members to child*

If PA5 = 1, 2, then parent's age = > (AGE95 + 12)
If PA5 = 5, then grandparent's age = > (AGE95 + 24)
If PA5 = 1, then parent's gender = F
If PA5 = 2, then parent's gender = M
If PA5 = 3, then brother's gender = M
If PA5 = 4, then sister's gender = F
If PA5 = 6, then aunt's gender = F
If PA5 = 7, then uncle's gender = M
* If PA5 = 11, then child's age = > 16
For each child, only 1 household member can have PA5 = 1
For each child, only 1 household member can have PA5 = 2

PB4. *Grade or year child is attending*

If AGE95 = 3 - 4, then grade = -1, N, T, K, P, U, S
If AGE95 = 5, then grade = -1, N, T, K, P, 1, U, S
If AGE95 = 6, then grade = -1, N, T, K, P, 1, 2, U, S
If AGE95 = 7, then grade = -1, T, K, P, 1, 2, 3, U, S
If AGE95 = 8, then grade = -1, 1, 2, 3, 4, U, S
If AGE95 = 9, then grade = -1, 2, 3, 4, 5, U, S
If AGE95 = 10, then grade = -1, 3, 4, 5, 6, U, S
If AGE95 = 11, then grade = -1, 4, 5, 6, 7, U, S
If AGE95 = 12, then grade = -1, 5, 6, 7, 8, U, S
If AGE95 = 13, then grade = -1, 6, 7, 8, 9, U, S
If AGE95 = 14, then grade = -1, 7, 8, 9, 10, U, S
If AGE95 = 15, then grade = -1, 8, 9, 10, 11, U, S
If AGE95 = 16, then grade = -1, 9, 10, 11, 12, U, S
If AGE95 = 17, then grade = -1, 10, 11, 12, 13, U, S
If AGE95 = 18, then grade = -1, 11, 12, 13, U, S
If AGE95 = 19, then grade = -1, 12, 13, U, S
If AGE95 = 20, then grade = -1, 12, 13, U, S

PB5. *Grade equivalent*

If AGE95 = 3 - 4, then grade equivalent = -1, N, T, K, P, U
If AGE95 = 5, then grade equivalent = -1, N, T, K P, 1, U
If AGE95 = 6, then grade equivalent = -1, N, T, K, P, 1, 2, U
If AGE95 = 7, then grade equivalent = -1, T, K, P, 1, 2, 3, U
If AGE95 = 8, then grade equivalent = -1, 1, 2, 3, 4, U
If AGE95 = 9, then grade equivalent = -1, 2, 3, 4, 5, U
If AGE95 = 10, then grade equivalent = -1, 3, 4, 5, 6, U
If AGE95 = 11, then grade equivalent = -1, 4, 5, 6, 7, U
If AGE95 = 12, then grade equivalent = -1, 5, 6, 7, 8, U
If AGE95 = 13, then grade equivalent = -1, 6, 7, 8, 9, U
If AGE95 = 14, then grade equivalent = -1, 7, 8, 9, 10, U
If AGE95 = 15, then grade equivalent = -1, 8, 9, 10, 11, U
If AGE95 = 16, then grade equivalent = -1, 9, 10, 11, 12, U
If AGE95 = 17, then grade equivalent = -1, 10, 11, 12, 13, U
If AGE95 = 18, then grade equivalent = -1, 11, 12, 13, U
If AGE95 = 19, then grade equivalent = -1, 12, 13, U
If AGE95 = 20, then grade equivalent = -1, 12, 13, U

PC5. *Number of hours each week child attends Head Start or preschool program*

1-70 (hard range)
1-50 (soft range)

PD8.* *Lowest/highest grade taught in child's school*

Child's GRADE/GRADEEQ must be <= highest grade in school and >= lowest grade in school.

Consistency check on frequency of participation in meetings or activities at child's school:

If PF1a or PF1b = 1 (attended a general school meeting or parent-teacher conference), then PF3 (frequency of participation) > 0. Else, if PF2a or PF2b or PF2c or PF2d = 1 (attended open house or back-to-school night, PTA, parent advisory group, or parent-teacher conference), then PF3 (frequency of participation) > 0.

PF3. *Number of times participated in meetings or activities at child's school*

0 - 260 (hard range)
0 - 52 (soft range)

PL7. *Hours per week mother usually works for pay*

1 - 99 (hard range)
1 - 60 (soft range)

PL8. *Number of months mother worked for pay in past 12 months*

0 - 12 (hard range)
Cannot equal 0 if mother was employed last week for pay

PM7. *Hours per week father usually works for pay*

-1 - 99 (hard range)
1 - 60 (soft range)

PN3OV1/
PN3OV2. *Length of time since non-residential parent lived in household with child*

(NOTE: since some respondents report periods of less than two years in months (e.g., 18 months), the range for months was 1-24 if years was 0. If the number of years was >0 the allowable range for months was 1-11.)

Length of time < = AGE95
DAYS: 1 - 365
WEEKS: 1 - 52
MONTHS: 1 - 24
YEARS: 0 to present age

PN5a. *Times in a typical month that child talks to non-residential parent on phone*

0 - 60 (hard range)
0 - 30 (soft range)

PN5b. *Times in a typical month that child gets a letter from non-residential parent*

0 - 30 (hard range)
0 - 8 (soft range)

PN5c. *Times in a typical month that child sees non-residential parent in person*

0 - 60 (hard range)
0 - 30 (soft range)

PN5OV1. *Number of times child who doesn't talk on phone with non-residential parent in a typical month, talked to non-residential parent in the past year*

1-15 (hard range)
1-8 (soft range)

PN5OV2. *Number of times child who doesn't get letter from non-residential parent in a typical month got letter from non-residential parent in the past year*

1-15 (hard range)
1-8 (soft range)

Consistency checks between current and last contact with non-residential parent:

If PN5OV1 = 0 (no contact from other parent by phone in last year) and PN5OV2 = 0 (no contact from other parent by letter in last year) and PN5OV3 = 0 (has not seen other parent in last year) then the combination of PN6OV1 and PN6OV2 (length of time since last contact with other parent) should be greater than one year.

If PN4 = 1 (child currently has contact with other parent) then PN6 should not = 2 (child has never had contact with other parent).

PN6OV1/
PN6OV2. *Length of time since child had contact with non-residential parent*

(NOTE: since some respondents report periods of less than two years in months (e.g., 18 months), the range for months was 1-24 if years was 0. If the number of years was >0 the allowable range for months was 1-11.)

Length of time < = AGE95
DAYS: 1 - 365
WEEKS: 1 - 52
MONTHS: 1 - 24
YEARS: 0-present age

Youth CI Interview

YB6. *Hours per week working for pay*

1-40 (hard range)
1-20 (soft range)

YC5OV. *Number of weeks participating in an activity*

1-40 (hard range)
1-36 (soft range)

YC6OV. *Number of hours per week participating in an activity*

1-30 (hard range)
1-15 (soft range)

Adult CI Interview

R23. *Hours per week adult usually works for pay*

1-99 (hard range)
1-60 (soft range)

Appendix D
Miscellaneous Batch Data Integrity Edit Specifications

Miscellaneous Batch Data Integrity Edit Specifications

Various data integrity edits were run against completed interviews to verify between-item skips and copying of variables from one interview to another. These were run by data preparation staff to be sure that updates posted to cases had taken into account all variable settings that may have been affected by the change. These edits differed from the logic edits (appendix C) because they were not done during interview administration. They were different from the structural edits (appendix E) because they do not check the integrity of database **records**, but the integrity of the relationships between data items. These edits were developed to assist data preparation staff when reading frequencies. Edits noted with an asterisk (*) were added or modified based on data collection experience after the Data Editing Plan was delivered. Prefixes to variables, e.g. PARN.SSAME indicate the CATI database record where a variable is located (see appendix F). In some cases, the final item numbers on the questionnaire differ from those that had been assigned at the time of CATI programming. However, no changes were made in variable names.

Screener

If XHHACTV = 1 (someone in the household is serving on active duty in the U.S. Armed Forces) then there must be at least one person in the household with XACTVDUT = 1. Likewise, if XHHACTV = 2, -7, -8 then no one in the household should have XACTVDUT = 1.

Parent PFI/CI Interview

1.* Confirmation of HHMOM, HHDAD with FEMGUARD, MALGUARD setting:
(NOTE: FEMGUARD and MALGUARD appear as MOMTYPE, DADTYPE, and RESRELN on the public use data set.)

If HHMOM = 1 then FEMGUARD[MOMNUM] must = 1,2;
If HHMOM = 2 then FEMGUARD[MOMNUM] must = 3,4;
If HHMOM = 4 then all FEMGUARD array cells must = -1.

If HHDAD = 1 then MALGUARD[DADNUM] must = 1,2;
If HHDAD = 2 then MALGUARD[DADNUM] must = 3,4;
If HHDAD = 4 then all MALGUARD array cells must = -1.

2. Confirmation of FIPATH:
If [AGE95 >= 3 and AGE95 <= 6) and not enrolled in school (ENROLL = 2) and not in home school (HOMESCHL = 2, -7, -8)] or GRADE/GRADEEQ = N or [GRADEEQ = U, -7, -8 and AGE95 = 3 or 4] then FIPATH must = N (preschool).

If [GRADE/GRADEEQ = T, K, P, 1, 2, 3, 4 or 5 and not in home school (HOMESCHL not = 1)] or [GRADEEQ = U, -7, -8 and AGE95 >= 5 and <= 11 and not in home school (HOMESCHL not = 1)] then FIPATH must = E (elementary).

If [GRADE/GRADEEQ = 6, 7 or 8 and not in home school (HOMESCHL not = 1)] or [GRADEEQ = U, -7, -8 and AGE95 = 12 or 13 and not in home school (HOMESCHL not = 1)] then FIPATH must = M (middle school/junior high).

If [GRADE/GRADEEQ = 9, 10, 11 or 12 and not in home school (HOMESCHL not = 1)] or [GRADEEQ = U, -7, -8 and AGE95 >= 14 and not in home school (HOMESCHL not = 1)] then FIPATH must = S (upper school/senior high).

If AGE95 >= 5 and in home school (HOMESCHL = 1) and GRADEEQ not = N then FIPATH must = H (home school).

3. PD12 - If two children are sampled in the same household (SPSMP > 1), the respondent for both interviews is the same, neither child has FIPATH = 'N', and it is possible from the responses to GRADE and SGRADE, GRADEEQ and SGRADEQ, and SPUBLIC and PUBSCH that the two children go to the same school, SSAME must not = -1.

4. If two children go to the same school and the respondent is the same for both Parent PFI/CI interviews in the household (PARN.SSAME = 1 and ENUM.PARNUM is identical) then SPUBLIC, SGOVT, SCHOICE, SRELGON, SCATHLIC, SOTHGRAD, SLOW, SHIGH, SNUMSTUD, SNUMGRAD, SEPRIDIS, FSSPVOLN, FSDECIS, and FEPOLICY should be equal ("Same School" common items). If, in addition,

   [EXPA.RACE for Child1 and Child2 = 1, 91, -7, -8 and EXPA.HISPANIC for Child1 and Child2 = 1 (Hispanic)] or

   [EXPA.RACE for Child1 and Child2 = 1 and EXPA.HISPANIC = 2, -7, -8 for Child1 and Child2] or

   [EXPA.RACE for Child1 and Child2 is the same and equal to 2, 3, or 4] or

   [EXPA.RACE for Child1 and Child2 = 91, -7, or -8 and EXPA.HISPANIC for Child1 and Child2 = 2, -7, or -8] then

   SETHNIC for Child1 should equal SETHNIC for Child2.

5. PF1, PF2 - If telephone number (BASE.BASELOCL) ends with an even number, PF1 should be asked (FSMEETNG, FSATCNFN, FSSPORT, and FSVOLNTR should not equal -1). If telephone number (BASE.BASELOCL) ends with an odd number, PF2 should be asked (FSBAC, FSATTPTA, FSATTCOU, FSATCNFN, FSSPORT and FSVOLNTR should not equal -1).

6. PF1, PF2 - If in PF1, FSMEETNG = 1 and HHMOM = 1,2 and HHDAD = 1,2 (two parents in household) then FSMEETNP must not equal -1. This edit also apples to FSATCNFN, FSSPORT, FSVOLNTR, FSBAC, FSATTPTA, and FSATTCOU.

7. PI2, PI3, PI4 skips based on GRADE/EQ:

   if FIPATH = N or GRADE/EQ = T,K, or P or (GRADEEQ = U, -7, -8) and AGE95 <= 6) then FOSTORY, FOWORDS, FOMUSIC, FOCRAFTS, FOSPORTS, FOERAND and FOCHORE should not = -1 and FOBUILD, FORESPON, FOAFTHS should = -1.

   if GRADE/EQ = 1 - 5 or (GRADEEQ = U, -7, -8) and AGE95 > 6 and AGE95 <= 11) then FOSTORY, FOCHORE, FOCRAFTS, FOBUILD, and FOSPORTS should not = -1 and FOWORDS, FOMUSIC, FOERAND, FORESPON and FOAFTHS should = -1.

if GRADE/EQ = 6 - 12 or (GRADEEQ = U, -7, -8) and AGE95 >= 12) then FOBUILD, FOSPORTS, FORESPON, FOAFTHS should not = -1 and FOSTORY, FOWORDS, FOMUSIC, FOCRAFTS, FOCHORE and FOERAND should = -1.

8. PK2 - If there are 2 or more adult non-siblings in the household who are related to the child, CPRDNEWS should not = -1. **Unless** the only second non-sibling in the household is an aunt, uncle or cousin and AGE is -7, -8, in which case CPRDNEWS should be -1. Conversely, if there are not 2 or more adult non-siblings in the household related to the child, CPRDNEWS should = -1.

9. PK4 - If there are 2 or more adult non-siblings in the household who are related to the child, CPWATCH should not = -1. **Unless** the only second non-sibling in the household is an aunt, uncle or cousin and AGE is -7, -8, in which case CPWATCH should be -1. Conversely, if there are not 2 or more adult non-siblings in the household related to the child, CPWATCH should = -1.

10. PK5 - If, in addition to 2 parent(s)/guardians, there are any other non-sibling adults in the household and their AGE(s) are not equal to -7, -8, CPNEWSOT should not = -1. Conversely, if there are not 2 or more adult non-siblings in the household related to the child, CPNEWSOT should = -1.

11. PK15, PK16 - If telephone number (BASE.BASELOCL) ends with an even number, PK24 should be asked (CPVP, CPLAW, CPHOUSE, CPVETO, and CPCONSRV should not equal -1 and CPSPKR, CPJUDGE, CPSENATE, CPCONST and CPDFENS should equal -1). If telephone number (BASE.BASELOCL) ends with an odd number, PK25 should be asked (CPSPKR, CPJUDGE, CPSENATE, CPCONST and CPDFENS should not equal -1 and CPVP, CPLAW, CPHOUSE, CPVETO, and CPCONSRV should = -1).

12. "Copy over" of Civic Involvement items - If respondent is the same (ENUM.PARNUM is identical) for both Parent PFI/CI interviews in the household about middle or senior school children (those with FIPATH = M, S or H and GRADEEQ = 6-12 or GRADEEQ = -7, -8 and AGE95 >= 13) then CPRDNEWU, CPRDNEWS, CPWATCHU, CPWATCH, CPNEWSOT, CPOTHORG, CPRELFRQ, CPSERVC, CPMONEY, CPVOLUNT, CPTELISS, CPPUBMTG, CPBOYCOT, CPVOTE5, CPCOMPLI, CPFAMSAY, CPAGNST, CPBOOK, CPLETTER, CPMTG, and [CPVP, CPLAW, CPHOUSE, CPVETO, CPCONSRV] or [CPSPKR, CPJUDGE, CPDFENS, CPSENATE, CPCONST] [depending on last digit of phone number] should be equal.

13. If FIPATH is not equal to H and (FIPATH is not = N and child is not in Head Start or a program) and the combination of PN6OV1 (NRLSTNU1) and PN6OV2 (NRLSTUN1) indicate that child has had contact with the first non-residential parent in past 12 months) then the following should hold true: If telephone number (BASE.BASELOCL) ends with an even number, PN7 should be asked (NRMEET1, NRATCNF1, NRSPORT1, and NRVOLNT1 should not equal -1). If telephone number (BASE.BASELOCL) ends with an odd number, PN8 should be asked (NRBAC1, NRATTPT1, NRATTCO1 (if FIPATH = N), NRATCNF1 (if FIPATH = E,M,S), NRSPORT1 and NRVOLNT1 should not equal -1). The same is true for the second non-residential parent, if the child has one. The variables for the second non-residential parent end in 2, e.g., NRLSTNU2 (PN6OV1) and NRLSTUN2 (PN6OV2).

Youth CI Interview

If telephone number (BASE.BASELOCL) ends with an odd number, YD8 should be asked (CYVP, CYLAW, CYHOUSE, CYVETO and CYCONSRV should not equal -1). If telephone number (BASE.BASELOCL) ends with an even number, YD9 should be asked (CYSPKR, CYJUDGE, CYDFENS, CYSENATE and CYCONST should not equal -1).

Adult CI Interview

1. If telephone number (BASE.BASELOCL) ends with an even number, R14 should be asked (CAVP, CALAW, CAHOUSE, CAVETO and CACONSRV should not equal -1). If telephone number (BASE.BASELOCL) ends with an odd number, R15 should be asked (CASPKR, CAJUDGE, CADFENS, CASENATE and CACONST should not equal -1).

2.* Box before R16 - If there are household members age 18 or younger and the Adult CI interview respondent is 12 years or older than the other household members CAPARENT must not = -1.

Appendix E
Edits for Structural Completeness

Edits for Structural Completeness

The structural edits were run against completed interviews only. The completion codes (database variables SCRN.SCRNRSLT for screener completes and BASM.MAINRSLT for extended completes) were as follows:

Screener (SCRN.SCRNRSLT)

- C1 Complete screener with no extended interviews
- C2 Complete screener with Parent PFI/CI interview(s) only
- C3 Complete screener with Parent PFI/CI and Youth CI interviews
- C4 Complete screener with Adult CI interview only

Parent (BASM.MAINRSLT)

- CN Complete Parent PFI/CI interview for a preschooler
- CE Complete Parent PFI/CI interview for an elementary schooler
- CM Complete Parent PFI/CI interview for a middle schooler/junior high schooler
- CS Complete Parent PFI/CI interview for a senior high schooler
- CH Complete Parent PFI/CI interview for a home schooler

Youth CI(BASM.MAINRSLT)

- CY Complete Youth CI interview

Adult CI (BASM.MAINRSLT)

- CA Complete Adult CI interview

The structural edits were grouped into four categories as described below.

A. Interview Completeness

These edits confirmed the completeness of the database. In other words, if there was a completed interview, all of the appropriate data records associated with that type of interview must have existed.

A1. Screeners completed with a Parent PFI/CI interview only (SCRN.SCRNRSLT = C2) must have a Parent PFI/CI extended only (SELECTEX = SP [sampled for Parent PFI/CI] for the BASM record).

A2. Screeners completed with Parent PFI/CI and Youth CI interviews (SCRN.SCRNRSLT = C3) must have at least one Parent PFI/CI extended (SELECTEX = SP) and one Youth CI extended (SELECTEX = SY).

A3. Screeners completed with an Adult CI interview (SCRN.SCRNRSLT = C4) must have one Adult CI extended (SELECTEX = SA) and no other extended interviews.

A4. Screeners completed with no sampled interviews (SCRN.SCRNRSLT = C1) must have no extendeds (BASM records).

A5. Every completed screener (SCRNRSLT = C1, C2, C3, C4) must have one and only one XSCR record and an EXPA record for every ENUM record.

A6. Screeners completed with no extended interviews (SCRN.SCRNRSLT = C1) must have one and only one HOME record.

A7. Screeners completed with no extendeds (SCRN.SCRNRSLT = C1), those that are part of the Adult CI sample (SCRN.SCRNRSLT = C4), or those in households in which there is no one 20 or younger (SCRN.HHUND21 = 2, -7, -8) must have one and only one LIBR record.

A8. Each household in which there is a completed or ineligible Parent PFI/CI interview or a completed or ineligible Adult CI interview (BASM.MAINRSLT = CN, CE, CM, CS, CH, CA, IP, IA) must have one and only one HOME record.

A9. Each household in which there is a completed or ineligible Parent PFI/CI interview (BASM.MAINRSLT = CN, CE, CM, CS, CH, IP) and someone in the household 20 or younger (SCRN.HHUND21 = 1) must have one and only one LIBR record.

A10. For each completed Parent PFI/CI interview (BASM.MAINRSLT = CN, CE, CM, CS, or CH) there must be a DEMO record and a PARN record.

A11. For each completed Youth CI Interview (BASM.MAINRSLT = CY) there must be a YUTH record.

A12. For each completed Adult CI interview (BASM.MAINRSLT = CA) there must be an ADLT record.

A13. For each completed Parent PFI/CI interview (BASM.MAINRSLT = CN, CE, CM, CS or CH) there must be no YUTH record and no ADLT record.

A14. For each completed Youth CI Interview (BASM.MAINRSLT = CY) there must be no DEMO record, no PARN record, no NONR records, and no ADLT record.

A15. For each completed Adult CI interview (BASM.MAINRSLT = CA) there must be no DEMO record, no PARN record, no NONR records, and no YUTH record.

A16. All completed Parent PFI/CI interviews for preschool children (BASM.MAINRSLT = CN) must have FIPATH equal to N.

A17. All completed Parent PFI/CI interviews for elementary school children (BASM.MAINRSLT = CE) must have FIPATH equal to E.

A18. All completed Parent PFI/CI interviews for middle school/junior high school children (BASM.MAINRSLT = CM) must have FIPATH equal to M.

A19. All completed Parent PFI/CI interviews for upper school/senior high school children (BASM.MAINRSLT = CS) must have FIPATH equal to S.

A20. All completed Parent PFI/CI interviews for children in home school (BASM.MAINRSLT = CH) must have FIPATH equal to H.

B. Appropriate Person Records

Every completed interview must have the appropriate associated person records. This includes person records for the subject and for the respondent, as well as for the mother, the father, and all other household members.

B1. Every BASM record must represent an enumerated, interview-eligible household member (ENUM.PERSNUM = BASM.ENUMNUM and ENUM.ELIGFLG = 1).

B2. All completed Parent PFI/CI interviews (BASM.MAINRSLT = CN, CE, CM, CS, CH) must have been completed by an enumerated household member and this respondent's sex must match PARSEX for the child's interview. (There must be an ENUM with ENUM.PERSNUM = ENUM.PARNUM of child's ENUM and ENUM.SEX = ENUM.PARSEX of child's ENUM.)

B3. If DEMO.MOMNUM not = -1 then there must be an ENUM record with ENUMID = the first 8 digits of DEMOID concatenated with DEMO.MOMNUM.

B4. If DEMO.DADNUM not = -1 then there must be an ENUM record with ENUMID = the first 8 digits of DEMOID concatenated with DEMO.DADNUM.

B5. For completed screeners (SCRN.SCRNRSLT = C1, C2, C3 or C4), there must be an ENUM record where ENUM.PERSNUM = the screener respondent person number (ENUM.SCRESPX) and ENUM.SCRESP = X.

B6. HHUNDR6 must equal the number of ENUM records with ENUM.AGE <= 5.

B7. HHUNDR13 must equal the number of ENUM records with ENUM.AGE <= 12.

B8. HHUNDR18 must equal the number of ENUM records with ENUM.AGE <= 17.

B9. HHUNDR21 must equal the number of ENUM records with ENUM.AGE <= 20.

B10. If the Parent PFI/CI interview respondent is not a parent of the sampled child (ENUM.PARRELN not = 1 or 2) then there must be an ENUM where ENUMID = the first 8 digits of BASMID concatenated with the child's ENUM.PARNUM and the respondent must be 16 or older (ENUM.AGE >= 16).

B11. If the Parent PFI/CI interview respondent is a grandparent of the child (ENUM.PARRELN = 5) then there must be an ENUM where ENUMID = the first 8 digits of BASMID concatenated with the child's ENUM.PARNUM and the respondent must be 24 or more years older than the child (ENUM.AGE >= child's DEMO.AGE95 + 24).

B12. For every relationship recorded in the Parent PFI/CI interview at PA5, (DEMO.RELATION[n] not = -1), there must be an ENUM record with ENUMID = BASEID concatenated with n.

B13. If the Parent PFI/CI interview respondent is the child's mother (ENUM.PARRELN = 1), then there must be an ENUM record with ENUM.PERSNUM = DEMO.MOMNUM.

B14. If the Parent PFI/CI interview respondent is the child's father (ENUM.PARRELN = 2), then there must be an ENUM record with ENUM.PERSNUM = DEMO.DADNUM.

C. Parent Relationships

Every person defined as a parent must have appropriate records and database values. The parent relationship structural edits check that expected records and database relationships are correct.

C1. If any mother relationship is recorded in the Parent PFI/CI interview at PA5 (DEMO.RELATION[n] = 1), then there must be an ENUM where ENUM.PERSNUM = DEMO.MOMNUM.

C2. If any father relationship is recorded in the Parent PFI/CI interview at PA5 (DEMO.RELATION[n] = 2), then there must be an ENUM where ENUM.PERSNUM = DEMO.DADNUM.

C3. If there is a mother or female guardian in the household (DEMO.HHMOM = 1, 2 or 3), then there must be a MAMA record.

C4. If there is a father or male guardian in the household (DEMO.HHDAD = 1, 2 or 3), then there must be a PAPA record.

C5. If there is a mother in the household (DEMO.HHMOM = 1,2), then the child's ENUM should represent this in the RELATION cell corresponding to the mother's enumeration number (ENUM.RELATION[MOMNUM] = 1).

C6. If there is a father in the household (DEMO.HHDAD = 1,2), then the child's ENUM should represent this in the RELATION cell corresponding to the father's enumeration number (ENUM.RELATION[DADNUM] = 2).

C7. If there is a mother in the household (not missing DEMO.MOMNUM) then there must be an ENUM record where ENUMID = the first 8 digits of BASMID concatenated with DEMO.MOMNUM and the mother must be between 12 and 55 years older (inclusive) than the child (ENUM.AGE <= child's AGE95 + 55 and ENUM.AGE >= child's AGE95 + 12).

C8. If there is a father in the household (not missing DEMOM.DADNUM) then there must be an ENUM record where ENUMID = the first 8 digits of BASMID concatenated with DEMO.DADNUM and the father must be between 12 and 55 years older (inclusive) than the child (ENUM.AGE <= child's AGE95 + 55 and ENUM.AGE >= child's AGE95 + 12).

C9. Every child must have one and only one mother (for every BASM there must be one and only one RELATION[n] = 1).

C10. Every child must have one and only one father (for every BASM there must be one and only one RELATION[n] = 2).

C11. If there is no mother or father in the household (DEMO.HHMOM not = 1 or 2 and DEMO.HHDAD not = 1 or 2) and the respondent is female, there must be a MAMA record but no PAPA record.

C12. If there is no mother or father in the household (DEMO.HHMOM not = 1 or 2 and DEMO.HHDAD not = 1 or 2) and the respondent is male, there must be a PAPA record but no MAMA record.

C13. If there is no birth/adoptive mother in the household (DEMO.HHMOM not = 1) then there must be a NONR record with NONRTYPE = 1 (mother). Conversely, if there is a birth/adoptive mother in the HH (DEMO.HHMOM = 1) then there must not be a NONR record with NONRTYPE = 1.

C14. If there is no birth/adoptive father in the household (DEMO.HHDAD not = 1) then there must be a NONR record with NONRTYPE = 2 (father). Conversely, if there is a birth/adoptive father in the HH (DEMO.HHDAD = 1) then there must not be a NONR record with NONRTYPE = 2.

D. Common Items

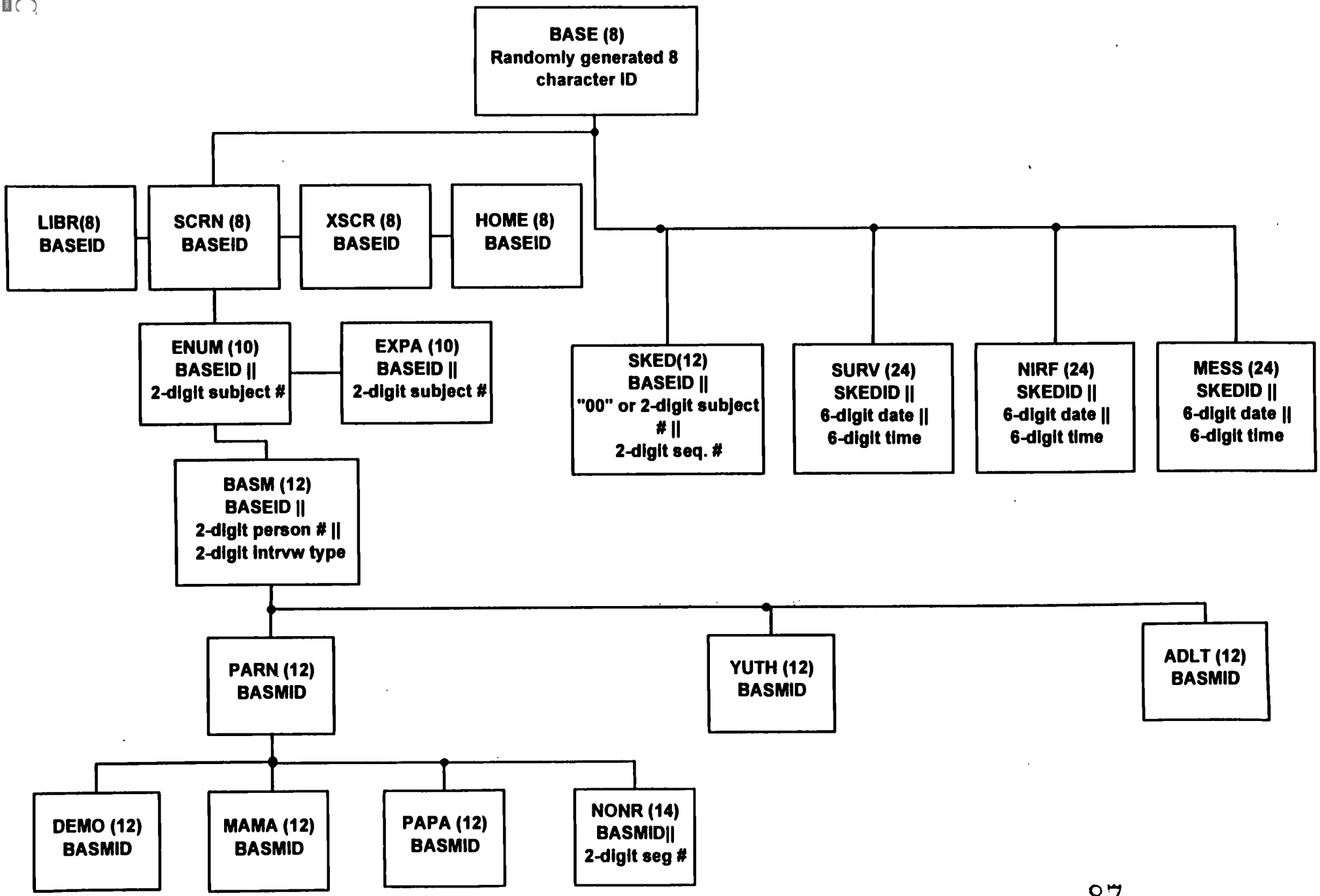
Items asked only once per interview were copied over to successive records. These edits confirmed that parent information is identical for similar children.

D1. All children with the same mother or same female respondent (all DEMO records with the same DEMO.MOMNUM or (HHMOM = 3 and the same ENUM.PARNUM) must have a MAMA record with identical information.

D2. All children with the same father or same male respondent (all DEMO records with the same DEMO.DADNUM or (HHDAD = 3 and the same ENUM.PARNUM) must have a PAPA record with identical information.

Appendix F
NHES:96 Database Design Diagram

Appendix F: NHES: 96 Database Design Diagram



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
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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
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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
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96-25 (Oct.)	Measures of Inservice Professional Development: Suggested Items for the 1998-1999 Schools and Staffing Survey	Dan Kasprzyk
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96-27 (Nov.)	Intersurvey Consistency in NCES Private School Surveys for 1993-94	Steven Kaufman

Listing of NCES Working Papers to Date--Continued

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
97-07 (Mar.)	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97-08 (Mar.)	Design, Data Collection, Interview Timing, and Data Editing in the 1995 National Household Education Survey	Kathryn Chandler

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
97-09 (Apr.)	Status of Data on Crime and Violence in Schools: Final Report	Lee Hoffman
97-10 (Apr.)	Report of Cognitive Research on the Public and Private School Teacher Questionnaires for the Schools and Staffing Survey 1993-94 School Year	Dan Kasprzyk
97-11 (Apr.)	International Comparisons of Inservice Professional Development	Dan Kasprzyk
97-12 (Apr.)	Measuring School Reform: Recommendations for Future SASS Data Collection	Mary Rollefson
97-13 (Apr.)	Improving Data Quality in NCES: Database-to-Report Process	Susan Ahmed
97-14 (Apr.)	Optimal Choice of Periodicities for the Schools and Staffing Survey: Modeling and Analysis	Steven Kaufman
97-15 (May)	Customer Service Survey: Common Core of Data Coordinators	Lee Hoffman
97-16 (May)	International Education Expenditure Comparability Study: Final Report, Volume I	Shelley Burns
97-17 (May)	International Education Expenditure Comparability Study: Final Report, Volume II, Quantitative Analysis of Expenditure Comparability	Shelley Burns
97-18 (June)	Improving the Mail Return Rates of SASS Surveys: A Review of the Literature	Steven Kaufman
97-19 (June)	National Household Education Survey of 1995: Adult Education Course Coding Manual	Peter Stowe
97-20 (June)	National Household Education Survey of 1995: Adult Education Course Code Merge Files User's Guide	Peter Stowe
97-21 (June)	Statistics for Policymakers or Everything You Wanted to Know About Statistics But Thought You Could Never Understand	Susan Ahmed
97-22 (July)	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
97-23 (July)	Further Cognitive Research on the Schools and Staffing Survey (SASS) Teacher Listing Form	Dan Kasprzyk
97-24 (Aug.)	Formulating a Design for the ECLS: A Review of Longitudinal Studies	Jerry West
97-25 (Aug.)	1996 National Household Education Survey (NHES:96) Questionnaires: Screener/Household and Library, Parent and Family Involvement in Education and Civic Involvement, Youth Civic Involvement, and Adult Civic Involvement	Kathryn Chandler
97-26 (Oct.)	Strategies for Improving Accuracy of Postsecondary Faculty Lists	Linda Zimbler
97-27 (Oct.)	Pilot Test of IPEDS Finance Survey	Peter Stowe
97-28 (Oct.)	Comparison of Estimates in the 1996 National Household Education Survey	Kathryn Chandler
97-29 (Oct.)	Can State Assessment Data be Used to Reduce State NAEP Sample Sizes?	Steven Gorman
97-30 (Oct.)	ACT's NAEP Redesign Project: Assessment Design is the Key to Useful and Stable Assessment Results	Steven Gorman
97-31 (Oct.)	NAEP Reconfigured: An Integrated Redesign of the National Assessment of Educational Progress	Steven Gorman
97-32 (Oct.)	Innovative Solutions to Intractable Large Scale Assessment (Problem 2: Background Questionnaires)	Steven Gorman
97-33 (Oct.)	Adult Literacy: An International Perspective	Marilyn Binkley
97-34 (Oct.)	Comparison of Estimates from the 1993 National Household Education Survey	Kathryn Chandler
97-35 (Oct.)	Design, Data Collection, Interview Administration Time, and Data Editing in the 1996 National Household Education Survey	Kathryn Chandler

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