



National Household Education Surveys Program:2001



Methodology Report

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1. INTRODUCTION

The National Household Education Surveys Program (NHES) was developed by the National Center for Education Statistics (NCES) to study educational issues that cannot be addressed in institutional surveys. The NHES collects timely information on specific education topics from a relatively large, targeted sample of households and has been conducted approximately every other year since 1991. The NHES gathers data on several important topics on a rotating basis. For instance, adult education and early childhood program participation have been the focus of several NHES surveys. One-time surveys on current issues, such as school readiness, school safety and discipline, and civic involvement, have been conducted as well.

The NHES surveys conducted in 2001 (NHES:2001) included two that had been fielded in previous years, the Early Childhood Program Participation survey (ECPN-NHES:2001) and the Adult Education and Lifelong Learning survey (AELL-NHES:2001). The third NHES:2001 survey was the Before- and After-School Programs and Activities survey (ASPA-NHES:2001); this was the first full-scale NHES survey on this issue, although questions on the topic had been included in previous survey administrations.

The NHES provides data on the populations of special interest to NCES and education researchers as defined by age and/or grade in school for each survey. It targets these populations using specific screening and sampling procedures. Populations of interest include children from birth to 12th grade and civilian adults age 16 and older and not enrolled in 12th grade or below. Specific age or grade ranges for a given survey are determined by the survey topic and the research questions formulated for the specific survey administration.

The NHES provides national cross-sectional estimates for the 50 states and the District of Columbia. The NHES design also yields estimates for subgroups of interest for each survey, as defined by age or grade for children, educational participation status for adults, and Black and Hispanic origin for all populations of interest. In addition to providing cross-sectional estimates, the NHES is also designed to provide estimates of change over time in key statistics. The survey instruments are designed to address the selected issues in sufficient detail so that analyses can be performed to help explain the phenomena of interest.

The NHES surveys are random-digit-dial (RDD) telephone surveys of households in the United States. Interviews are administered using computer-assisted telephone interview (CATI)

technology, which is a data collection methodology specifically designed so that relatively complex questionnaires can be handled smoothly and efficiently. Previous NHES surveys have been conducted in 1991, 1993, 1995, 1996, and 1999. All surveys were conducted at the same time of the year, winter to early spring. The 2001 administration was conducted by Westat from January 2 through April 14, 2001.

The NHES was intended by NCES to complement its institutional surveys. It also fills a need that existing household surveys, such as the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP), cannot satisfy because they are designed to focus primarily on issues other than education. In these other survey systems, data on educational issues are usually collected through supplements to the main household survey, and supplemental surveys have not provided NCES with the level of detail needed for desired analyses.

NHES Survey Topics

This section presents the topics that have been addressed in the prior NHES surveys, including those that have been conducted on a recurring basis and one-time surveys. Exhibit 1-1 shows the topics of the NHES surveys from the inception of the program in 1991 through the 2001 administration.

Exhibit 1-1. Surveys conducted under the National Household Education Surveys Program and years administered: NHES

Survey	NHES:1991	NHES:1993	NHES:1995	NHES:1996	NHES:1999 ¹	NHES:2001
Early Childhood Program Participation	√		√		√	√
Adult Education/Lifelong Learning	√		√		√	√
School Readiness		√			√	
School Safety and Discipline		√				
Parent and Family Involvement in Education/Civic Involvement				√	√	
Adult Civic Involvement				√		
Youth Civic Involvement				√	√	
Before- and After-School Programs and Activities					√	√
Household and Library Use				√		

¹ The NHES:1999 was a special end-of-decade administration that measured key indicators from NHES surveys fielded during the 1990s.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 1991, 1993, 1995, 1996, 1999, 2001.

Early Childhood Program Participation

The nonparental care and education of preschool children has been an important recurring topic for the NHES and was the subject of the 1991 Early Childhood Education survey (ECE-NHES:1991) and the Early Childhood Program Participation surveys of 1995 and 2001 (ECPP-NHES:1995 and ECPP-NHES:2001). In addition, selected items about nonparental care were included in the 1999 Parent survey (Parent-NHES:1999). The ECPP surveys have provided cross-sectional, national estimates of participation in early care and education programs for children in varying age groups, depending on the specific research questions addressed in a given survey. Estimates can be computed for White, Black, and Hispanic children for subgroups composed of 2 to 3 years of age or two to three grades in school, depending on the survey year. In addition, the surveys were designed to support the analysis of change in early childhood care and education over time.

In the ECE-NHES:1991, parents of children ages 3 through 8 completed interviews about their children's early childhood education, including participation in nonparental care by relatives, nonrelatives, or in center-based programs (including Head Start). They also answered questions about early school experiences, including delayed kindergarten entry and grade retention, and activities children engaged in with parents and other family members inside and outside the home. For the ECPP-NHES:1995, the population was expanded to include children newborn through 3rd grade. Parents were again asked detailed questions about their children's participation in nonparental care and education programs. Other items captured information about early school experiences of school-age children and home and out-of-home family activities with children. The ECPP-NHES:2001 focused on preschool children from birth through age 6 who were not yet enrolled in kindergarten. In addition to obtaining the same in-depth information on relative care, nonrelative care, center-based program participation, and participation in Early Head Start and Head Start, questions designed to capture continuity of care, parents' perceptions of the quality of care, and reasons for choosing parental over nonparental care were included.

Information on early childhood care and program participation for preschool children was also gathered in the Parent-NHES:1999, which collected data on key indicators that had been measured in previous NHES collections in order to provide the Department of Education with end-of-decade estimates for important education issues. The Parent-NHES:1999 was administered to parents of children from birth through grade 12. Detailed information about children's health and disability status and parent and family characteristics has also been obtained in all NHES ECPP surveys as well as in the Parent-NHES:1999.

Adult Education

Adult educational activities capture the interest of educational researchers and policymakers interested in the phenomenon of learning over the lifetime. This topic is appropriate for a household survey, and consequently, it has been an important focus of the NHES. Adult Education surveys were conducted in 1991, 1995, and 1999 (AE-NHES:1991, AE-NHES:1995, AE-NHES:1999), and the Adult Education and Lifelong Learning survey was administered in 2001 (AELL-NHES:2001). Each of the surveys provided cross-sectional, national estimates of educational participation for persons 16 years and older who were not enrolled in grade 12 or below, as well as estimates for White, Black, and Hispanic adults. The 1995 and 2001 surveys provided estimates for adults who did not have a high school diploma or a GED. The surveys were also designed to permit the analysis of change over time in educational participation.

Respondents were asked about their participation in basic skills courses, English as a second language (ESL) courses, credential (degree or diploma) programs, apprenticeships, work-related courses, courses taken for personal development or personal interest, and in the AELL-NHES:2001, informal learning at work. Adults participating in programs or courses provided details about those programs or courses, such as subject matter, duration, cost, location and sponsorship, and employer support. In the AE-NHES:1991 and AE-NHES:1995, adults who had not participated in selected types of adult education were asked about their interest in educational activities and the barriers to participation in educational activities that they perceived. A battery of personal background, employment, and household questions was also asked in each Adult Education survey.

School Readiness

The School Readiness survey was conducted in 1993 (SR-NHES:1993); a subset of key items was also included in the Parent-NHES:1999 survey. Adopting a broad approach to assessing children's readiness for entering school, the survey encompassed a range of items related to learning. Parents of 3- to 7-year-olds who were in 2nd grade or below completed interviews about their children's developmental accomplishments and difficulties, including emerging literacy and numeracy, center-based program participation, educational activities with family members, and health and nutrition status. Parents of children in elementary school were also asked about school adjustment, early school experiences, and feedback from teachers on children's school adjustment. Information about family stability and other risk factors was collected along with parent and household characteristics. The SR-

NHES:1993 provided cross-sectional, national estimates for the population of interest, for White, Black and Hispanic subgroups, and for preschoolers (children ages 3 to 5 and not yet in kindergarten).

School Safety and Discipline

In 1993, the NHES included the School Safety and Discipline survey (SSD-NHES:1993). Interviews were conducted with parents of students in grades 3 through 12 and with youth in grades 6 through 12. Parents and youth were asked about the school learning environment, discipline policy, safety at school, victimization, availability and use of alcohol and drugs, and alcohol and drug education. Youth were also asked about peer norms for achievement and behavior in school and substance use. The survey addressed parents' contributions to their children's learning environment through questions about parental expectations for academic achievement and good behavior at school, parental efforts to educate and protect their children, and parental involvement in the school. Parent and family characteristics were also elicited. The SSD-NHES:1993 provided national estimates of the topics above for the full population of interest, for White, Black, and Hispanic children, and for children in grades 3 through 5, 6 through 8, and 9 through 12.

Parent and Family Involvement in Education and Civic Involvement

The Parent and Family Involvement in Education and Civic Involvement survey was conducted in 1996 (PFI/CI-NHES:1996). Key family involvement items were incorporated in the Parent-NHES:1999 as well. The PFI/CI-NHES:1996 was different from the ECPP surveys in population of interest and subtopics incorporated in the survey; it focused on parents' participation in educational activities at home as well as participation in various capacities at the programs or schools their children attended. The population of interest was children age 3 through 12th grade. Questions for parents whose children attended school or a center-based program addressed specific ways the family was involved in the school/program, communication with teachers and other school practices to involve families, and parent involvement with children's homework. Parents of all children responded to questions about parent and family involvement with their children in educational activities outside of school. Children's contact with nonresidential parents and the involvement of those parents with school was also captured. An additional topic for parents of preschoolers was support and training received for parenting.

The civic involvement of parents of students in grades 6 through 12 and that of the students themselves, as well as a separate random sample of adults, was addressed in the PFI/CI-NHES:1996 and

in two other 1996 surveys, the Youth Civic Involvement survey (YCI-NHES:1996) and the Adult Civic Involvement survey (ACI-NHES:1996). The topic of community service was expanded for inclusion in the end-of-decade 1999 Youth survey (Youth-NHES:1999). Questions related to the diverse ways that parents and other adults may socialize children for informed civic participation. The surveys were intended to provide 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, such as through exposure to information about politics or national issues, through discussion of politics and national issues, and by the example of adults who participate in community or civic life. Questions about attitudes that relate to democratic values and knowledge about government were also included. In the YCI-NHES:1996, special emphasis was placed on the opportunities youth had for participation in community service and the extent of school efforts to support youth community involvement.

The PFI/CI-NHES:1996 and Parent-NHES:1999 provided cross-sectional national estimates of the topics described above for all children in the population of interest, for White, Black, and Hispanic children, for preschoolers, and for 3-year groupings of grades.

Before- and After-School Programs and Activities

This topic, focusing on the ways that parents arrange for supervision and enrichment during the out-of-school hours for children who are enrolled in kindergarten through 8th grade, was introduced as part of the Parent-NHES:1999. It was the focus of the 2001 Before- and After-School Programs and Activities survey (ASPA-NHES:2001). Interviews were conducted with parents who reported on the before- and/or after-school arrangements in which their children participated, including care by relatives or nonrelatives in a private home, before- or after-school programs in centers and in schools, activities that might provide adult supervision in the out-of-school hours, and children's self-care. Items also addressed continuity of care arrangements, parental perceptions of quality, reasons for choosing parental care, and obstacles to participation in nonparental arrangements. The child's health and disability status and characteristics of the parents and household were also collected.

The ASPA-NHES:2001 provided cross-sectional estimates of participation in various types of arrangement for White, Black and Hispanic children, and for in grades K through 5th and 6th through 8th.

Household and Library Use

The Household and Library Use survey of 1996 (HHL-NHES:1996) examined public library use by household members. This brief survey was administered to every household screened in 1996. The items tapped the ways in which household members used public libraries (e.g., borrowing books, lectures, story hour) and the purposes for using public libraries (e.g., for school assignments, enjoyment, work-related projects). The HHL-NHES:1996 provided cross-sectional, national estimates of household characteristics and library use for all households in the United States as well as estimates by state.

NHES:2001 Surveys

The preceding discussion contains a description of each of the topical areas covered by NHES surveys since the survey program's inception. A more detailed discussion of the topics and issues for the NHES:2001 surveys follows. There were two types of instruments in the NHES:2001, the screening interview (referred to as the Screener) and three extended interviews, one for the ECPP-NHES:2001, one for the ASPA-NHES:2001, and one for the AELL-NHES:2001. (See appendix A for copies of the NHES:2001 survey instruments.) The Screener was completed by a member of the household who was age 18 or older.¹ It was used to determine whether sampled telephone numbers belonged to households, gather the information needed to sample household members to be interview subjects for one or more surveys,² select the appropriate respondent for ECPP and ASPA interviews, and administer some items about household characteristics in households in which no one was sampled for an extended interview. The Screener was designed to accomplish these tasks efficiently, placing minimum burden on the respondent.

Early Childhood Program Participation Survey (ECPP-NHES:2001)

In the ECPP-NHES:2001 survey, data were collected about children from birth through age 6 as of December 31, 2000, who were not enrolled in kindergarten or a higher grade in school.³ The

¹ Any household member age 18 or older was eligible to respond to the screening interview. However, if there were no household members age 18 or older, the male or female head of the household completed the Screener. Household members were defined as persons who considered that household as their residence, kept their possessions there, and had no other place to live.

² Up to three interviews were conducted in a household. Interviews could have been conducted about a maximum of two children and one adult in any household.

³ Because the proportion of 7-year-olds who are not enrolled in school is very small (about 1.5 percent), an upper age limit of 6 was established for the ECPP survey.

respondent for the ECPP interview was the adult living in the household who was the most knowledgeable about the child's care and education.⁴

In the ECPP interview, subjects were routed to one of two questionnaire paths, infant or preschool. The infant path (I) of the ECPP interview was for children newborn through 2 years of age. The preschool path (N) was for children who were age 3 or older and not yet attending kindergarten or primary school. These children were typically 3 to 5 years old, but eight were 6 years old. Information was collected about participation in early childhood care and programs (relative care, nonrelative care, center-based programs, and Early/Head Start), program continuity, parental perceptions of the quality of arrangements, and factors in parental choice of arrangement, literacy-related skills and activities, and training and support for families of preschoolers.

Irrespective of the questionnaire path for the child, parents were asked basic demographic questions about the child, the child's health and disability status, parent/guardian characteristics, and household characteristics. To avoid redundancy and greater response burden in households with multiple interviews, household information was collected only at the end of the first extended interview conducted in each household. Similarly, parent/guardian information was collected only once per household, unless sampled children in the same household had different parents.⁵ Exhibit 1-2 shows the structure of the ECPP and ASPA interviews, which contained many parallel items, and the distribution of topics among the paths for each interview.

⁴ The respondent for the ECPP and ASPA surveys was identified by the Screener respondent as the household member most knowledgeable about the care and education of the sampled child. In more than 75 percent of the cases, it was the child's mother; in more than 96 percent of the cases, it was the child's mother or father. In about 2 percent of the cases, it was the child's grandmother. For ease of discussion, the respondent to the ECPP and ASPA surveys is referred to as the parent/guardian.

⁵ Demographic information on the mother and father residing in the household was collected in the first ECPP or ASPA interview conducted in the household and was copied to the interview for a second sampled child if the sampled children had the same mother and father. If a sampled child had no mother and no father in the household, parent information was collected about the guardian responding to the interview.

Exhibit 1-2. Content by path: ECPP-NHES:2001 and ASPA-NHES:2001

Characteristic	ECPP survey			ASPA survey	
	Infants/ toddlers (I)	Preschoolers (N)		Enrolled in school (S)	Home- schooled (H)
		Not enrolled	Center-based ¹		
Demographics ²	√	√	√	√	√
Current school/program status		√	√	√	√ ³
Characteristics of program/school			√		
Homeschooling					√
Care/program characteristics	√	√	√	√	
School characteristics				√	√ ³
Student academic performance and behavior				√	√ ³
Nonparental care/education	√	√	√		
Before-/after-school care arrangements/programs				√	
Parental care during out-of-school hours				√	
Program continuity	√	√	√	√	
Perceptions of quality of care and programs	√		√	√	
Factors in parental choice	√	√	√	√	
Support for families of preschoolers	√	√	√		
Home activities	√	√	√		
Emerging literacy and numeracy	√	√	√		
Health and disability	√	√	√	√	√
Parent/guardian characteristics	√	√	√	√	√
Household characteristics	√	√	√	√	√

¹ Center-based programs include day care centers, nursery schools, preschools, and prekindergartens.

² Age and sex were collected in the Screener for some household members. This information was confirmed in the ECPP and ASPA extended interviews.

³ Asked of homeschooled students who also attended regular school for 9 hours per week or more.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Program Participation (ECPP) Survey of the National Household Education Surveys Program (NHES), 2001; and Before- and After-School Programs and Activities (ASPA) Survey of the NHES, 2001.

Before- and After-School Programs and Activities Survey (ASPA-NHES:2001)

In the ASPA-NHES:2001 survey, data were collected about children who were in kindergarten through 8th grade provided they were age 15⁶ or younger. The respondent for the ASPA interview was the parent or guardian living in the household who was the most knowledgeable about the sampled child's care and education. There were two paths through the interview items, the school path and the homeschool path. All respondents were asked basic demographic questions about the child, the child's health and disability status, parent/guardian characteristics, and household characteristics in both paths of the interview (see exhibit 1-2).

The subjects of the school path (S) were children currently attending a regular school in kindergarten, including transitional kindergarten and prefirst grade, through 8th grade. The ages of the children ranged from 3 to 15; however, all but 95 of them were ages 5 to 14. In the school path, data were collected about enrollment in school, school characteristics, student academics and behavior at school, before- and after-school care arrangements and programs, before- and after-school activities, self-care, parental care during the out-of-school hours, program continuity, parental perceptions of the quality of arrangements, and factors in parental choice of arrangement.

The homeschool path (H) was for children who were being instructed at home for some or all of their classes instead of attending regular school and who had a grade equivalent of kindergarten through 8th grade. Parents of homeschoolers were asked questions about the student's grade equivalent, reasons for schooling their child at home, and receipt of support for homeschooling from their public school or district. For those students who were reported to be homeschooled but also attended a school 9 or more hours per week, parents/guardians were administered the sections on school characteristics and student performance at school.

Adult Education and Lifelong Learning Survey (AELL-NHES:2001)

The AELL-NHES:2001 was designed to provide national estimates of participation in adult educational activities. Adults age 16 and older who were not enrolled in grade 12 or below, not institutionalized, and not on active duty in the military were eligible for this survey.

⁶ Less than 1.5 percent of children enrolled in 8th grade are 16 years or older; therefore, the upper age limit for the ASPA survey was set at 15 years.

Respondents were asked about their participation in the following types of educational activities: English as a second language, basic skills/GED preparation, credential courses in colleges or universities, vocational or technical credential courses, apprenticeships, career- or job-related training or courses, personal interest/development classes, and informal learning activities at work. Information about employer support for educational activities was obtained. Other items gathered demographic, household, and detailed employment information.

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2. QUESTIONNAIRE DESIGN

This section of the report describes the activities conducted in the design of the NHES:2001 questionnaires. The goals of these activities were to identify major research issues and data needs, to assess the availability of data and measures in extant research, and to refine the instruments. This process involved consultation with researchers in government, academe, and private sector settings, as well as extensive reviews of published materials. In addition, cognitive laboratory research was used to develop the ASPA instrument and to refine all instruments. A summary of this research and its impact on survey content is included in this chapter; it is described in more detail in appendix C. A two-stage field test of the NHES:2001 was also conducted.

Telephone Conferences with Researchers

Telephone conferences were conducted with researchers and NHES data users in academic and research institutions across the nation, in associations, and in government. Before the calls were conducted, each of the conferees was sent a description of the NHES, copies of previous questionnaire related to the specific surveys under discussion, and a short list of topics developed by NCES to be considered for inclusion in the NHES:2001. The conferences elicited experts' opinions on potential enhancements to items from past surveys and explored new items that might be appropriate and useful for the NHES:2001. All conferences were conducted by project staff, either the survey managers or the research assistant. Survey managers were present for all conferences, and a representative of NCES, typically an Education Statistics Services Institute (ESSI) staff person, listened to most of the AELL telephone conferences.

Early Childhood Program Participation

Telephone conferences were conducted with 18 researchers with expertise in areas covered by the ECPP-NHES:2001, including 8 government researchers and policymakers and 10 persons associated with academic institutions or private research organizations. In addition to gathering comments on items previously fielded in the NHES early childhood education surveys, the conferences focused on the issues of 1) quality of care arrangements and early childhood programs, in particular delineating those measures of quality for which parents would be reliable reporters, 2) appropriate and accurate measures of total time in nonparental care, both on a day-to-day basis and over the life span of the child, and 3) child

care as related to the recent welfare-to-work initiatives, including government and nongovernment resources used to assist parents in paying for care.

Researchers who participated in the telephone conferences believed that although the ECPP-NHES:1995 has been very useful for early child care related research, enhancements to the survey would be valuable. Researchers agreed that measuring participation in relative care, nonrelative care, Head Start, Early Head Start, and other center-based programs should be retained along with much of the detailed information gathered in previous NHES surveys. However, some concern was expressed about the reliability of parent reports of Head Start participation. Discussions were focused on how the NHES:2001 could help generate more reliable and valuable data for researchers and policymakers in the field. Topics most frequently mentioned as important for the ECPP-NHES:2001 included developing measures of the quality of care, total time a child spends in nonparental care, special needs care, and issues related to welfare-to-work transition. Number of care arrangements and fathers' involvement in child care also received attention from the researchers. Less frequently mentioned topics included parental child care training, characteristics of relative care, logistics of transportation, infant care, and other demographics.

A consensus emerged that the NHES:2001 should include a focus on parental satisfaction with care and the program's ability to meet their needs rather than program quality, which is best assessed through observation. The reliability of previous NHES measures of quality was a concern to the researchers because there were some items about which parents have little direct knowledge, such as the caregivers' education and training background. The consensus was that the ECPP-NHES:2001 will help generate more reliable data if the focus is on understanding parents' care needs and how well care arrangements or programs meet their needs. Researchers suggested that collecting information via indirect measures of quality would be valuable for researchers and policymakers. Some indirect measures of care or program quality about which parents have knowledge were suggested by many researchers, such as staff turnover, consistency in child raising practices between parents and the care providers, structured care or program activities, care impact on child developmental growth, and communication between caregivers and parents. Amount of TV watching was also recommended as an indirect measure of quality. Many experts stated that safety should be a major indicator of care quality and can be assessed by asking parents what procedures are in place for emergencies, if their child has ever had an injury that required medical attention, and whether parents believe that the play equipment is appropriate for their children.

Several researchers commented that previous NHES studies focused on the economic aspects of child care, but placed less emphasis on the impact of care on children's educational and emotional development and parental satisfaction with the care. Experts suggested adding questions measuring child-care provider interaction, parent-care provider communication, and overall parent satisfaction with care,

yielding data that would paint a picture of the degree to which parents' child care needs are met. In addition, measuring how well parents' special needs are met, for example, with regard to sick child care and care during irregular working hours, was deemed valuable to researchers and policymakers.

A majority of the conferees agreed that collecting reliable and fresh data about the total time a child spends in nonparental care is important and may contribute to the understanding of the dynamics of early childhood care. Some experts suggested an hour-by-hour reporting of the previous day's activities, including who was with the child at each hour. However, the likely sensitivity of such a measure and the time constraints of a brief telephone interview promoted alternatives such as number and types of care arrangements over the lifespan of the child, which are also related to the issue of stability and continuity in care arrangements, an important measure of overall quality.

Most experts expressed interest in information relevant to welfare-to-work transition, for instance, parental employment and the history of receiving public assistance, including the receipt of child care subsidies. It was also recommended that the survey measure whether the decision to work was voluntary. Questions concerning the proportions of the costs paid from parents' pockets, from governmental agencies, and from employers were frequently suggested. In order to evaluate eligibility for government subsidies, more detailed information about income for households at 200 percent of poverty or less was requested.

Before- and After-School Programs and Activities

For the ASPA survey of the NHES:2001, conferences were held with 14 experts in the field, including university researchers, program evaluators, and administrators of before- and after-school programs. The topics covered in these conferences included 1) the development of measures sufficient to capture the variety of before- and after-school arrangements, 2) factors affecting parental choice of arrangements and parental assessment of program quality and benefits, and 3) the barriers that may prevent elementary and middle school students from participating in before- and after-school programs. Discussions about the kinds of data that might be of value to researchers and policymakers in the area of before-and after-school programs and activities revealed a considerable degree of agreement. Although the experts varied in terms of their research interests, backgrounds, and emphases, their recommendations revealed a common core of overlapping themes and issues.

Most highly rated on their lists of priorities was the need for national data on existing before- and after-school arrangements, both formal and informal, and details about the arrangements. In addition

to collecting data on arrangements before and after the school day during the week, some mentioned the need for information about what arrangements are made for children at other times, such as in-service days and regular school holidays. Several experts discussed the need for data on multiple arrangements, as well as information about the frequency and number of hours of specific formal and informal arrangements. Many expressed interest in data on the number of children either in self-care or sibling care.

In addition, experts stated that national-level data are lacking with respect to information about the content and structure of before- and after-school arrangements. For instance, several experts expressed interest in data on the kinds of activities in which youth participated in school-based programs. Of particular interest was whether programs offered academic, recreational, cultural, and/or community service activities, and whether activities were age-appropriate.

Many experts expressed interest in data reflecting structural, organizational, and physical features of various arrangements. For instance, several experts stated that there was a need for information about the level of structure involved in different arrangements, including center-based programs as well as relative, sibling, and self care. Experts also said they would like to see data on program organization, such as the number of staff members, and the location and physical space of programs.

Several experts described the need for data on variation in arrangements by social and economic characteristics. This interest appeared to be fueled in part by previous research findings. For example, research has shown that middle-income families tend to have little access to information about available after-school programs. Another topic of interest was the cost of arrangements, particularly data from parents on the costs of all arrangements and on parents' payment of full fees.

Experts also showed interest in factors affecting parents' choice of arrangements for their children (e.g., accessibility and convenience, affordability, program quality, etc). They expressed the need for data on the parents' criteria for choosing a program for their children, their reasons for seeking after-school programs in the first place, and their expectations of program content (e.g., academic enrichment, music, adult supervision). Also, some mentioned the need for understanding the factors that might influence parents' choice of self-care and sibling care, rather than other types of arrangements.

The question of parent assessment of program quality was discussed with many experts. The consensus was that the notion of quality would be best measured in terms of parent satisfaction. To gain satisfactory results, however, they recommend indirect questions to evaluate particular details of

programs rather than program quality in general, because past research has shown that parents tend to positively evaluate their children's programs overall.

Almost all of the experts touched on the need for data pertaining to one or more barriers to program participation, although several talked about barriers only after being prompted. In addition to financial constraints, several experts said they would like to see data on logistical barriers such as transportation, timing, and the problem of multiple arrangements for siblings as well as other barriers such as lack of information about available programs. Researchers were also looking for information on how many parents had to adjust their work hours to ensure that their children were taken care of before and after school.

Adult Education and Lifelong Learning

A range of topics and design alternatives was explored for the AELL with 20 researchers who were interviewed over the telephone. These experts represented interests in all types of adult educational activities, including adult basic education, ESL, postsecondary education, and training and work-related activities. Several topics were addressed in the discussions, including 1) motivation to participate in educational activities, particularly the perceived benefits of education, 2) perceived barriers to seeking education as an adult and appropriate ways to measure them, 3) the merits of measuring competencies, 4) measurement of transitions between full-time labor force participation and full-time participation in educational activities, and 5) the use of technology and distance learning in adult education.

The researchers agreed that the AE-NHES:1995 gathered useful data applicable to many subdisciplines in the field of adult education and that the topics and general structure should be retained. Although one specialist suggested that ABE and GED should be inquired about separately, most approved of the organization of types of activities in the NHES. There was general agreement that the full-time/part-time characterization of course taking was no longer useful, and there was interest in obtaining information on course completion and more detail about the main reasons courses were taken.

Many experts expressed interest in data related to the use of technology in adult education. Specifically, they were interested in data reflecting the types of technologies employed as well as the use of the Internet as a medium for learning and course taking. In addition, since Internet courses were a new phenomenon, data on the usefulness of and levels of satisfaction with these types of courses were cited as important goals. Experts were also interested in knowing whether courses taken through distance

education were for credit or noncredit and toward a credential or industry certification. They pointed out that computer literacy was becoming increasingly vital for daily life in the labor force as well as in education. They expressed interest in information about whether adults had and used computers at home or work, as well as whether they used computers in the classroom.

Several experts stated that data were needed on the perceived benefits or usefulness of participation in adult education. According to the experts, adults might have taken adult education for a promotion, economic pay-off, a new career or job, or other forms of incentives. Also, many experts mentioned the need for measurement of program quality. Of particular interest were expectations of and satisfaction with courses taken.

Researchers recommended collecting more detailed data on employer support for participation in adult education and information about on-the-job training or informal learning activities in the workplace. Many experts expressed interest in the range of employer requirements for educational activities and apprenticeship programs. Some mentioned the need for measuring participation rates in industry certification programs and how certificates benefited adults (e.g., career advancement, promotion, or bonus). The issue of measuring structured, on-the-job training was discussed, and researchers stressed that this type of work-related education may have been as common as education in a more formal classroom setting.

Although some researchers mentioned that questions about barriers to participation in adult education might be useful, others pointed out that measuring barriers in a telephone survey has substantial limitations. Some expressed concern that respondents would name as an obstacle an “excuse” that was not actually a barrier to educational participation. Capturing past perceived utility of courses, as well as interest in continuing education, were judged more useful.

There was general agreement that the NHES is not an appropriate vehicle for measuring school-to-work transitions. However, information on work history, welfare history, and the mandatory nature of some adult education was considered useful to shed light on this issue, and it was recommended that the AELL-NHES:2001 include these types of measures.

Review of Extant Data

An additional step in the process of identifying topics for the NHES:2001 surveys was the review of other studies to ensure that the NHES:2001 did not duplicate information available from

sources of data and to identify potential questionnaire items for new constructs to be measured in the NHES:2001. A variety of methods were used to identify extant data sources, including past NHES experience, the consultations with experts described above, government and university information sources, computer searches, and references to data sources in relevant literature. The review included public government data sources as well as those from universities or private organizations.

Detailed information about each extant survey, i.e., its purpose, design, content, periodicity, and limitations was submitted to NCES (see appendix B). In general, it was found that the NHES:2001 provided a unique opportunity to obtain needed current and time-series information on the topics to be addressed. A limitation of some surveys was that they gave a peripheral treatment to topics central to the NHES. For example, in the field of adult education, in which the NHES captures participation in a wide range of educational activities, other surveys were more focused on one or two types. No other existing survey was found to contain the same content as the NHES presented in an educational context. Finally, because a majority of surveys were conducted only once or with a specific cohort of the population, the NHES was found to be uniquely suited to providing data on cross-sectional trends in education over the past decade.

In addition to reviewing extant surveys for their content, the staff also considered the population coverage of the available studies. This aspect of the review allowed an assessment of whether the available studies covered the populations of interest in the NHES:2001 surveys. Many of the other surveys reviewed were found to use limited samples, either in size, populations represented, and/or the degrees to which the sample was nationally representative. Estimates from these extant studies were compared with estimates from the NHES:2001 surveys as a measure of data quality. The comparative findings are presented in chapter 8.

Review of Literature

In addition to the review of extant studies described above, NHES staff members conducted reviews of the research literature in the content areas addressed in the NHES:2001. Searches were conducted on databases containing information on government publications and scholarly journal articles, and project staff consulted sources known to them to be useful.

The literature reviews focused on the research issues that had been identified as high priorities for the NHES:2001 during the expert consultations and review of extant research. A summary

of each report or article was prepared, citing key research issues, methods, and findings. In addition, a synthesis of the research was developed for each NHES:2001 survey.

Formulation of Research Questions

Guided by the information gathered during the design procedures described above, research questions for the NHES:2001 surveys were formulated. All of these research questions were addressed to some extent in the NHES:2001 surveys.

Early Childhood Program Participation Research Questions

Research questions of interest for the ECPP survey are given below.

- To what extent have preschool children participated in nonparental care and early childhood programs?
 - In what different types of nonparental care arrangements/programs have children participated?
 - How many children are participating in multiple care arrangements/programs?
 - Where are care arrangements/programs located?
 - How much time do children spend in nonparental care arrangements/programs?
 - What is the relationship of relative care providers to the children for whom they are caring?
 - What is the cost and what payment arrangements are made for the cost of care arrangements/programs?
 - How are child and family characteristics related to the care or early childhood education children receive?
- How has the participation of preschool children in nonparental care arrangements/programs changed from the 1990s?
 - Have the subpopulations of children participating in various types of care arrangements/programs changed?
 - Has the amount of time children spend in care arrangements/programs changed?
- Do at-risk children have the same access to nonparental care arrangements/programs as other children?

- Are at-risk children more or less likely to participate in nonparental care arrangements/programs than other children?
- Do at-risk children participate in different numbers and/or types of care arrangements/ programs than those children not classified as at-risk?
- What are the parents' reports of the care arrangement/program quality?
 - Are parents' ratings of the quality of care arrangement/program characteristics associated with family characteristics, such as parental education or household income?
 - Are children participating in care arrangements/programs that reflect their parents' child-raising values and beliefs about the importance of certain aspects of care?
 - What factors influenced the parents' choice of care arrangements/programs?
- What has been the impact of welfare reform on access to and use of child care arrangements/programs?
 - Are parents aware of available child care resources?
 - What is the extent of parental knowledge about their eligibility for governmental child care subsidies?
 - What type of child care subsidies/benefits have parents received from government agencies or from their employers?
- What is the status of certain aspects of parental care?
 - To what extent do mothers and fathers participate in selected educational activities at home with their child?
 - Do parents prefer to stay at home to care for their children or would they choose nonparental care if they could find high quality, affordable care?
 - What are parents' main reasons for choosing parental care over nonparental care?
- Is participation in nonparental care related to preschoolers' emerging literacy and numeracy?
 - How do parents' perceptions of the quality of care received by their children relate to children's emerging literacy and numeracy?
 - Does continuity of care relate to the development of literacy and numeracy skills?
 - Does parents' participation in home activities with their children promote the development of literacy and numeracy?

Before- and After-School Programs and Activities Research Questions

The following research questions were addressed in the ASPA survey:

- In what types of before- and after-school arrangements are kindergarten, elementary, and middle school children participating?
- What percentage of children participate in before- or after-school center-based programs?
- What percentage of children participate in before- or after-school arrangements, such as relative care, nonrelative care, and self-care?
- To what extent are children taking part in other activities arranged by their parents after school (e.g., music lessons, and sports) in order for their children to have adult supervision?
- What backup arrangements are made for children on days when the school is scheduled to be closed, such as school holidays and teacher inservice days?
- How much time each week before and after school do children spend in relative care, nonrelative care, center-based programs, activities for adult supervision, and self-care?
- What percentage of families have multiple children in different arrangements or children in multiple arrangements before and after school?
- Which populations of children are more likely to experience continuity of care/programs?
- How is type of care arrangement related to child and family characteristics?
- Is type of arrangement related to student performance, current school status, or school characteristics?
- Do before- and after-school arrangements differ for children with disabilities?
- What are the characteristics of before- and after-school arrangements?
- In what kinds of activities are youth participating in center-based programs? What activities do children do in their relative care, nonrelative care, self-care, and parental care arrangements?
- What are some features of various arrangements?
- Where are the various types of arrangements located and how much time do children spend traveling to and from school, arrangements, and home?
- What is the cost of arrangements and to what extent are parents receiving outside support for those costs (e.g., tax credits, pre-tax plans)?
- To what extent are activities of before- and after-school programs academically oriented?

- How are children in self-care monitored by their parents or by other adults?
- What are the factors that influence parental choice of before- and after-school arrangements?
- How do factors such as availability, cost, location, safety, and arrangement activities affect parental choice of arrangements?
- What are parents' preferences regarding center-based programs and other arrangements?
- What are the perceived barriers to center-based program participation? To what extent do parents feel that alternative arrangements were available to them?
- How happy are children with their before- and after-school arrangements? How do parents evaluate features of the children's arrangements?
- How do parents' work schedules influence choice of arrangements? How does the need for before- and after-school arrangements impact parents' work schedules?
- How are indicators of quality related to program cost and to child and parent characteristics?
- What has been the impact of welfare reform on access to and use of before- and after-school arrangements/programs?
- How is utilization of nonparental arrangements related to parents' employment history?
- Are parents aware of available before- and after-school resources?
- What type of before- and after-school care subsidies/benefits have parents received from government agencies or from their employers?
- How have participation rates in various types of before- and after-school arrangements changed between 1995, 1999, and 2001?
- Has participation in various types of arrangements increased or decreased between 1995 and 2001?
- Has the number of children in self-care and sibling care increased or decreased between 1995 and 2001?

Adult Education and Lifelong Learning Research Questions

The research questions for the AELL survey are as follows:

- To what extent do adults participate in AELL activities?
 - To what extent do adults participate in AELL activities overall?
 - To what extent do adults participate in specific types of AELL activities?
-

- English as a second language classes?
 - Basic skills and GED preparation classes?
 - College or university degree programs?
 - Vocational or technical diploma programs?
 - Apprenticeship programs?
 - Work-related courses?
 - Personal interest courses?
 - Work-related informal learning activities?

 - How is participation in AELL activities related to characteristics of adults?
 - To what extent do adults who have a certification and licensure participate in AELL activities?

 - For what reasons do adults participate in AELL activities?
 - To what extent do adults report that their primary reason for participation is work-related or personal interest?
 - For what specific reasons do adults participate in AELL activities?

 - To what extent do adults participate in AELL activities provided by various institutions or organizations?

 - How much time do adults spend participating in AELL activities?
 - How are the total hours of instruction associated with the type of AELL activity?
 - How are the total hours of instruction associated with the type of provider for a given activity?
 - How are the total hours of instruction spent in AELL activities associated with employment status?

 - To what extent do adults participate in AELL activities where technology was used in instruction?

 - To what extent do adults use their own resources to pay for participation in AELL activities?
 - What is the distribution of out-of-pocket costs for tuition and fees?
 - What is the distribution of out-of-pocket costs for books and other materials?
 - How is the cost associated with the type of AELL activity?
-

- To what extent do adults report employer support and involvement in their AELL participation?
 - To what extent do adults report that the educational instruction they receive is provided by their employers?
 - To what extent do adults report that their employers require their participation?
 - To what extent do adults report that their employers suggest or encourage their participation?
 - To what extent do adults report that educational activities in which they participate are located at their workplace?
 - To what extent do adults report that they participate in educational activities during work hours or that their employers give them time off from work to participate?
 - To what extent do adults report that their employers pay all or part of the cost for their participation?
- To what extent do adults participate in AELL activities in order to obtain an industry, occupation, or company certificate?
- To what extent do adults participate in courses for which they earn college credits or continuing education units?
- To what extent do adults have access to a computer and the Internet?
- To what extent do adults know about and are using the Lifetime Learning tax credit?

Cognitive Research

Following formulation of the research questions, cognitive research was conducted. Its purpose was to obtain in-depth information from participants selected to be similar to those who would be interviewed to help instruct the design of questionnaire items for the ECPP, ASPA, and AELL surveys. Cognitive research was conducted in two rounds: round 1 during the early design phase of the new ASPA survey, and round 2 after the development of the first draft of the questionnaires for the three surveys. The following sections give an overview of this activity. A more detailed account is found in appendix C, which contains the full Cognitive Research Report.

Recruiting Procedures

The participants for the NHES:2001 cognitive research were recruited by Westat by means of flyers posted in public locations, advertisements in local newspapers, and placing calls to persons who had volunteered for cognitive research at Westat in the past but who had not been selected to participate previously. Interested persons were administered a brief screener to determine if they qualified to participate in NHES cognitive research activities. Persons were selected from among those meeting the recruiting criteria, and potential participants were called and scheduled to attend a focus group or respond to an intensive interview.

In most focus groups, homogeneity of demographic characteristics among participants is desirable, since commonality of background allows for freer expression of opinions and factual detail. However, focus groups conducted in the past for the NHES have demonstrated that demographic differences are often superseded by a common concern with parenting issues that promotes free discussion, while demographic variety opens the possibility for participants to reveal a wider range of experiences. Therefore, diversity of race and level of education was sought for each focus group. The parents recruited came from households in which the only parent or both parents worked at least part time. Past experience indicates that mothers are usually most well-informed about their children's schooling and care arrangements, so there was no effort to balance the groups by gender. An effort was made to include parents of more than one child in the target grade range, of children in different grades, and of children attending different schools. Finally, every attempt was made to have an array of arrangements and programs represented in each group.

Participants for the intensive interviews were recruited from the same pool of cognitive research volunteers from which the focus group participants had been drawn. For the ECPP and ASPA surveys, parents were selected on the basis of demographic characteristics, such as race, level of education, marital status, and occupational status. Also, parents with different care arrangement types, such as relative care, nonrelative care, and center-based care, as well as parents with children in different grade levels were selected.

The recruiting criteria for the AELL survey also sought diversity in race, education level, and occupation. However, the main recruitment criterion was participation in an adult education activity, especially work-related courses, personal interest courses, and/or degree or credential programs, within the past 12 months. Since adults who ordinarily take work-related courses tend to be more highly educated, there was little variability in the educational background of those recruited for AELL intensive interviews (all had at least a bachelor's degree). However, demographic variation among those recruited with respect to gender, race/ethnicity, and marital status was achieved.

Round 1—Focus Groups

The first round of cognitive research consisted of two focus groups to gather information for the ASPA survey. Because the ASPA was a new survey for the NHES, it was determined that focus groups would offer insight into the variety of arrangements used by parents to care for their children during the before- and after-school hours. Focus groups, consisting of 8 to 10 participants and led by a trained moderator using a semistructured protocol, are designed to take advantage of group interaction, and the informal discussion often produces rich and unexpected information. Group members cue each other as they discuss their experiences and attitudes, facilitating recall, motivating participation, and encouraging self-revelation. Focus groups provide an open forum for the expression of information and beliefs that go well beyond what may be captured by a more constrained quantitative survey with closed-ended questions, and therefore, they are well suited to test concepts and wording to be used in a new survey. However, this methodology would have less utility for the ECPP and AELL surveys because they have been the subjects of focus group discussions in cognitive research conducted for past survey administrations.

For the purpose of the cognitive research, before- and after-school arrangements were conceptualized as falling into two general categories, center-based programs on the one hand, and all other arrangements, including relative care, nonrelative care, self-care, and other adult-supervised activities, on the other. Because of this conceptual dichotomy, two focus groups were organized to explore issues related to the ASPA interview. Participants were assigned to the focus group corresponding to the type of before- and after-school care in which their children participated, either center-based programs or another type of arrangement. Each participant was paid an honorarium of \$40. The focus groups were held in Westat's focus group room, lasted approximately 2 hours, and were led by the NHES project director. The ASPA survey manager and NCES and ESSI staff observed the groups.

Ten adults participated in the first focus group and eight in the second. Of the total 18 participants, 6 were Black, 6 were White, 3 were Hispanic, 2 were Asian, and 1 was Native American. All but two of the participants were female. Four participants had a high school diploma or less, seven had some college, six had a bachelor's degree or higher, and no educational information was available for one participant. Exhibits C-1 and C-2 in appendix C present details about the focus group participants.

Protocol and Topics of Discussion

The focus groups were led by a trained moderator and guided by a predetermined set of topics. The moderator's guide consisted of broad, open-ended questions designed to stimulate discussion among participants. Before the discussion began, parents were asked to map their children's activities before and after school during the previous week. This provided a useful backdrop for analyzing the comments made during the discussion.

In the first focus group, the discussion began with parents describing the arrangements they had in place at that time using the words and concepts most familiar to them. This part of the discussion also addressed special arrangements that parents might have when children are not in school yet parents are working, such as school holidays, inservice days, or when the child is sick. Parents were encouraged to talk about their particular needs for child care while they are working and the extent to which their current arrangements met those needs. The issues of location of the arrangement and transporting the child to and from the arrangement were included, as were the challenges posed by different arrangements for siblings or multiple arrangements for one child.

To help explore the issues of choice and barriers, parents were asked to describe former before- and after-school arrangements for their children, how long the children had participated, and why the arrangements had changed. The topics of self-care and sibling care were major discussion points in the group composed of parents with non-center-based arrangements and was touched on in the group of parents with children in center-based programs. The advantages and disadvantages of self- and sibling care as opposed to other arrangements, as well as parental strategies for monitoring children in self- or sibling care, were explored.

The second focus group incorporated topics pertinent to parents with children in center-based programs. The relative desirability of center-based programs versus other arrangements was explored. Factors such as convenience, cost, and the receipt of private or public subsidies were included in the discussion. Issues associated with program staffing and parent involvement were also discussed.

Information about decisionmaking regarding types of before- and after-school arrangements or programs was elicited. Parents were asked how they learned about the arrangement or program in which their children were participating, what their alternatives were, how they decided on their current type of arrangement, the main reason for selecting the current arrangement, and how satisfied they were with their choice. The discussion incorporated parents' expectations for the arrangements/programs in which their children participated, for instance, whether academic enrichment or exposure to cultural

events or new technologies figured in their choice, and what type of arrangement parents would make for their children if all alternatives were available to them. Information about barriers to participation in center-based programs was invited. Parents were also asked to specify what to them were the indicators of quality in before- and after-school arrangements and to evaluate the cost of their arrangements in light of the benefits to their lives and those of their children. Discussion included reference to the impact on parents' work schedules and responsibilities as related to choice of arrangement. Parents were asked for reports of their children's satisfaction with the current arrangement or program. Finally, differences in activities by type of arrangement were discussed, and the parents' confidence in reporting was noted.

Focus Group Findings

The focus groups conducted for the ASPA survey aimed to elicit from parents their perspectives on a host of issues regarding the out-of-school arrangements they make for their children. The ASPA focus groups led to the development of items measuring participation in four types of arrangements, as well as items designed to capture activities arranged by parents to provide supervision for children. The information gathered from parents in the focus groups benefited questionnaire design in a variety of ways. First, focus group results revealed new information from parents' points of view and confirmed that parents reported with confidence about many aspects of their children's before- and after-school activities. Second, results made apparent what parents do *not* know or are not able to articulate about their children's programs and activities before and after school. Having this information helped NCES avoid asking questions that may not have elicited meaningful responses from parents. Third, results provided clarification of issues and terminology that were significant to both parents and researchers, but not adequately clarified in questionnaire items.

Overall, parents in both focus groups revealed that maintaining arrangements for their children before and after school is a difficult and ongoing process. Almost all of the parents relied on a patchwork of arrangements to ensure that their children were cared for. Specific recommendations that emerged from the focus groups included focusing on before-school as well as after-school activities and programs, asking about all arrangements (up to a specific number) not just the primary arrangement, and including a limited number of questions that would measure barriers to center-based participation. Parents in the groups also had definite ideas about criteria that were important for arrangements, indicating that questions tapping that issue would be appropriate. Finally, parents were unsure about licensure and independent evaluations of their children's arrangements or programs, which suggests that their responses to such questions might be unreliable.

Round 2—Intensive Interviews

Round 2 of the cognitive research consisted of intensive interviews and was conducted for all three surveys after draft questionnaires had been developed. The methodology was chosen as the most appropriate to test the flow and wording of the interviews. With intensive interviews, the researcher focuses on one respondent at a time and tailors the specific cognitive approach to each case. In addition, intensive interviews allow assessment of respondents' willingness to answer, ability to accurately grasp the meaning of the survey questions, easily recall information, and respond with an answer that conforms to the coding categories. Preliminary administration times can also be obtained.

In order to maximize the information gathered from the cognitive research participants, every attempt was made to recruit participants who could respond to more than one interview. It was intended that respondents to ECPP and APSA interviews would be administered the interview for the other parent survey if possible, but no volunteers had children eligible for both surveys. Also, information was collected on the activities of the adult education participants' children, if any, so that participants could respond to a parent interview; however, only one person who volunteered for the research and met the other criteria for inclusion had a child and was administered an ASPA interview in addition to the AELL interview.

As previously described, participants for round 2 of the cognitive research were recruited by Westat from a variety of sources. Westat employees and their immediate families were not eligible to participate in the intensive interviews. However, pretest interviews were administered to some Westat employees who fit the recruitment criteria to test skip patterns and flow of the instruments before conducting interviews with paid respondents. In all, 24 interviews were administered to non-Westat participants: 6 ECPP, 9 ASPA, and 9 AELL interviews. All interviews were conducted in person, in small conference rooms at Westat's office in Rockville, Maryland. They were audiotaped with the permission of the participants. Each participant received an honorarium of \$40.

Eighteen adults were interviewed about their children's participation in early education programs or before- and after-school programs and activities, their own educational activities, or a combination thereof. Twelve of the participants were White, five were Black, and one was Hispanic. Five participants had a high school diploma or less, three had some college, five had bachelor's degrees, and five had master's degrees. ECPP interview participants had a variety of child care arrangements, including nonrelative care, center-based care, and in the case of one mother who works at a day care

center, bringing a child to work. Participants receiving the ASPA interview also had a variety of arrangements, including nonrelative care, sports and scouts, relative care, and center-based programs.

The AELL questionnaire was administered to participants with a variety of demographic differences. Within the 12 months prior to the research, two participants had taken only work-related courses, one had taken personal interest courses, two were in credential programs, and four had taken both work-related and personal interest classes. See exhibit C-3 in appendix C for details on characteristics of the intensive interview participants and the types of interviews administered.

Findings and Recommendations from the Early Childhood Program Participation Intensive Interviews

The large majority of items in the ECPP-NHES:2001 questionnaire were fielded in the ECPP-NHES:1995, and those questions had been tested in previous cognitive research activities. However, the 2001 questionnaire included additional topics such as parents' perceptions of the quality of their children's care arrangements, the flexibility of child care arrangements, and the use of child care subsidies while transitioning from welfare to work. These topics were the focus of the ECPP intensive interviews.

The intensive interviews for the ECPP questionnaire provided useful information about the length and flow of the questionnaire and about parents' ability to recall and report with confidence on their children's child care arrangements. Overall, the interview was quite lengthy, about 25 minutes. Respondents indicated that several questions were redundant (e.g., backup care arrangements and options), and these items were suggested for deletion. The cognitive research interviews also revealed problems with skip patterns, particularly in the welfare section where all parents should be asked if they receive child care subsidies, regardless of welfare status. Also, it was discovered that parents were able to report on their perceptions of the quality of their child care arrangements and on the difficulty they had in finding child care. Parents were less able to report whether their care provider had taken early childhood education classes and whether there had been more than one option for child care that they were willing to consider.

Findings from the Before- and After-School Programs and Activities Intensive Interviews

Some of the questions to be included in the ASPA-NHES:2001 interview were fielded in the Parent-NHES:1999 and the ECPP-NHES:1995 and had already been tested. Thus, this round of cognitive research focused mainly on the testing of newer items, specifically those having to do with activities, backup arrangements, self-care, center-based program features, parental perceptions about and factors in choosing arrangements, and the impact of arrangements on parents' working lives.

Information from the intensive interviews revealed that the ASPA instrument presented few problems to respondents. Findings pointed to the need for clarification of some questions and the addition of response categories in several cases. Parents generally had considerable knowledge about aspects of their children's before- and after-school arrangements, such as their particular activities and the features of their children's center-based programs. Further, feedback from intensive interviews suggested the need to modify and add response categories to questions that addressed specific activities within different arrangements. Another recommendation to emerge from this round of cognitive research was to remove the backup arrangement questions from each section and replace them with a single set of backup questions in a later section of the ASPA interview, which would shorten the interview and avoid the redundancy reported by intensive interview respondents. As for results relating to parental perceptions and factors in choosing arrangements for their children, findings suggested the need for considerable revision of question wording and response categories, although in general parents found these questions to be meaningful and answerable.

Findings from the Adult Education and Lifelong Learning Intensive Interviews

Cognitive interviews for the AELL survey focused largely on sections pertaining to college or university programs, work-related courses, personal interest/development courses, and informal learning activities. Although revisions were made in both the ESL and adult basic education sections for the NHES:2001 instrument, most of the items in these sections were fielded in previous NHES administrations.

The cognitive research conducted for the AELL survey indicated the need for some limited changes to the interview. For example, respondents had difficulty reporting their transportation costs for participation in AELL activities if they drove their own vehicles to the classes. However, items asking about other expenses, including tuition or fees and books or materials, did not present any difficulties for

respondents. The cognitive research also revealed that the interview would proceed more efficiently if it was ascertained whether an adult was employed at the time of participation in a particular AELL activity prior to asking questions concerning employer support. Those who did not have a job at the time would skip the employer support questions. Another suggested change was dropping the total number of hours for participation in informal learning activities. These types of learning activities are often ongoing and spread throughout the 12-month period, making it very difficult for respondents to give a time estimate. Also, new probes were recommended for interviewers to provide cues for any other courses that the respondent might have taken but did not initially recall.

Field Test

Following completion of the survey design (including cognitive research) and receipt of Office of Management and Budget (OMB) clearance, a two-phase field test of the NHES:2001 surveys was conducted. The purpose of phase 1 of the field test was to assess the instruments under actual survey conditions and to make sure the CATI system, specifically skip patterns, logic checks, etc., was operating correctly. In addition, the field test provided an opportunity to identify areas of respondent confusion, lack of knowledge, and related measurement issues by monitoring and analyzing actual interviews. The second phase of the field test focused on the ECPP and ASPA surveys, because changes to those instruments following phase 1 warranted further live testing, while the few made to the AELL instrument did not.

For the NHES:2001 field test sample, 5,500 telephone numbers were purchased from the Marketing Systems Group (MSG) at GENESYS Sampling Systems, a commercial firm from which previous NHES field test samples have also been obtained. For cost efficiency and simplification of scheduling of interviewers for the field test, the sample contained only listed, residential telephone numbers from the eastern and central time zones. With such a sample, the screening out of nonworking and nonresidential numbers was reduced and the need to schedule late-night interviewer hours to cover other time zones was eliminated. This is common practice for field testing and does not have any negative implications as far as evaluating the performance of the survey instruments because all types of households are represented in eastern and central time zones.

To help maximize the chances of completing the desired number of interviews during the field test period, GENESYS was instructed to draw the numbers from the most recent MSG sampling frame (the frame is updated quarterly) and to use demographic data to ensure that the set of numbers for the field test included a higher prevalence of households with children aged 17 or younger than would be

found in a random sample. The MSG frame comprises all working 100-banks with at least one listed telephone number. Demographic data are attached to about half of the telephone numbers on the frame, although they are not guaranteed to be accurate. The sampling algorithms programmed into the CATI system were the same as those to be used for the full-scale data collection. However, the sampling of certain subgroups (for example, elementary students, who are relatively plentiful in the population) was stopped when the field test interviewing goals for that group were met in order to ensure that time was available for interviewing other groups of interest.

Goals were established for the number of interviews conducted in the field test for each major path or subpopulation of interest in the NHES:2001. The initial goals for the field test included 900 extended interviews. This number was selected based on previous cycles of the NHES survey and the intent was to provide a sufficient number of cases to assess all aspects of the questionnaire, including testing of all possible paths and items. However, during the course of the field test this number was modified, with NCES approval, to 640 extended interviews. The decision to adjust the field test goals was made when it became apparent that the time required to complete each extended interview was longer than had originally been anticipated. After reviewing the data that had been collected in the first half of the field test and noting that there were sufficient numbers of respondents in each interview path to accomplish the substantive field test goals, it was determined that meaningful results could be obtained using a smaller number of cases. No specific goals were established for the NHES:2001 Screener. Instead, Screeners were completed as necessary to obtain the target numbers of extended interviews. Outlined in table 2-1 are the original and adjusted targets and the actual numbers of completed phase one field test interviews.

Interviewer Training

The initial interviewer training was conducted at Westat's Rockville, Maryland, Telephone Research Center (TRC) on the evening of May 31, 2000. Twenty-one interviewers were trained for the field test, all of whom had experience as interviewers in previous NHES studies. However, because the labor time required per completed interview was greater than expected, the field test was extended and an additional 14 experienced interviewers and 2 supervisors were trained at Westat's Frederick, Maryland, TRC on the evening of June 6, 2000. Both training sessions were led by project staff and the NHES:2001 TRC manager for the NHES. Training was conducted for the English-language version of the instruments only; interviews were not conducted in Spanish during the field test.

Each training session lasted approximately 4 hours and included three interactive lecture scripts that presented several scenarios in which household members were sampled and interviewed. The sessions also provided an opportunity to review questions commonly asked by respondents and furnish the interviewers with appropriate answers. These sessions presented information on the mechanics and flow of each interview in the NHES:2001, important substantive concepts in each interview, as well as some strategies for gaining respondent cooperation.

Table 2-1. Phase 1 field test interviewing targets and results: NHES:2001

Interview type	Original minimum targets ¹	Adjusted minimum targets	Interviews completed
 Screener	†	†	427
ECPP interviews			
Total.....	350	250	320
Infant/toddlers.....	150	125	168
Preschoolers.....	150	125	152
ASPA interviews²			
Total.....	350	250	254
Grades K–4.....	†	†	99
Grades 5–8.....	†	†	155
AELL interviews³			
Total.....	200	140	135
Participants.....	120	†	87
Nonparticipants.....	50	†	48

† Not applicable.

¹ Original targets for subpopulations represent minimums for each subgroup and do not sum to the total. For example, the original target for ECPP was 350 total interviews, with at least 150 being about infants/toddlers and at least 150 being about preschoolers.

² No specific targets were set for grades K–4 and 5–8 in the ASPA Survey (adjusted targets). Specific numbers for these groups are provided here for informational purposes.

³ No specific targets were set for AELL participants and nonparticipants (adjusted targets). Specific numbers for these groups are provided here for informational purposes.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), NHES:2001 field test, 2000.

Data Collection and Debriefing

The data collection for the first phase of the field test started on Thursday, June 1, 2000. The field test was originally scheduled to be completed on Sunday, June 4, 2000. However, as noted above, this was extended in order to attempt to meet the adjusted minimum targets for each survey. The first field test ended on June 9.

During data collection, Westat NHES staff, TRC supervisors, NCES staff, and ESSI staff monitored interviews extensively. At least one person from the NHES project staff or the TRC operations manager monitored during all field test data collection hours. Monitors and interviewers documented questionnaire-related matters, such as respondent questions or confusion, recall problems, awkward question wording, and CATI-related problems.

An interviewer debriefing meeting was held on Monday, June 12 at the Frederick TRC. A standard feature of the NHES, this meeting was used to obtain feedback from the interviewers concerning their experiences in administering the survey. The meeting focused on obtaining interviewers' observations regarding the overall flow of the questionnaires, specific questionnaire items that had been targeted for examination, concepts or other issues that should be emphasized during interviewer training, as well as other additional feedback interviewers wished to give. The debriefing was attended by the NHES project director, survey managers, research assistant, and TRC operations manager, as well as an NCES staff member and five ESSI staff members.

A staff debriefing was held on June 19, and included the NHES project director and survey managers, the NCES COTR and other staff members, and ESSI staff. Recommendations for instrument changes were discussed at this meeting and in a subsequent meeting and conference call. A preliminary field test report and revised questionnaires were submitted to NCES prior to the second phase of the field test.

Phase 2 Field Test Procedures

The second phase of the NHES:2001 field test focused specifically on the ECPP and ASPA interviews. The changes to the AELL instrument following phase 1 were not sufficiently complex or extensive to warrant a second field testing of that instrument. However, several significant changes were made to the ECPP and ASPA interviews, and it was determined that a second, although smaller, field test would be appropriate. In addition to the assessment of all changes made following phase 1, the following new sections of the interview common to both the ECPP and ASPA interviews were examined in the second phase of the field test: the reasons for choosing parental care and the desire for nonparental care; the presence of same-sex parents in the household; and care arrangements while the mother is at work. Also, for the ASPA survey, special attention was focused on children's activities, both within after-school programs and those participated in for their own sake.

Interviewer Training

The second phase of the field test was conducted at Westat's Frederick, Maryland, TRC. An abbreviated training session was held in which nine interviewers were trained for a period of 2 hours. All of the interviewers who worked on phase 2 of the field test had worked on phase 1.

Sampling Procedures and Completed Interviews

The sample for the second phase of the NHES:2001 field test consisted of 2,836 telephone numbers remaining from the phase 1 sample. This group included 1,213 telephone numbers that were not called during phase 1, and 1,623 numbers that had been called, but at which no contact had been made. Contrary to the experience in phase 1, labor time per completed interview was shorter than expected in phase 2, and the final number of interviews completed exceeded the phase 2 goals. Table 2-2 shows the number of expected and completed phase 2 interviews.

Table 2-2. Phase 2 field test interviewing targets and results: NHES:2001

Interview type	Original targets	Interviews completed
Screener.....	†	311
ECPP interviews	40	74
ASPA interviews.....	60	86

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), NHES:2001 field test, 2000.

Data Collection and Debriefing

The data collection for the phase 2 field test started on Thursday, September 28, 2000, and ended on Sunday, October 1, 2000. As in phase 1, Westat NHES staff, TRC supervisors, NCES staff, and ESSI staff monitored interviews extensively. Monitors and interviewers documented questionnaire-related matters, such as respondent questions or confusion, recall problems, awkward question wording, and CATI-related problems. An interviewer debriefing meeting was held on Monday, October 2, at the Frederick TRC with Westat NHES staff, NCES staff, and ESSI staff attending. The meeting focused on

obtaining interviewers' observations regarding the specific changes that had been made following the phase 1 field test, but interviewers' comments on any other matters of concern were also solicited.

A staff debriefing held on October 5 included the NHES project director and survey managers, the NCES COTR and other staff members, and ESSI staff. Proposed changes were discussed, and decisions were made regarding final changes to the questionnaires. Revisions involved items new to the NHES:2001 surveys and items that were modified after the cognitive research activities. The field test also provided an opportunity to collect questionnaire administration timings. The tools for analyzing the questionnaires included these interview administration times, feedback from interviewers, and the observations that staff members made while monitoring the interviews. The field test analysis also included examinations of the item response and nonresponse distributions, entries in "other, specify" variables, online comment entries, and hard and soft range data editing violations.

A report giving the administration time for the Screener and each survey was submitted to NCES. It documented revisions to the questionnaire that had been agreed upon and the reasons for those revisions. A memorandum documenting the changes was also submitted to OMB, along with the full field test report and the final instruments.

3. SAMPLE DESIGN

An important purpose of the NHES is to conduct repeated measurements of the same phenomena at different points in time, and this goal is reflected the sample design of the NHES:2001. The NHES:2001 is a random-digit-dial (RDD) telephone survey covering the 50 states and the District of Columbia. It was conducted from January through mid-April 2001. Households were randomly sampled, and a screening interview was administered to a household respondent age 18 or older.⁷ Demographic information about household members was used to determine whether anyone was eligible for the ECPP, ASPA, or AELL surveys.

The ECPP survey was administered to the parent or guardian⁸ in the household who was most knowledgeable about the care and education of the sampled child from birth through age 6⁹, as of December 31, 2000, who was not yet in kindergarten. For the ASPA survey, the parent/guardian most knowledgeable about the care and education of children age 15 or younger¹⁰ who were enrolled in kindergarten through 8th grade were interviewed. The AELL survey was administered to sampled persons 16 years or older who were not currently enrolled in 12th grade or below and were not institutionalized or on active duty in the U.S. Armed Forces.

Sampling Telephone Numbers

The sampling method used for the NHES:2001 was a list-assisted method described by Casady and Lepkowski (1993). This method was used previously in the NHES:1995, the NHES:1996, and the NHES:1999. 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 eight digits) in which there is at least one residential telephone number listed in the White pages directory. This is called

⁷ Any household member age 18 or older was eligible to respond to the screening interview. However, if there were no household members age 18 or older, the male or female head of the household completed the Screener. Household members were defined as persons who considered that household as their residence, kept their possessions there, and had no other place to live.

⁸ The respondent for the ECPP and ASPA surveys was identified by the Screener respondent as the household member most knowledgeable about the care and education of the sampled child. In more than 75 percent of the cases, it was the child's mother; in more than 96 percent of the cases, it was the child's mother or father. In about 2 percent of the cases, it was the child's grandmother. For ease of discussion, the respondent is referred to as the parent/guardian.

⁹ Because the proportion of 7-year-olds who are not enrolled in school is very small (about 1.5 percent), an upper age limit of 6 was established for the ECPP survey.

¹⁰ Less than 1.5 percent of children enrolled in 8th grade are 16 years or older, so the upper age limit for the ASPA survey was set at 15 years.

the listed stratum. Telephone numbers in 100-banks with no listed telephone numbers, the zero-listed stratum, are not sampled. The telephone numbers in the listed stratum include both listed and unlisted numbers and both residential and nonresidential numbers. Telephone exchanges are classified by Bellcore type, a code that indicates the types of telephone numbers assigned within the exchange (e.g., mobile only, cellular only, etc.). A complete list of Bellcore type codes is given in exhibit 3-1. For the NHES:2001, as in previous NHES studies, telephone numbers were sampled from exchanges having Bellcore types 00 or 52 only, which cover about 99 percent of listed households. However, for future NHES studies, this restriction should be reexamined; in particular, Bellcore types 50, 51, and 54 should be considered. These were excluded because of ethical concerns about cellular telephone customers having to pay for incoming calls. In the future, studies will be conducted to assess the advisability of sampling from these types also.

Exhibit 3-1. Bellcore type codes: 1999

Code	Description
00	Regular
01	Mobile
02	Paging
03	Packet switching
04	Cellular
05	Test code
06	Maritime
07	Air to ground
10	Called party pays
11	Information provider
13	Directory assistant
15	Official exchange carrier service
16	Originating only
30	Broadband
50	Shared among 3 or more services
51	Shared between plain old telephone service (POTS) and mobile
52	Shared between POTS & paging
54	Shared between POTS & cellular
55	Special billing options - Cellular
56	Special billing options - Paging
57	Special billing options - Mobile
58	Shared among 2 or more
60	IntraLATA billing option - Cellular
61	IntraLATA billing option - Paging
63	IntraLATA billing option - Mobile
65	Special option
66	Special option
67	PCS / Miscellaneous service
68	Selective local exchange, IntraLATA special billing option - PCS / Misc.

SOURCE: Marketing System Group's GENESYS third quarter 1999 database.

In the NHES:2001, unlike previous NHES administrations, a two-phase stratification was used to select telephone numbers in order to produce more reliable national estimates from the extended interviews for subdomains defined by race and ethnicity. The two-phase selection is described more fully later in this chapter.

An issue that arises with the list-assisted sampling scheme is that of coverage bias 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. (A *telephone household* is a household with at least one working, residential land-line telephone number.) Empirical findings were presented in Brick et al. (1995) to address the question of coverage bias. The 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. Similar findings were reported in Giesbrecht, Kulp, and Starer (1996) based on data from the Current Population Survey. Therefore, the bias resulting from excluding the zero-listed stratum is generally very small.

As in previous NHES administrations, tritone¹¹ checks for nonworking numbers and purging of business numbers was done prior to data collection to reduce the number of unproductive calls. All telephone numbers that were not identified as business numbers or nonworking numbers through these checks were sent to two vendors to obtain mailing addresses.¹²

Oversampling Blacks and Hispanics

The general precision requirement for each survey in the NHES:2001 was the ability to detect a 10 to 15 percent change for an estimate of between 30 and 60 percent (see appendix D for details). As in previous NHES administrations, one goal of the NHES:2001 was to produce reliable estimates for race/ethnicity subdomains (in particular, Blacks and Hispanics). The initial sample design for the NHES:2001 was based on using the approach used in previous studies to improve the precision of estimates for Blacks and Hispanics; specifically, the probability of selecting telephone exchanges with high concentrations of Blacks and Hispanics should be twice the probability of selecting exchanges with lower minority concentrations. However, a subsequent examination of this method and evaluation of alternative methods led to the decision to use a different approach for the NHES:2001.

¹¹ A tritone is the three-note sound heard when dialing a nonworking telephone number.

¹² See chapter 4 for a discussion of these procedures.

A re-evaluation of the approach used in previous NHES studies was warranted for several reasons:

- Since the original evaluation of the oversampling method (based on the NHES:1989 field test), the method of sampling telephone numbers had changed from the modified Mitofsky-Waksberg method to the list-assisted method.¹³
- Demographic changes, especially the distribution and concentration of race/ethnicity subgroups, could affect the effectiveness of oversampling.
- Changes in residency rates could affect the effectiveness of oversampling, particularly if there are disproportionate changes across strata. (A *residency rate* is the number of residential telephone numbers divided by the total number of telephone numbers.)
- An alternative under consideration was differential sampling of telephone numbers based on whether or not they are listed in the White pages directory (i.e., “listed” vs. “unlisted” numbers).
- The sampling frame used to select the sample of telephone numbers had been enhanced to include information about the percent Asian in the exchange. In light of the interest in the ability to produce reliable estimates of characteristics of Asian Americans, an evaluation of the effect of the alternatives on the expected yield for Asians was warranted.

For the evaluation, several alternative stratification schemes were considered. The alternative definitions of a “high-minority” stratum considered were:

- At least 10 percent Black or at least 10 percent Hispanic;
- At least 20 percent Black or Hispanic;
- At least 20 percent Black or at least 20 percent Hispanic;
- At least 30 percent Black or Hispanic; and
- At least 30 percent Black or at least 30 percent Hispanic.

Additionally, alternatives combining minority stratification with differential sampling of listed versus unlisted telephone numbers were considered. The evaluation compared the expected precision of estimates across alternatives, holding the total cost fixed. It was determined that among the alternatives considered, stratification involving both minority strata and the listed status of the telephone number was optimal, and that the alternative in which “high minority” is defined as “at least 20 percent Black or at least 20 percent Hispanic” was optimal. Additionally, the high minority stratum was found to have a higher concentration of Asians than the low minority stratum. Therefore, oversampling in the high

¹³In the modified Mitofsky-Waksberg procedure, telephone numbers are grouped in 100-banks that are treated as primary sampling units (PSUs). One telephone number in each PSU is randomly selected (the prime number) and is dialed. If the prime number is residential, then the PSU is retained in the sample, otherwise the PSU is eliminated. The screening of PSUs continues until the required number of residential PSUs is identified. See Brick and Waksberg (1991) for further information. The change to the list-assisted method eliminated the need to screen prime numbers and gives an unclustered sample, resulting in a reduction in sample variance.

minority stratum was expected to raise the sample yield for Asians (as compared to an equal probability design), even though Asians are not explicitly considered in the definition of “high minority.”

As discussed below, race/ethnicity distributions were available on the sampling frame. However, the listed status of telephone numbers was not available on the frame. The standard procedure is to match the sample of telephone numbers to White and yellow pages directory listings to obtain the listed status of each sampled telephone number. Therefore, in order to stratify on both minority concentration and listed status, it was necessary to select the sample of telephone numbers in two phases. The first phase involved minority stratification only. The listed status was obtained for each first-phase telephone number, and the second phase involved subsampling from the first-phase sample using strata defined by the combination of minority stratum and listed status.

It should be noted that the listed status used for stratification for the second phase selection of telephone numbers is different from the “listed stratum” (discussed earlier) that was used to restrict the sampling frame. At the second-phase selection, the listed status used for stratification was the listed status of the particular telephone number; at the first-phase selection, the listed stratum to which the frame was restricted was the set of 100-banks containing at least one listed telephone number. For sake of illustration, suppose the telephone number (301) 555-1234 was not listed in the White or yellow pages directory, but the number (301) 555-1256 (which is in the same 100-bank as the former number) was listed in a White pages directory. The 100-bank (301) 555-12xx (where the last two digits xx are any two digits 00 through 99) would be in the listed stratum, and all numbers in this 100-bank would be eligible for selection in the first phase. If the number (301) 555-1234 had been selected in phase one, then it would have been included in the unlisted stratum for the phase two selection.

Much of the sample design for the NHES:2001 was done prior to the evaluation of alternatives for oversampling race/ethnicity subgroups. Because the precision of estimates for the White, non-Hispanic subgroup far exceeded requirements in the original design and the final design was expected to reduce the precision of estimates from this subgroup alone, it was not necessary to reproduce all of the tabulations in this report based on the original design with new tabulations based on the final design. Therefore, this report contains some tabulations based on the original design and some based on the final design. Specifically, all tabulations in appendix D are based on the original sample design (i.e., prior to the evaluation of alternatives for oversampling race/ethnicity groups). Some of the tabulations in this chapter, although initially created using the original sample design, have been updated to reflect the final sample design. For tabulations presented in this chapter that were based on the original design but were not updated to reflect the final design, footnotes have been included to indicate that the sample is based on assumptions of the original sample design.

Sampling Frame

The sampling frame for the NHES:2001 was the Marketing System Group's (MSG's) GENESYS frame of all telephone numbers in 100-banks with one or more listed telephone numbers for the fourth quarter of 2000. MSG is a commercial firm that has produced samples of telephone numbers for previous NHES studies. The sampling frame contains estimates from the 1990 census of the race/ethnicity distributions of persons in the telephone exchange.¹⁴

Number of Sampled Telephone Numbers

The number of telephone numbers to be sampled was determined by incorporating information on precision requirements and estimated residency rates and unit response rates. The following assumptions of residency and unit response rates applied:¹⁵

- About 47 percent of telephone numbers sampled within the listed stratum were expected to be residential.
- A 76 percent unit response rate to the household screening interview was assumed.

The original sample design called for a sample of about 60,000 completed household screening interviews. However, as a result of the oversampling research, it was determined that for the same cost, a sample of about 63,000 completed household screening interviews could be obtained if stratification by listed status of the telephone number was used in addition to the minority stratification.

In order to attain the sample sizes and optimal allocation under the stratification based on minority concentration and listed status, it was estimated that a total of 206,182 telephone numbers would need to be sampled for the NHES:2001. The sampling rate in the high minority concentration stratum was nearly twice that of the low minority stratum. Based on data from MSG's GENESYS third quarter 2000 database, it was determined that in the first phase of selection, 101,170 telephone numbers would need to be sampled from the high minority stratum, and the remaining 105,012 telephone numbers would need to be sampled from the low minority stratum.

¹⁴The 2000 Census data were not available in time for inclusion in the sampling frame for the NHES 2001.

¹⁵Under the original design (with stratification based on minority concentration alone), the assumed residency rate was 44 percent and the expected Screener response rate was 75 percent. The figures cited here accounted for differences in the NHES:1999 in residency and response rates across the minority by listed status subgroups.

In the second phase, within each minority stratum, the sampled telephone numbers were stratified as listed or unlisted according to whether they matched listings in the White pages telephone directory. Within each of the four strata defined by the combinations of minority concentration and listed status, telephone numbers were subsampled at different rates, with the aim of obtaining the final allocation of telephone numbers given in table 3-1. Because higher proportions of minority households are in the unlisted strata¹⁶ (based on estimates from the NHES:1999), within each of the minority strata, telephone numbers in the unlisted substratum were sampled at rates about 30 percent higher than numbers in the listed substratum. All differential sampling, including differential sampling of telephone numbers based on minority concentration and listed status, was accounted for in the calculation of base weights (see chapter 7).

Table 3-1. Expected allocation of final sample of telephone numbers: NHES:2001

Minority stratum	Listed status ²	Final number of telephone numbers in sample ¹
Total	†	179,211
High minority	Listed	22,681
High minority	Unlisted	65,942
Low minority	Listed	28,271
Low minority	Unlisted	62,317

† Not applicable.

¹ Does not include reserve sample.

² Unlisted includes numbers listed in the yellow pages directory but not in the White pages directory.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

In this manner, a sample of 179,211 telephone numbers was selected for the NHES:2001.¹⁷ Assuming that 47 percent of the telephone numbers would belong to households and assuming a Screener unit response rate of 76 percent, it was expected that about 63,000 screening interviews would be completed. However, the actual residency rate was 43 percent, and the Screener unit response rate was 69 percent. The number of households with completed screening interviews was 48,385. The effect of the lower-than-expected residency and unit response rates on expected sample yield is discussed later in this chapter.

¹⁶Here, the terms “listed strata” and “unlisted strata” are used to describe strata created based on the actual White pages-listed status of the individual telephone number. In the earlier discussion of the list-assisted method, the term “zero-listed stratum” was used to refer to 100-banks in which no telephone number in the 100-bank is listed in the White pages.

¹⁷The remaining 26,971 telephone numbers from the first phase sample of 206,182 were held in reserve but not used.

Within-Household Sampling

Persons within households that had a completed Screener were sampled for the ECPP, ASPA, and AELL surveys. One key criterion in the development of the sampling scheme for the NHES:2001 was minimizing respondent burden. Considerations of the numbers of persons within a household sampled for extended interviews and the combinations of extended interviews weighed heavily in the development of the sampling scheme.

Precision Requirements

The general precision requirement for all three surveys was the ability to detect a 10–15 percent relative change for an estimate of between 30 and 60 percent. The following paragraphs provide further detail on more specific requirements for each survey. In the NHES:2001, the overall screening sample is largely determined by the need to produce precise estimates of indicators for children, particularly preschoolers (age 3–not yet in kindergarten)¹⁸ and middle schoolers (6th–8th graders). It is useful to assess how the NHES:2001 sample can be combined with estimates from earlier NHES surveys to examine change over time. In a simple comparison, a t-test statistic is

$$t = \frac{p_1 - p_2}{\sqrt{\frac{d_1 p_1 (100 - p_1)}{n_1} + \frac{d_2 p_2 (100 - p_2)}{n_2}}}$$

where p is the estimated percentage, d is the design effect, n is the sample size, and the subscripts 1 and 2 denote the two time periods. The current survey's sample size requirements for detecting change are highly dependent on the sample sizes and precision achieved in previous surveys. Thus, increasing the sample size in the NHES:2001 drastically above the levels of previous surveys would not have substantially improved the precision of estimates of change over time. However, one important consideration was that if larger sample sizes were anticipated for future surveys, then having larger sample sizes in the NHES:2001 would facilitate the detection of change over time in the future.

Of course, the t-statistic is only one of the many methods that can be used to detect and characterize change over time with data from the NHES. Regression analysis or simple trend analyses of the various surveys over time are other ways of analyzing these data. For nearly all the methods,

¹⁸Throughout this report, the subgroup of children age 3 through 6 not yet enrolled in kindergarten is referred to as “preschoolers (3–not yet in kindergarten)” or simply “preschoolers.”

increasing sample sizes drastically over those in previous survey administrations does not result in large increases in the power or the precision of the estimates.

Bearing in mind the effects of sample sizes from previous administrations on the capacity to detect change over time, the sample size requirements for key estimates were derived. For the ECPP and ASPA surveys, key sample size determinants were the requirements to detect changes in estimates of type of care arrangement by age/grade groupings and by race/ethnicity. The age/grade groupings considered were infants (0–2 years), preschoolers (3–not yet in kindergarten), elementary schoolers (kindergarten–5th graders), and middle schoolers (6th–8th graders). The race/ethnicity categories considered were White, non-Hispanic; Black, non-Hispanic; and Hispanic. As a result, target sample sizes of about 5,500 for infants, 4,600 for preschoolers, 6,750 for elementary schoolers, and 6,060 for middle schoolers were established. Based on these sample size requirements, middle schoolers and preschoolers needed to be sampled at the highest rates. Details of the derivation of these sample sizes are provided in appendix D.

For adults, key sample size determinants were the requirements to detect changes in estimates of participation in adult education activities (overall) and participation by type of adult education. In addition, the requirements to estimate participation by race/ethnicity and by educational attainment (less than high school or high school and higher) were also considered. Based on these requirements, a target sample size of about 18,750 adults was established. Adult education participants were sampled at a higher rate than nonparticipants in order to improve the precision of estimates of characteristics of participants. Also, adults with less than a high school diploma were sampled at a higher rate for the same reason. Details of the derivation of sample sizes for adults are given in appendix D.

The sample requirements for the extended interviews were determined based on a set of assumptions about extended interview unit response rates. Specifically, the assumed unit response rates were 90 percent for the ECPP and ASPA interviews and 81 percent for the AELL interview.

Sampling Scheme for Within-Household Sampling

The sampling scheme for within-household sampling was designed to satisfy the sample requirements discussed above while keeping the respondent burden to a minimum. The following were the primary goals and features of the sampling scheme for within-household sampling in NHES:2001:

- Sample no more than three persons per household.

- Because sample requirements were most stringent for middle schoolers and preschoolers, one middle schooler and one preschooler would be sampled in every household that had such children.
- Because the numbers of adults, elementary schoolers, and infants identified in all screened households would exceed the sample requirements, at most two of an adult, a elementary schooler, or an infant in any given household would be sampled; that is, there would be no household in which an elementary schooler, an infant, and an adult would all be sampled.
- Because adults with less than a high school diploma who participate in adult education were of particular interest, they would be sampled at a higher rate than other adults.
- In a subsample of households without children, two adults with an educational attainment of less than a high school diploma were eligible to be sampled.

In order to carry out this sampling scheme, several flags and/or random numbers were set prior to screening (i.e., at the time the sample of telephone numbers was drawn). The first specified whether adults in the household were to be enumerated. Each telephone number received one of three possible designations:

- (1) Household designated for adult enumeration;
- (2) Household designated for adult enumeration only if there were no eligible children in the household; or
- (3) Household was not designated for adult enumeration.

This flag was set such that households with eligible children were designated for adult enumeration at approximately two-thirds the rate of households without eligible children (about 50 percent vs. 75 percent).

The Screener contained a “screen-out” question to determine whether there were any eligible children in the household. The response to that question and the values of the aforementioned sampling flags determined the extent of the household enumeration. Based on the proposed sampling scheme discussed below, in 25 percent of households without children, no enumeration was required. This equated to slightly more than 20 percent of *all* screened households. As a result, it was expected that about 10,300 households would be screened out. That is, in about 10,300 households, no enumeration was required and no one sampled for an extended interview.

Exhibit 3-2 shows all possible combinations of children in each domain for households with eligible children with their respective domain probabilities of selection. A random number designated whether or not to sample an elementary schooler, if the household had exactly one elementary schooler

and no other children. A second random number designated whether to sample an elementary schooler and/or an infant, if the household had at least one elementary schooler and a preschooler, an infant, or both. A third random number designated whether to sample an elementary schooler, an infant, or an adult in households where there was at least one middle schooler and at least one preschooler, and an elementary schooler, an infant, or both. A fourth random number designated whether to sample an adult in households that did not meet the requirements for the third random number. This fourth number also contained the information to oversample adults with less than a high school diploma.

In households in which an adult was to be sampled, among adults with less than a high school diploma, adult education participants had 3.5 times the probability of selection of nonparticipants. Among adults with at least a high school diploma, adult education participants were given a probability of selection about 1.8 times as large as the probability of selection assigned to nonparticipants. In addition, adults with less than a high school diploma were given a probability of selection 3 times as large as adults with a high school diploma or higher.

Exhibit 3-2. Overview of the sampling scheme for selecting children based on household composition: NHES:2001

Household composition				Domain probability of selection			
Middle schooler in house-hold	Elementary schooler in household	Preschooler in household	Infant in household	Middle schooler	Elementary schooler	Preschooler	Infant
			√	0	0	0	1
		√		0	0	1	0
	√			0	0.7 ¹	0	0
	√			0	1 ¹	0	0
		√	√	0	0	1	1
	√		√	0	0.5	0	1
	√	√		0	0.5	1	0
	√	√	√	0	0.5	1	0.5
√				1	0	0	0
√			√	1	0	0	1
√		√		1	0	1	0
√		√	√	1	0	1	0.5
√	√			1	0.5	0	0
√	√		√	1	0.25	0	0.75
√	√	√		1	0.5	1	0
√	√	√	√	1	0.25	1	0.25

¹ In households with exactly one elementary schooler and no other children, the child was selected with probability 0.7. In households with two or more elementary schoolers and no other children, one child was selected with probability 1.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Exhibit 3-3 shows all possible combinations of household compositions for sampling adults, with the respective domain probabilities of selection for adults. The maximum rate at which adults in

households without children were sampled was 75 percent. That is, in 25 percent of households without children, no enumeration was required. For ease of presentation, exhibit 3-3 does not reflect further subsampling that was done in order to attain the desired sampling rates for adults by adult education participation status. Further details about the differential sampling of adults are given in appendix D.

Exhibit 3-3. Overview of the sampling scheme for selecting adults based on household composition: NHES:2001

Household composition			Domain probability of selection	
Child in household	Adult with less than high school diploma	Adult with high school diploma or higher	Adult with less than high school diploma	Adult with high school diploma or higher
No		√	0	0.5
No	√		0.75 ¹	0
No	√	√	0.5625	0.1875
Yes		√	0	0.33333
Yes	√		0.5	0
Yes	√	√	0.375	0.125

¹ In households without children with more than one adult with less than a high school diploma, if the household is designated for sampling adults with less than a high school diploma, then two adults were sampled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Expected Yield

This section presents the expected yield for each extended interview survey. Much of this development was done under the original design, i.e., stratification based on minority concentration alone, and a target of 60,000 screened households. Thus, some of the tabulations in this section are based on this design; notes or footnotes to that effect are given when that is the case.

ECPP and ASPA Surveys

The ECPP and ASPA interviews were conducted with the parents of a sample of children newborn through 8th grade. Estimates from the October 1997 Current Population Survey were used to determine the sampling rates for sampling children for the ECPP and ASPA interviews and to develop the sampling scheme.

Tabulations of the October 1997 CPS data showed that about 31 percent of households were expected to have at least one eligible child. Estimates of the percentage of households with eligible children or youth by age/grade group are given in table 3-2. The estimates in this table indicate that the

subdomain with the lowest prevalence in households was the “preschoolers” subdomain. However, as discussed in appendix D, relative to the sample size requirements, the proportion of households with middle schoolers was also low. Thus, the sampling scheme for NHES:2001 involved sampling one middle schooler and one preschooler in every household in which a child in either domain was present.

**Table 3-2. Percentage of telephone households with eligible children, by age/grade group:
CPS:1997**

Household composition	Percent of households
Households with children newborn through grade 8.....	31.3
Households with at least one child less than 3 years.....	9.8
Households with at least one child age 3 years through not yet in kindergarten	7.8
Households with at least one child enrolled in grades kindergarten through 2.....	10.9
Households with at least one child enrolled in grades 3 through 5.....	10.5
Households with at least one child enrolled in grades 6 through 8.....	10.1

NOTE: Because some households contain children in more than one age/grade group, these percentages sum to greater than 31.3 percent (the overall percentage of households with eligible children).

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

The percentage distribution of household compositions for households with eligible children is given in table 3-3. This table shows that nearly half (46.7 percent) of all households with children would have exactly one eligible child. Table 3-4 shows the distribution of children in U.S. households drawn from the October 1997 Current Population Survey (CPS). Table 3-5 shows the expected number of screened households based on the distribution of household composition shown in table 3-4. The majority of screened households (about 41,196 households) were expected to have no eligible children or youth. Thus, the sampling scheme for within-household sampling was developed such that the screened households with children (about 18,804 households) would provide the sample sizes needed to meet the precision requirements while holding the respondent burden to a minimum.

Table 3-3. Distribution of the number of eligible children per household, among households with eligible children: CPS:1997

Household composition	Percent of households with children	Subcategory percent
Households with exactly one eligible child	46.7	†
Households with exactly one eligible child 0 through 2 years.....	†	26.1
Households with exactly one eligible child 3 years through not in kindergarten.....	†	11.8
Households with exactly one eligible child enrolled in kindergarten through grade 2	†	15.8
Households with exactly one eligible child enrolled in grades 3 through 5.....	†	18.3
Households with exactly one eligible child enrolled in grades 6 through 8.....	†	28.1
Households with exactly two eligible children	36.6	†
Households with more than two eligible children.....	16.7	†

† Not applicable.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

Table 3-4. Distribution of household compositions (expressed as the percentage of households with eligible children): CPS:1997

Household composition	Distribution of households by presence of children enrolled in grades kindergarten through 8			
	No infants or preschoolers (age 0–not in K)	At least one infant (ages 0–2) but no preschooler (age 3–not in K)	At least one preschooler (age 3–not in K) but no infant (ages 0–2)	At least one infant (ages 0–2) and at least one preschooler (age 3–not in K)
Households with no middle schoolers				
No children in elementary school	0.00	14.10	6.28	5.44
At least one child in elementary school	25.50	6.52	7.51	2.40
Households with one middle schooler				
No children in elementary school	13.10	0.87	0.95	0.19
At least one child in elementary school	10.49	1.04	1.13	0.29
Households with two middle schoolers				
No children in elementary school	2.05	0.16	0.07	0.01
At least one child in elementary school	1.28	0.12	0.16	0.09
Households with more than two middle schoolers				
No children in elementary school	0.11	0.03	0.01	[a]
At least one child in elementary school	0.07	0.01	[a]	[a]

[a] indicates that the estimated percentage of households with the specified composition is less than 0.01 percent.

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

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

In table 3-6, the expected numbers of children sampled for the ECPP and ASPA surveys under the original sample design (60,000 screened households) are given, by household composition.

Nearly half of all sampled children were expected to be sampled from households with no infants or preschoolers.

Table 3-7 shows the expected numbers of sampled children and the expected numbers of completed ECPP and ASPA interviews, by age/grade grouping. Under the original sample design (60,000 screened households), a total of about 9,124 [= (10,138)*(0.9)] ECPP interviews and about 11,532 [= (12,813)*(0.9)] ASPA interviews were expected to be completed, for a total of 20,656 interviews completed with parents of children. Based on the optimal allocation for the strata defined by both minority concentration and listed status, the revised sample design was expected to yield larger numbers of completed interviews. (See table 3-9.)

Table 3-5. Expected number of screened households under the original NHES:2001 sample design, by household composition: CPS:1997

Household composition	Distribution of households by presence of children enrolled in grades kindergarten through 8			
	No infants or preschoolers (age 0—not in K)	At least one infant (ages 0–2) but no preschooler (age 3—not in K)	At least one preschooler (age 3—not in K) but no infant (ages 0–2)	At least one infant (ages 0–2) and at least one preschooler (age 3—not in K)
Households with no middle schoolers				
No children in elementary school	41,196	2,652	1,182	1,026
At least one child in elementary school	4,800	1,224	1,410	450
Households with one middle schooler				
No children in elementary school	2,460	162	180	36
At least one child in elementary school	1,974	198	216	54
Households with two middle schoolers				
No children in elementary school	384	30	12	0
At least one child in elementary school	240	24	36	18
Households with more than two middle schoolers				
No children in elementary school	18	6	0	0
At least one child in elementary school	12	0	0	0

NOTE: The distribution in this table assumes 60,000 screened households—the target under the original sample design—for the NHES:2001. That number was applied to the percentage distribution from table 3-4.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

Table 3-6. Expected number of children sampled for the ECPP and ASPA interviews under the original NHES:2001 sample design, by household composition: CPS:1997

Household composition	Distribution of households by presence of children enrolled in grades kindergarten through 8				Total
	No infants or preschoolers (age 0–not in K)	At least one infant (ages 0–2) but no preschooler (age 3–not in K)	At least one preschooler (age 3–not in K) but no infant (ages 0–2)	At least one infant (ages 0–2) and at least one preschooler (age 3–not in K)	
Total	10,108	5,325	4,299	3,218	22,950
Households with no middle schoolers					
No children in elementary school	0	2,652	1,181	2,047	5,880
At least one child in elementary school	3,900	1,837	2,117	901	8,755
Households with at least one middle schooler					
No children in elementary school	2,868	396	389	92	3,745
At least one child in elementary school	3,340	440	612	178	4,570

NOTE: The distributions in this table assume 60,000 screened households—the target under the original sample design—for the NHES:2001. Numbers given in this table are expected numbers of sampled children; they do not reflect nonresponse to the extended interviews. They were calculated by applying the within household sampling algorithm to estimates from the expected counts given 3-5.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

Table 3-7. Expected number of sampled children and completed interviews under the original sample design, by age/grade grouping: CPS:1997

Age/grade subdomain	Expected number of sampled children	Expected number of completed interviews
ECPP		
Total	10,138	9,124
Infants (ages 0–2 years)	5,525	4,973
Preschoolers (age 3–not yet in kindergarten).....	4,613	4,152
ASPA		
Total	12,813	11,532
Elementary schoolers (kindergarten–grade 5)	6,752	6,077
Middle schoolers (grades 6–8).....	6,061	5,455

NOTE: The distributions in this table assume 60,000 screened households—the target under the original sample design—for the NHES:2001. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

AELL Survey

Persons 16 years or older who were not enrolled in 12th grade or below, not institutionalized, and not on active duty in the U.S. Armed Forces were eligible for the AELL-NHES:2001. Because sampling adults for AELL interviews was required in only about 31 percent of screened households, adults were enumerated during the screening interview only for a subsample of the households. This approach was expected to result in the screening out of about 10,300 households, or slightly more than 20 percent of screened households. A methodological study involving a screener experiment (Brick, Collins, and Chandler 1997) demonstrated that with a fairly high screen-out rate, this approach could be expected to result in significantly higher unit response rates compared with enumerating adults in all households; however, because the screen-out rate for NHES:2001 was relatively low, the results of the screener experiment study were not expected to apply to the NHES:2001.

Table 3-8 shows the expected number of adults sampled for an AELL interview, by number of adults in the household and presence of eligible children. Based on the sampling scheme described above, it was expected under the original sample design that 9,231 adults would be sampled as adult education participants and 9,519 adults would be sampled as nonparticipants. In the NHES:1999, about 23 percent of those sampled as adult education nonparticipants who completed extended interviews were found to be participants, and about 15 percent of persons sampled as participants who completed extended interviews were identified as non-participants. Similar percentages of sampled adults were “switchers” in the NHES:1995. Taking into account the NHES:1999 “switching” rates and assuming unit response rates of 85 percent for adults sampled as participants and 77 percent for adults sampled as nonparticipants (for a unit response rate of 81 percent for the AELL interview overall), it was expected that about 7,477 AELL interviews would be completed with participants and about 7,710 AELL interviews would be completed with nonparticipants. Based on the optimal allocation for the strata defined by both minority concentration and listed status, the revised sample design was expected to yield larger numbers of completed interviews (see table 3-9).

Table 3-8. Expected number of adults sampled for AELL interviews under the original sample design, by number of adults and presence of eligible children in household: CPS:1997

Number of adults in household	Children in household?	Expected number of sampled adults		
		Sampled as adult education participants	Sampled as nonparticipants	Total
1.....	Yes	387	394	781
1.....	No	2,670	2,735	5,405
2.....	Yes	1,437	1,450	2,887
2.....	No	3,446	3,586	7,032
3.....	Yes	199	210	409
3.....	No	754	786	1,540
4.....	Yes	60	65	125
4.....	No	212	220	432
5 or more	Yes	21	24	45
5 or more	No	45	49	94
Overall.....		9,231	9,519	18,750

NOTE: The distributions in this table assume 60,000 screened households—the target under the original sample design—for the NHES:2001.

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

Summary of the Sample Design

Table 3-9 summarizes the expected numbers of completed interviews for the NHES:2001. These figures are given for the original sample design (minority stratification only) as well as the revised sample design (stratification on both minority concentration and listed status). Furthermore, to account for the effect of the lower-than-expected residency and unit response rates, these expected numbers were revised during data collection, and the revised figures are given in the last column of table 3-9.

As shown in table 3-9, the expected numbers of completed interviews were revised to 6,866 for ECPP, 9,852 for ASPA, and 11,134 for AELL. The actual numbers of completed interviews were 6,749 for ECPP, 9,583 for ASPA, and 10,873 for AELL (see chapter 5, specifically, table 5-6). The differences between the expected and actual numbers of completed interviews were mainly due to the completion of fewer Screeners than expected. Although the sample yield for children and adults was lower than expected, the lower yield did not affect the ability to detect differences between 1999 and 2001 beyond acceptable levels for key statistics that were used in the sample design. However, the reduction in sample size may have affected the ability to detect differences in other statistics that were not used to design the sample.

To facilitate comparison with previous NHES administrations, expected numbers of persons sampled for extended interviews in the NHES:2001 are given in table 3-10, along with numbers of

persons sampled for extended interviews in the NHES:1991, NHES:1993, NHES:1995, NHES:1996, and NHES:1999. Appendix D contains details about the expected precision of estimates from the three NHES:2001 surveys, based on the expected sample sizes under the original sample design.

Table 3-9. Expected numbers of completed interviews in the NHES:2001: CPS:1997

Sample population	Expected number of completed interviews		
	Original sample design ¹	Revised sample design ²	Final revised sample design ³
Household Screeners	60,000	63,120	48,000
ECPP			
Total.....	9,124	9,426	6,866
Infants (0–2 years old)	4,973	5,138	3,742
Preschoolers (age 3–not yet in kindergarten).....	4,152	4,289	3,124
ASPA			
Total.....	11,532	11,914	9,852
Elementary schoolers (kindergarten–grade 5).....	6,077	6,278	5,192
Middle schoolers (grades 6–8).....	5,455	5,636	4,660
AELL			
Adult education participants with less than a H.S. diploma.....	1,652	1,695	1,212
Adult education nonparticipants with less than a H.S. diploma.....	1,566	1,607	1,149
Adult education participants with a H.S. diploma or higher	6,703	6,878	4,918
Adult education nonparticipants with a H.S. diploma or higher	5,255	5,392	3,855
Total adults with less than a H.S. diploma.....	3,218	3,302	2,361
Total adults with a H.S. diploma or higher	11,958	12,271	8,773
Total adult education participants	8,355	8,574	6,130
Total adult education nonparticipants	6,821	6,999	5,004
Total adults	15,176	15,573	11,134

¹ The original sample design was based upon minority stratification only.

² The original sample design was revised to reflect stratification by minority concentration and listed status.

³ During data collection, the sample design was revised to reflect actual residency and unit response rates.

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

SOURCE: U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey (CPS), October 1997 School Enrollment Supplement data file (special tabulations).

Table 3-10. Comparison of expected sample sizes to previous survey administrations: NHES:2001

Sample	Survey administration					
	NHES: 1991	NHES: 1993	NHES: 1995	NHES: 1996	NHES: 1999	NHES: 2001
Total	34,118	27,437	40,319	26,435	36,125	41,701
Number of completed Screeners.....	60,314	63,884	45,465	55,838	55,929	60,000
Number of persons sampled for an extended interview						
Infants (0–2 yrs.)	†	†	4,341	†	3,435	5,525
Preschoolers (3–not yet in K).....	9,925 ¹	5,635	4,372	3,594 ⁴	4,316	4,613
Grades K–2	9,967 ¹	7,270 ²	5,227	4,460	4,841	3,376
Grades 3–5	†	2,882	1,841 ³	4,847	4,788	3,376
Grades 6–12	†	11,650	†	10,934 ⁵	10,631 ⁵	6,061
Adults	14,226	†	24,538	2,600	8,114	18,750
Adult education participants	12,464	†	14,355	†	4,542	9,231
Adult education nonparticipants	1,730	†	10,183	†	3,572	9,518

† Not applicable; persons in this category were not eligible for extended interviews.

¹ The sample size for “preschoolers” is actually strictly 3–5 years old, regardless of enrollment status; this sample size includes 2,959 ineligible children. The sample size for “grades K–2” is actually strictly 6–9 years old, regardless of enrollment status or grade; this sample size includes 1,798 ineligible children and 22 of unknown age.

² The sample size for grades K–2 includes 158 children who were enrolled in transitional kindergarten, prefirst, special education, or ungraded.

³ The sample size for grades 3–5 includes only 3rd grade; this sample size includes 36 children enrolled in special education or ungraded.

⁴ The sample size for preschoolers includes children up to age 7 who were not enrolled.

⁵ The sample size for grades 6–12 includes 5 children whose grade was unknown and 9 children who were enrolled in special education or ungraded.

⁶ This sample size reflects only middle schoolers (grades 6–8).

NOTE: The distributions in this table for NHES:2001 assume 60,000 screened households—the target under the original sample design. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 1991–2001.

4. DATA COLLECTION

This chapter provides an overview of the data collection procedures for the NHES:2001 surveys. It describes the recruitment and training of interviewers, interviewing times and case priorities, procedures designed to increase respondent cooperation, special procedures for language problem and refusal cases, and refielding of nonresponse cases.

As noted in chapter 1, the NHES telephone interviews are administered using computer-assisted telephone interviewing (CATI) technology. The CATI system was programmed to automatically guide the interviewers through the complex skip patterns contained in the NHES surveys. This reduces the potential for interviewer error and helps to minimize the time for administering the interviews. CATI also includes an online help feature so interviewers can access more detailed explanations and/or definitions for each item in the surveys at the stroke of a key. CATI technology incorporates online sampling to select appropriate persons for extended interviews during the screening interview, thus reducing additional calls into households. Its scheduling feature allows cases to be automatically fielded for appointments and callback attempts to complete interviews not completed on the first call, and CATI can be programmed to permit adjustments in case management as data collection progresses. Data are entered directly into the CATI database, which also contains the call history of each case, allowing for the assessment of various case management strategies following the close of data collection.

Interviewer Recruitment and Training

Recruitment of interviewers to conduct the NHES:2001 began in November 2001. Westat interviewers with prior NHES experience or with experience on other CATI studies were identified, and as many as feasible were assigned to the NHES:2001. To augment this group, new interviewers were recruited through the personal networks of Westat employees and by means of advertisements placed in local newspapers. A total of 396 interviewers were trained, and 271 of them (68 percent) were experienced.

Training was conducted in groups of about 30 interviewers from December 2000 to the beginning of February 2001. Some training sessions were conducted in December so that interviewers would be available to begin data collection on January 2. December sessions were attended only by experienced interviewers, who received a total of 14 hours of training, 12 hours in December and 2 hours in January just prior to the commencement of interviewing. Later training sessions included both new

interviewers and experienced interviewers who were unable to attend the December classes. January training sessions consisted of 18 hours of instruction to accommodate the new interviewers, all of whom had completed General Interviewer Training and Teltrain (training on the use of the CATI system) prior to attending NHES-specific training.

Interviewer training sessions were conducted in seven of Westat’s Telephone Research Centers (TRCs), those located in Frederick, Rockville, and Chestertown, Maryland; Chambersburg, Pennsylvania; Toms River, New Jersey; Sarasota, Florida; and Greeley, Colorado. December sessions were held in all TRCs except Greeley, which had training in February only. Table 4-1 shows dates of the training sessions and the total number of interviewers trained at each TRC location.

Table 4-1. Location and schedule of interviewer training sessions: NHES:2001

TRC location	Dates	Total number trained
Total trained in all TRCs	12/19–2/4	396
Rockville	12/9, 12/10, 1/2, 1/3 ¹	47
	1/6, 1/7, 1/8, 1/9 ¹	54
Frederick	12/16, 12/17, 1/2	33
	1/2, 1/3, 1/4	24
	1/6, 1/7	29
	1/13, 1/14	24
Chestertown	12/9, 12/10, 1/2	18
	1/6, 1/7	24
Chambersburg	12/9, 12/10, 1/2	28
	1/6, 1/7	14
Toms River.....	12/16, 12/17, 1/2	23
	2/3, 2/4	13
Sarasota	12/16, 12/17, 1/2	24
	1/27, 1/28	18
Greeley	2/3, 2/4	23

¹ These were double sessions in which some sessions were conducted for one large group and others, including the session focusing on the role plays, were conducted for two smaller groups.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

The training sessions included detailed information on the study, interactive lectures familiarizing the interviewers with the questions and the flow of the interviews, and special components emphasizing sets of questions that required more indepth study. Some sessions focused on contact procedures and strategies for gaining respondent cooperation. (See appendix E for the training agendas.) The last part of training employed role-play scripts so that interviewers could practice mock interviews. Interviewers were intensively monitored during this process and began conducting live interviews only after they were judged to be fully ready. Interviewers were also monitored throughout the data collection period, and feedback on interviewing techniques was provided by supervisors and project staff throughout the data collection period.

A total of 396 interviewers completed the NHES:2001 training sessions; all of them reported for work and conducted live interviews. However, 33 interviewers resigned during the first month of data collection, and 4 were released due to inadequate performance. As the type and number of cases changed during data collection, the number of interviewers working the cases was reduced. Later in the data collection period, when the nature of the work changed from primarily initial contact cases to nonresponse cases, some interviewers were released to other studies.

The interviewing staff included 24 interviewers bilingual in English and Spanish. They participated in regular training in English and then were trained on the Spanish CATI approximately 2 weeks after they had been conducting interviews in English. Following Spanish language training, they were able to switch the CATI to either English or Spanish versions to administer interviews. Bilingual interviewers attempted to conduct interviews in all households that were identified as probable Spanish language cases.

All NHES interviewers participated in ongoing coaching sessions to perfect strategies designed to gain respondent cooperation. Some interviewers were slightly more skilled in gaining cooperation than others, and they were given additional training in refusal conversion strategies to persuade respondents who had previously declined to participate to change their minds. The training sessions were conducted by TRC supervisors and lasted approximately 1.5 hours. Training covered such topics as typical respondent concerns and how to address them and discussion and practice of refusal conversion strategies. These specially trained interviewers were then able to access cases in which a household member had previously refused to participate in the study. As the interviewing staff was reduced to reflect the amount and nature of the remaining cases in the second half of the data collection period, virtually all interviewers remaining on the study had been trained in refusal conversion. More information is provided below on the outcome of special strategies used with language problem, refusal, and other nonresponse cases.

Special Precollection Procedures

The sample for the NHES:2001 was drawn by MSG. Details regarding criteria for the sample are given in chapter 3. Before the beginning of data collection, special procedures were implemented to remove some nonresidential and nonworking telephone numbers from the sample, and specific subsampling was done, also described in chapter 3, that reduced the number of telephone numbers from the full sample of 206,182 telephone numbers originally drawn to the final sample of 179,211 telephone numbers that was fielded. In addition, a letter about the study was mailed to potential respondents for whom listed addresses were found.

Identification of business and nonworking numbers

After the 206,182 telephone numbers in the full NHES:2001 sample were drawn by MSG, MSG's Genesys ID-PLUS utility was used prior to the start of data collection to identify business and nonworking telephone numbers. With the ID-PLUS utility, each telephone number was dialed, and any number that evoked the tritone signal on two computerized checks was classified nonworking. In all, 44,051 numbers were identified as nonworking through the ID-PLUS process; 41,665 of the telephone numbers in the final sample of 179,211 were assigned a final disposition code of nonworking as a result. The ID-PLUS process also includes matches to White and yellow pages listings. If a sampled telephone number is listed in the yellow (business listing) pages but not in the White (residential listing) pages, it was classified as a business number. Telephone numbers located in both the business and residential listings are likely used for both home and business purposes and were eligible for the study. A total of 8,879 of the 206,182 telephone numbers in the initial sample were identified as business only, and 8,400 telephone numbers in the final sample of 179,211 were assigned a status of nonresidential as a result of the matches to yellow and White pages listings. For purposes of unit response rates, the tritone and business numbers identified during these initial tests were treated as ineligible numbers.

Advance mailing

In an effort to increase Screener-level unit response, an informational letter was mailed to the households for which an address was obtained for the sampled telephone number from either of two commercial firms. Among the 179,211 telephone numbers in the final sample, the first vendor was able to provide addresses for 45,349 (25 percent); the second vendor provided addresses for an additional 41,082 numbers (23 percent). The 48 percent of sampled telephone numbers for which addresses were obtained

was considerably higher than the 30 percent obtained from the first vendor in the NHES:1999, and this increase was due to the use of the second vendor.

The first-class letter, on U.S. Department of Education letterhead and signed by the NHES COTR, was mailed by the mailing contractor for the U.S. Department of Education. It introduced the survey topics in broad terms, named the sponsoring agency, and briefly explained how the household had been selected. A toll-free number was given so the respondent could call and set an appointment or obtain further information about the study. See appendix F for copies of all letters mailed to respondents during data collection. Commonly asked questions and their answers were printed on the reverse side of the letter. In all, 98,892 telephone numbers were matched with listed addresses; 79,130 telephone numbers with matched addresses were in the final NHES:2001 sample. Tables 4-2 and 4-3 show the results of matching telephone numbers for listed status and for addresses. Fifty-eight percent of the telephone numbers for which a White pages listing was found had mailable addresses, and 84 percent of numbers with a matched address were listed in the White pages directory.

Table 4-2. Percentage of main sample telephone numbers in various listed statuses, by mailable status: NHES:2001

Mailable status of telephone number	Number of cases	Percent in each status			Total
		Listed in yellow pages only	Listed in White pages	Unlisted	
Mailable address	73,531	0	58	42	100
Postmaster returned address	5,599	0	70	30	100
No matched address	100,081	8	4	87	100

NOTE: The White pages category includes telephone numbers found in both the White and yellow pages. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Table 4-3. Percentage of sampled telephone numbers in various mailable statuses, by listed status: NHES:2001

Listed status of telephone number	Number of cases	Percent in each status			Total
		Matched address	Postmaster returned address	No matched address	
Yellow pages only	8,401	0	0	100	100
White pages	50,952	84	8	8	100
Unlisted	119,858	26	1	73	100

NOTE: The White pages category includes telephone numbers found in both the White and yellow pages.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

To coordinate the arrival of the letter with the initial call into the household, the mailing was to have been conducted in two waves. The first wave was mailed to approximately half of the households in the final sample for which addresses had been obtained, 47,460 households. However, 5,599 letters were returned by the Postmaster, the vast majority containing no forwarding address. The second wave mailing, consisting of 31,670 addresses, was prepared but not actually mailed due to problems with the mailing system at the U.S. Department of Education. The unweighted unit response rate differed for households to which letters were mailed in advance of calling, households with mailable addresses but not actually mailed to, and households for which addresses were sought but could not be obtained (69 and 64 percent compared to 35 percent, table 4-4). “Completed” cases are those for which a screening interview was fully completed. Numbers identified as nonworking and business only through listings and tritone checks are included in the “ineligible telephone number” cases.

Table 4-4. Results of the advance mailing effort at the Screener level: NHES:2001

Screener final result	Mailable address				No mailable address ²	
	Letter mailed		Letter not mailed ¹			
	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers
Total	41,861	100	31,670	100	105,680	100
Complete.....	23,614	69	16,128	64	8,643	35
Refusal.....	5,536	16	4,735	19	3,255	13
Maximum call.....	1,523	4	1,193	5	900	4
Other nonresponse or noncontact	3,694	11	3,115	12	11,728	48
Ineligible telephone number	7,494	†	6,499	†	81,154	†

† Not applicable.

¹ Due to problems with the mailing system at the Department of Education, about half of the cases with mailable addresses were not mailed a letter.

² Includes 5,599 cases for which mailed letters were returned by the Postmaster.

NOTE: Maximum call cases were finalized after having received up to 24 attempts without contact; see discussion on pp. 75-78. “Other nonresponse” includes language problems, no answer cases, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Ineligible telephone numbers are those found to be nonresidential or nonworking, and those Screener cases are not considered in the calculation of unit response rates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Interviewing Times and Case Priorities

Data collection was conducted from January 2 through April 14, 2001. As for the NHES:1999, the interviewing strategy followed for the NHES:2001 was designed with the goal of contacting all cases as quickly as possible in order to use the interviewing staff efficiently and to have sufficient time for repeated call attempts to nonresponding households.

Scheduling of Calls

Data collection for the NHES:2001 took place at seven of Westat's TRCs, those in Rockville, Frederick, and Chestertown, Maryland; Chambersburg, Pennsylvania; Toms River, New Jersey; Sarasota, Florida; and Greeley, Colorado. All of Westat's interviewing centers use a common CATI system and share the same scheduler, database, and computing facilities. Interviewers were assigned to the study to provide coverage at all hours the TRCs were open, 9:00 a.m. to midnight on weekdays, 10:00 a.m. to 9:00 p.m. on Saturdays, and 2:00 p.m. to 10:00 p.m. on Sundays. Unless they specifically requested an appointment at another time, respondents were called only between 9:00 a.m. and 9:00 p.m. in their own time zones, except for Saturdays and Sundays, when calls were made from 10:00 a.m. to 6:00 p.m. and 2:00 p.m. to 9:00 p.m., respectively. One after-midnight working session was held to ensure complete coverage of cases located in Alaska and Hawaii.

Because the NHES is a household survey, the greatest opportunity for respondent contact tends to be during weekday evenings and on weekends, and assignment of interviewer hours took this into consideration. Approximately 30 percent of interviewing labor hours were scheduled on week days (Monday through Friday from 9:00 a.m. to 6:00 p.m.), 40 percent on weekday evenings, and 30 percent on weekends.

Assignment of Cases to Interviewers

The priority with which cases were assigned to interviewers by the CATI scheduler at the outset of data collection for the NHES:2001 differed from NHES collections prior to 1999, in which new cases had the lowest priority. In order to make initial contact with all cases more quickly and to concentrate subsequent efforts on those cases most likely to be productive, cases were prioritized as follows:

- Cases that had appointments for a specific date and time;
- Cases for which the interviewers received a busy signal (reassigned 15 minutes later for up to four attempts within an hour);¹⁹
- Cases that had resulted in noncontact at a scheduled appointment time;
- New cases, until they received one day and one evening call attempts;
- Cases that had unspecified appointment/general callback times during that time period; and
- Cases that were attempted during a previous time period with no contact. (These were tried during other specific time frames according to the “time slice” protocol described below.)

Initially up to eight attempts were made by NHES interviewers to screen households in order to determine the presence of household members eligible for extended interviews, that is, an eligible child or adult. These calls were staggered on different days of the week and at different times of the day over a period of at least 2 weeks. Exhibit 4-1 depicts the calling times or time slices. Six of the time slices were on week days or weekday evenings during the following periods: 9 a.m. to 2 p.m., 2 p.m. to 6 p.m., 6 p.m. to 7:30 p.m., 7:30 p.m. to 9 p.m., 9 a.m. to 6 p.m., and 6 p.m. to 9 p.m. Two were on weekends: Saturday 10 a.m. to 6 p.m., and Sunday 2 p.m. to 9 p.m. (All times are respondent times.) Initially, Westat placed one daytime and one evening call to establish contact with a telephone number. If contact was not made in one of these first two calls, the number was called once in each of the remaining six time slices until contact was made. Therefore, up to six additional calls followed the initial day and evening attempts to complete the Screener. If the Screener was not completed as a result of those eight calls, and the respondent had not refused, the case was assigned the status “maximum call” if contact with a household member had been made, the status of “no answer-answering machine” if only an answering machine but never a person had been reached, or the status of “no answer” if neither a person nor an answering machine had been reached. Maximum call status for extended interviews was reached after 10 attempts, not including the Screener calls. Language problems and refusal cases were handled according to the procedures described below. When these cases were released to interviewers, their priority was set by the TRC operations manager and the project director according to the nature of the work remaining and the availability of specially trained interviewers. Appendix G shows a listing of status classifications (result codes) for both Screener and extended interview cases.

In the NHES:2001, contact via the telephone was often made within one or two telephone call attempts. Almost half of all completed Screeners (21,782 out of 48,385) were completed in one or

¹⁹Additional attempts made for busy signals were not counted as separate call attempts; the entire series counted as one attempt.

two calls. Similarly, only a few calls were required to identify the majority of nonworking and nonresidential numbers. Fifty-one percent of the Screener numbers identified to be nonworking when they were dialed (13,928 out of 27,369) and 63 percent of the numbers identified as business only when they were dialed (11,153 out of 17,713) were finalized within two calls.

Exhibit 4-1. Time slices used for call scheduling: NHES:2001

Time slice description	Day(s) of week	Hours (respondent time)
Weekday, 1st half of the day	Monday through Friday	9:00 a.m. – 2:00 p.m.
Weekday, 2nd half of the day	Monday through Friday	2:00 p.m. – 6:00 p.m.
Weekday, 1st half of evening	Monday through Friday	6:00 p.m. – 7:30 p.m.
Weekday, 2nd half of evening	Monday through Friday	7:30 p.m. – 9:00 p.m.
Weekday, unrestricted day	Monday through Friday	9:00 a.m. – 6:00 p.m.
Weekday, unrestricted evening	Monday through Friday	6:00 p.m. – 9:00 p.m.
Saturday, unrestricted	Saturday	10:00 a.m. – 6:00 p.m.
Sunday, unrestricted	Sunday	2:00 p.m. – 9:00 p.m.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Procedures for Special Circumstances

As in previous years, the NHES:2001 followed specific procedures when special circumstances were encountered during data collection.

Answering Machine Messages

Leaving a message when an answering machine is encountered lets potential respondents know why they are being called and tells them that efforts to contact them will continue. In the NHES:2001, a message was displayed the first time an answering machine was reached at the Screener and extended interview levels and also if the case changed to language problem or refusal status. Three messages were created, one for Screener or extended cases in initial or language problem strategy, one for Screener cases in refusal strategy, and one for extended cases in refusal strategy. Each was worded somewhat differently, but all briefly explained the purpose and the sponsor of the study and also gave the toll-free number for respondents to call for more information or to make an appointment. In 15,532 households with a completed Screener (32 percent), one message was left. In 6,683 households (14 percent),

two or three messages were left. Forty-four households received four messages, one household received five, and one received six. The messages are shown in appendix H.

Later in the data collection period, a fourth answering machine message was left when an answering machine was reached even if the case had not changed status. Monday, March 5, Friday, March 9, Thursday, March 15, Wednesday, March 21, and Friday, March 30 (i.e., one day during weeks 10 through 13 of data collection) were designated “answering machine days.” A message was created and distributed to interviewers, and the message was read whenever a telephone number was answered by a machine on those dates, provided CATI did not display a different message (for instance, one that was appropriate for a case that had changed strategy).

Non-English Language/Language Problem Cases

When English-only interviewers encountered a case in which the respondent indicated he or she did not speak English or had a hearing or speech impairment, they attempted to ascertain whether any adult household member spoke English or could communicate sufficiently clearly to respond to the interview. If they were not successful, the case was coded one of two interim language problem statuses: hearing/speech problem or non-English language case. The latter category was further specified as probable Spanish language or another language by the interviewer. Specially trained interviewers recontacted the hearing/speech problem cases and attempted to complete an interview. Bilingual interviewers recontacted the Spanish language cases. Cases coded as non-English and non-Spanish were available to all interviewers, who recontacted the household in an effort to identify an English- or Spanish-speaking household member. If a Spanish-speaking household member was identified, the case was recoded as a Spanish language case and made available to bilingual interviewers. Based on reports from survey managers and interviewer monitors, this was a relatively rare occurrence. Interviewers were not trained to identify specific languages, and they were more likely to identify another language as Spanish than misidentify Spanish as another language. Non-English/non-Spanish households in which interviews were not completed were coded as nonresponse.

Table 4-5 shows unit response rates for non-English language/language problem Screener cases. Sixty-eight percent of the 3,089 cases in households identified as Spanish-speaking were completed, 64 percent in Spanish and 4 percent in English. Twenty-eight percent of those cases identified as households in which languages other than English or Spanish were spoken were completed, most in English. Thirty-six percent of the 441 cases identified as hearing/speech problems were completed in English.

Occasionally, a trained Spanish-speaking interviewer encountered a household that had never been coded as a language problem but in which Spanish was spoken and English was not. In these cases, the interviewer switched to the Spanish CATI and conducted the interview in Spanish. Those cases were never coded as language problems and do not appear in table 4-5; however, like all completed interviews, they carry a designation as to whether the interview was conducted in English or Spanish.

**Table 4-5. Non-English language/language problem Screener cases, by response status:
NHES:2001**

Problem	Number	Percent
Identified as Spanish language households		
Total	3,089	100
Completed in English	138	4
Completed in Spanish	1,965	64
Refusal	315	10
Language problem.....	124	4
Other	547	18
Identified as non-English/non-Spanish language households		
Total	997	100
Completed in English	225	23
Completed in Spanish	55	6
Refusal	90	9
Language problem.....	542	54
Other	85	9
Hearing/speech problems		
Total	441	100
Completed in English	157	36
Completed in Spanish	0	0
Refusal	80	18
Language problem.....	150	34
Other	54	12

NOTE: Detail may not sum to totals because of rounding. "Other" includes maximum call and no answer-answering machine cases, as well as cases identified to be nonworking or nonresidential on call back.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

The NHES:2001 interviews were conducted only in English and Spanish. Therefore, if a household was composed solely of members who spoke a language other than English or Spanish, no interview was conducted. At the extended interview level, only the sampled respondent himself or herself could respond to the AELL interview. For the ECPP and ASPA interviews, the parent or guardian who was most knowledgeable about the child's care and education was asked to respond. If this parent could not be interviewed in either English or Spanish, interviewers tried to identify another parent or guardian

or other household member who could speak English and was sufficiently knowledgeable to respond to the interview. If such a household member was found, the interview was conducted with him or her.

Refusal Conversion

Refusal cases comprise the majority of overall Screener nonresponse in the NHES. Substantial effort was expended in the NHES:2001 to gain cooperation in households in which a member had refused to participate in the study.

Whenever a refusal occurred, the interviewer recorded demographic information about the refusing respondent and the respondent's reasons for refusing to participate if any had been proffered. Interviewers also rated the strength of the refusal as mild, firm, or hostile. Standard refusal conversion procedures mandated one call back to the household in an attempt to gain cooperation. In the NHES:2001, any mild or firm refusal case was released after a 13-day hold for a conversion attempt. (The hold period was shortened toward the end of data collection to allow all refusal cases to be processed.) TRC supervisors reviewed all cases coded as hostile to determine whether that designation was merited. Any cases rated as hostile that were judged by the supervisor to be inappropriately coded were recoded to firm refusals and were eligible to be released for a conversion attempt. Truly hostile (profane or abusive) refusal cases were never released for conversion.

At the extended interview level, refusal conversion attempts were conducted with the refusing person himself or herself. That is, attempts were made to convert the parent of the sampled child designated as the respondent who refused the ECPP interview or ASPA interview and the adult who refused the AELL interview.

Federal Express/Priority Mail Mailing to Refusal Cases. In order to persuade respondents to change their minds about completing the NHES:2001 surveys, letters were sent to each household that initially refused to participate in the study for which an address had been obtained. Experiments conducted at Westat in connection with past studies indicated that sending refusal conversion letters via Federal Express or Priority Mail significantly increases the conversion rate for these initial refusal cases. It was expected that these types of letters would capture the attention of potential respondents to a greater extent than a first-class letter would. Furthermore, Westat receives a special reduced rate from Federal Express, making such a mailing economical, especially when compared with the labor time for refusal conversion.

The letters were sent from Westat by Federal Express if the address was acceptable to that service and by Priority Mail if they were not (e.g., post office boxes and rural routes). Prior to sending the letters, address files had been updated and addresses that resulted in Postmaster returns from the initial mailing deleted. The letter was printed on U.S. Department of Education stationery and signed by the NHES COTR (see appendix F). It gave a brief explanation of the NHES:2001 study, emphasized the importance of the household's participation, and provided Westat's toll-free telephone number for respondents to call for information about the study or to schedule appointments. For Screener cases, 24,979 refusal conversion letters were sent by Federal Express or Priority Mail; 8,597 refusal cases had no address matched with their telephone number, so they were not sent a letter.

Because the refusal conversion letters were sent to households for which an address had been obtained, those households might have also received a letter from NCES by first-class mail prior to the initial contact with the household. However, the decision was made to send a second letter because the first-class letters may have been thrown away, or one household member may have opened the advance information letter and not conveyed the information to other household members. Refusal cases that had been mailed letters were assigned a high calling priority, just below appointments scheduled for a specific time, to increase the chance of contact the day after the letter was scheduled to arrive.

Table 4-6 shows the results of various refusal conversion efforts in the NHES:2001 for Screener cases. In all, 33,576 cases had least one refusal.²⁰ After the initial refusal, those for which an address was obtained were mailed a Federal Express or Priority Mail letter; 22,180 cases were mailed a letter and 8,599 were not. Fifty-five percent of the refusal cases that were mailed a letter were eventually completed versus 38 percent of the cases that were not mailed a letter. Overall, the unit response rate for Screener cases that ever received a refusal was about 47 percent.

Refielding Second Refusals. In each previous cycle of the NHES, at least some of the "final" Screener refusal cases, those for which two refusals had been received, were refiled for another conversion attempt by the most skilled refusal conversion interviewers. In the NHES:2001, Screener cases that had received two refusals were refiled if neither refusal had been coded hostile. Refielding Screener double refusal cases began February 28, 2001, during week nine of data collection. No cases in which respondents had telephoned or written following the receipt of refusal conversion letters to say

²⁰This is higher than the number of ever-refusal cases in the NHES:1999. In that survey, some initial refusals, those for which the respondent hung up in the introduction and may not have heard the purpose of the study or the sponsoring agency, were "cleaned" of their refusal status and re-released as new cases. Because of declining response rates for all RDD surveys, it was decided that holding all refusals and re-releasing them only to trained refusal converters would be a preferable strategy for the NHES 2001.

they did not want to participate were released again. Cases were held for a period of 13 days before being released for an additional conversion attempt until the last weeks of the data collection period when some cases had a shorter hold period due to lack of time. Table 4-6 also shows the numbers and percentages of refiled second refusals that were completed. Please note that the final results for the refiled cases are included in the columns giving final results for all refusal cases, of which the refiled cases are a subset. Twenty-two percent of the 14,921 refusal cases refiled after having received two refusals were completed (3,187 cases), and 502 cases were identified as ineligible. Screener cases were coded final refusals if a third refusal was received.

Table 4-6. Results of refusal conversion efforts at the Screener level: NHES:2001

Final result	All refusal cases				Cases refiled after two refusals	
	Federal Express or Priority Mail letter		No letter		Number	Percent of eligible telephone numbers
	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers		
Total	22,180	100	8,599	100	14,921	100
Complete.....	11,643	55	2,801	38	3,187	22
Refusal.....	9,122	43	4,394	59	11,102	77
Other nonresponse or noncontact	351	2	194	3	130	1
Ineligible telephone number	1,064	†	1,210	†	502	†

† Not applicable.

NOTE: The final results for the refiled cases are included in the columns giving final results for all refusal cases, of which the refiled cases are a subset. Other nonresponse includes language problems, no answer cases, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Ineligible telephone numbers are those found to be nonresidential or nonworking, and those Screener cases are not considered in the calculation of unit response rates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Both standard (one call back) and special refusal conversion efforts (mailing and refiled second refusals) were undertaken at the extended interview level for the NHES:2001. As a result, approximately 35 percent of all refusals that were incurred at the extended interview level (38 percent of the 1,099 ECPP refusals, 37 percent of the 1,515 ASPA refusals, and 34 percent of the 3,260 AELL refusals) were completed. Tables 4-7 through 4-9 present the results of refusal conversion strategies at the extended level.

Generally, cases for which two refusals have been received at the extended interview level have not been refiled in prior NHES administrations. However, in an effort to maximize the NHES:1999 unit response rate, extended cases with two refusals that were both coded mild were refiled, and in the NHES:2001, extended refusal cases that were coded either mild or firm were refiled. Another innovation in the NHES:2001 was to send refusal conversion letters by Federal Express or Priority Mail before refiled second refusals to extended cases for which an address had been obtained in an effort to gain respondent cooperation after two refusals.²¹ Tables 4-7 through 4-9 also show the results of this effort. In the refiled effort, nearly twice the percentage of cases to which letters had been mailed completed extended interviews after the second refusal conversion attempt than cases to which letters had not been mailed. For instance, 31 percent of the refiled second refusal AELL cases to which letters were mailed were completed, versus 15 percent of second refusals to which letters were not mailed. As with Screener cases, extended cases that received a third refusal were assigned the final result code of refusal.

Table 4-7. Results of refusal conversion efforts at the extended interview level: ECPP-NHES:2001

Final result	All refusal cases		Cases refiled after two refusals			
			Federal Express or Priority Mail letter		No letter	
	Number	Percent	Number	Percent	Number	Percent
Total	1,099	100	159	100	325	100
Complete or ineligible person	419	38	57	36	63	19
Refusal.....	593	54	98	62	247	76
Other nonresponse.....	78	7	2	1	11	3
Ineligible telephone number	9	<1	2	1	4	1

NOTE: The final results for the refiled cases are included in the columns giving final results for all refusal cases, of which the refiled cases are a subset. Detail may not sum to totals because of rounding. Ineligible persons are those whose age, enrollment status, or grade is outside the study range. Ineligible telephone numbers are those found to be nonresidential or nonworking, and at the extended level these cases were treated as nonresponse. "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).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Program Participation (ECPP) Survey of the National Household Education Surveys Program (NHES), 2001.

²¹ A refusal conversion letter was not sent to households with extended interview double refusals if a letter had been sent previously for a Screener refusal.

Table 4-8. Results of refusal conversion efforts at the extended interview level: ASPA-NHES:2001

Final result	All refusal cases		Cases refiled after two refusals			
			Federal Express or Priority Mail letter		No letter	
	Number	Percent	Number	Percent	Number	Percent
Total	1,515	100	230	100	451	100
Complete or ineligible person.....	553	37	82	36	74	16
Refusal.....	859	57	141	61	361	80
Other nonresponse.....	94	6	4	2	11	2
Ineligible telephone number.....	9	<1	3	1	5	1

NOTE: The final results for the refiled cases are included in the columns giving final results for all refusal cases, of which the refiled cases are a subset. Detail may not sum to totals because of rounding. Ineligible persons are those whose age, enrollment status, or grade is outside the study range. Ineligible telephone numbers are those found to be nonresidential or nonworking, and at the extended level these cases were treated as nonresponse. "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).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities (ASPA) Survey of the National Household Education Surveys Program (NHES), 2001.

Table 4-9. Results of refusal conversion efforts at the extended interview level: AELL-NHES:2001

Final result	All refusal cases		Cases refiled after two refusals			
			Federal Express or Priority Mail letter		No letter	
	Number	Percent	Number	Percent	Number	Percent
Total	3,260	100	572	100	1,014	100
Complete or ineligible person.....	1,095	34	175	31	155	15
Refusal.....	1,799	55	364	64	793	78
Other nonresponse.....	335	10	27	5	53	5
Ineligible telephone number.....	31	1	6	1	13	1

NOTE: The final results for the refiled cases are included in the columns giving final results for all refusal cases, of which the refiled cases are a subset. Detail may not sum to totals because of rounding. Ineligible persons are those whose age, enrollment status, or grade is outside the study range. Ineligible telephone numbers are those found to be nonresidential or nonworking, and at the extended interview level extended these cases were treated as nonresponse. "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).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education and Lifelong Learning (AELL) Survey of the National Household Education Surveys Program (NHES), 2001.

Procedures for Other Nonresponse Cases

Additional contact attempts were made in an effort to complete nonresponse cases other than refusals, that is, those that were assigned maximum call, no answer-answering machine, and no answer

status. The maximum call condition applied to both Screener and extended interviews, while the no answer conditions applied only to Screeners. Refielding of finalized maximum call cases began in week 7 of data collection (February 16, 2000), after all sampled telephone numbers had been attempted at least twice. Cases were released in waves so they would be held for a time prior to additional contact attempts to reduce the perception of badgering a household. Also, the waiting period allowed time for the telephone company to attach a recording to a nonworking number so that it might be correctly classified or for household members away from home for a period of time to return.

Maximum Call Cases

Cases in maximum call status were those that received eight call attempts during which contact was made with a person yet the interview was not completed. The CATI system utility used for refielding maximum call cases allows for the selection of maximum call cases that had not previously been refielded or the selection of all maximum call cases, including those that had been released previously for additional call attempts. Cases not previously refielded were refielded for additional attempts on a weekly or more frequent basis. Cases that had previously been refielded were released for additional attempts five times during data collection, beginning on March 16; however, at that time, cases that had already received 24 or more attempts were finalized, and therefore, received no more calls. This approach was designed to place the greatest effort on the cases most likely to be productive. Previously refielded maximum call cases were released for 14, 12, or 6 additional call attempts (the number decreased as the close of data collection approached).

Prior to refielding, letters were sent to Screener maximum call cases for which addresses had been obtained. For the first time in the NHES, it was decided to send some letters via Federal Express or Priority Mail and others by first-class mail in 9- by 12-inch envelopes. Both were intended to draw respondents' attention to the letter, but it was expected that the Federal Express/Priority Mail letter might be more effective in that regard. A special flag set in the CATI database ensured that households were not sent both a refusal conversion letter and a maximum call letter, so that members of the household would not feel that they were being harassed. A copy of the maximum call conversion letter can be found with the other letters in appendix F.

Table 4-10 shows the results of refielding maximum call cases at the Screener level. Of the 8,662 Screener maximum call cases refielded, 1,866 were sent a Federal Express or Priority Mail letter, 1,326 were sent a letter by first-class mail, and 2,278 had no matched address and so were not mailed a letter. The unit response rates for the three groups were similar, 30 percent, 26 percent, and 25 percent,

respectively. This suggests that the benefits of mailing to cases of this type may not outweigh the costs involved.

Table 4-10. Results of refiled maximum call Screener cases: NHES:2001

Final result	Maximum call cases					
	Federal Express or Priority Mail letter		First-class letter		No letter	
	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers
Total	1,866	100	1,326	100	2,278	100
Complete.....	527	30	324	26	511	25
Refusal.....	232	13	162	13	500	24
Other nonresponse or noncontact	1,002	57	769	61	1,038	51
Ineligible telephone number	105	†	71	†	229	†

† Not applicable.

NOTE: “Other nonresponse” includes language problems, no answer cases, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Ineligible telephone numbers are those found to be nonresidential or nonworking, and those Screener cases are not considered in the calculation of unit response rates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

For the first time in the NHES, letters were mailed to extended cases in maximum call status prior to refiled. Letters to potential ECPP and ASPA respondents were sent by first-class mail; however, because of the lower estimated unit response rate for the AELL survey, letters to potential AELL respondents were sent via Federal Express or Priority Mail. Results of refiled maximum call cases at the extended interview level are shown in table 4-11 for the ECPP survey, table 4-12 for the ASPA survey, and table 4-13 for the AELL survey. Letters were sent to the households of 414 potential respondents to the ECPP survey and 53 percent of the cases were completed. Another 698 cases that were not mailed letters were called, and 40 percent of these cases were completed. The results are identical for the ASPA survey, with 53 percent of the 575 cases to which a letter was mailed being completed and 40 percent of the 927 cases to which a letter was not mailed being completed. For the AELL survey, a similar unit response rate of 51 percent was attained for the 862 cases mailed a letter, and a somewhat lower unit response rate of 35 percent was achieved for the 1,220 cases not mailed a letter. These findings suggest that the Federal Express/Priority Mail strategy may have been more effective for the AELL survey, for which a lower unit response rate was expected compared to the ECPP and ASPA surveys and

that, in general, mailing may be more effective for extended interview maximum call cases than for Screener maximum call cases.

Table 4-11. Results of refiled maximum call cases: ECPP-NHES:2001

Final result	Maximum call cases			
	First-class letter		No letter	
	Number	Percent	Number	Percent
Total	414	100	698	100
Complete or ineligible person	220	53	280	40
Refusal	58	14	179	26
Other nonresponse	121	29	219	31
Ineligible telephone number	15	4	20	3

NOTE: Ineligible persons are those whose age, enrollment status, or grade is outside the study range. Ineligible telephone numbers are those found to be nonresidential or nonworking, and at the extended interview level these cases were treated as nonresponse. "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).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Program Participation (ECPP) Survey of the National Household Education Surveys Program (NHES), 2001.

Table 4-12. Results of refiled maximum call cases: ASPA-NHES:2001

Final result	Maximum call cases			
	First-class letter		No letter	
	Number	Percent	Number	Percent
Total	575	100	927	100
Complete or ineligible person	306	53	373	40
Refusal	99	17	246	27
Other nonresponse	145	25	283	31
Ineligible telephone number	25	4	25	3

NOTE: Detail may not sum to totals because of rounding. Ineligible persons are those whose age, enrollment status, or grade is outside the study range. Ineligible telephone numbers are those found to be nonresidential or nonworking, and at the extended interview level these cases were treated as nonresponse. "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).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities (ASPA) Survey of the National Household Education Surveys Program (NHES), 2001.

Table 4-13. Results of refiled maximum call cases: AELL-NHES:2001

Final result	Maximum call cases			
	Federal Express or Priority Mail letter		No letter	
	Number	Percent	Number	Percent
Total	862	100	1,220	100
Complete or ineligible person	437	51	426	35
Refusal	161	19	361	30
Other nonresponse	239	28	398	33
Ineligible telephone number	25	3	35	3

NOTE: Detail may not sum to totals because of rounding. Ineligible persons are those whose age, enrollment status, or grade is outside the study range. Ineligible telephone numbers are those found to be nonresidential or nonworking, and at the extended interval level these cases were treated as nonresponse. "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).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education and Lifelong Learning (AELL) Survey of the National Household Education Surveys Program (NHES), 2001.

No Answer-Answering Machine Cases

This category of Screener cases includes those for which the only contact has been with an answering machine. These cases were refiled for eight additional call attempts beginning on February 16, after all telephone numbers in the NHES:2001 sample had been attempted at least twice. Like the maximum call cases described above, these cases were refiled in two stages, with those not previously refiled being released first, since they were most likely to be productive. A letter was sent via first-class mail to no answer-answering machine cases for which mailable addresses were available prior to calling those cases. A copy of the letter is shown in appendix F.

The results of the refiled effort are presented in table 4-14, broken out by cases that were mailed a letter by Federal Express/Priority Mail, mailed a first-class letter, or sent no letter. Twenty-eight percent of the 1,912 cases mailed a Federal Express/Priority Mail letter were completed, compared with 27 percent of the 1,098 cases mailed a first-class letter. In contrast, only 15 percent of the 2,762 no-answer answering machine cases that were not mailed a letter were completed. This suggests that mailing to these households may have an effect, but that effect is not dependent on the type of letter. The refiled effort also allowed identification of a total of 1,015 ineligible telephone numbers, most of them from the cases without a mailable address.

Table 4-14. Results of refiled no-answer answering machine Screener cases: NHES:2001

Final result	Federal Express or Priority Mail letter		First-class letter		No letter	
	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers	Number	Percent of eligible telephone numbers
Total	1,912	100	1,098	100	2,762	100
Complete.....	485	28	264	27	300	15
Refusal.....	235	14	137	14	269	13
Other nonresponse or noncontact	1,015	59	595	60	1,452	72
Ineligible telephone number	177	†	102	†	741	†

† Not applicable.

NOTE: Detail may not sum to totals because of rounding. No answer- answering machine cases are those that had been answered by machines only on any attempts resulting in contacts. "Other nonresponse" includes language problems, no answer cases, and problem cases that could not be resolved during data collection (e.g., household members away for an extended period). Ineligible telephone numbers are those found to be nonresidential or nonworking, and those Screener cases are not considered in the calculation of unit response rates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

No Answer Cases

No answer Screener cases are those at which neither a person nor an answering machine has been reached. Historically, very few completed Screeners have resulted from refiled these cases, but the process has resulted in the identification of a portion of these numbers as nonworking or nonresidential. Therefore, to ensure that interviewing hours were spent on cases most likely to be productive, approximately one-third of the no answer Screener cases were randomly sampled and only those were refiled.²² These cases were refiled in week nine of data collection, beginning February 22, for an additional eight call attempts. Table 4-15 presents the results of refiled the NHES:2001 Screener no answer cases. Only 2 percent of the 5,103 refiled Screener no answer cases were completed; however, 532 cases (about 10 percent) were identified as ineligible.

²²Weighting procedures at the close of data collection in which each no answer case selected for re-release was given a weighting factor of 3 (the reciprocal of the subselection probability) and cases not subsampled were given a weighting factor of 0 accounted for the subsampling of the cases in the computation of response rates. Weighting procedures are discussed in chapter 7.

Table 4-15. Results of refiled Screener no answer cases: NHES:2001

Final result	Subsampled no answer cases	
	Number	Percent of eligible telephone numbers
Total	5,103	100
Complete	81	2
Refusal	94	2
Maximum call	97	2
No answer	4,253	93
No answer, answering machine	42	1
Other nonresponse	4	<1
Ineligible telephone number	532	†

† Not applicable.

NOTE: Detail may not sum to totals because of rounding. No answer cases are those for which neither a person nor an answering machine had answered on any attempt. Refiled cases were given a weighting factor of three (the reciprocal of the subselection probability) and cases not refiled were given a weighting factor of 0 in computing unit response rates. "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). Ineligible telephone numbers are those found to be nonresidential or nonworking, and those Screener cases are not considered in the calculation of unit response rates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Results of Refiling Cases

The intensive working of nonresponse cases in the NHES:2001 was beneficial. After initial refusal conversion procedures had been exhausted, second-refusal cases were refiled and 22 percent were completed, giving an overall Screener refusal conversion rate of 51 percent. The overall refusal conversion rate for extended cases ranged from 38 percent for ECPP to 34 percent for AELL. About 25 percent of the refiled Screener maximum call cases were completed, as were 43 percent of the maximum call cases at the extended level. Eighteen percent of the no answer-answering machine Screener cases were completed. As expected, refiled no answer cases (all at the Screener level) was less productive, with 10 percent finalized as ineligible telephone numbers and about 2 percent of the eligible numbers resulting in completed Screeners. Data collection for the NHES:2001 closed on April 14, 2001, with an estimated Screener unit response rate of 69 percent. (See chapter 5 for more details on the unit response rate.)

Final Mailing

On March 20, in the 12th week of data collection, cases still unresolved were selected for an additional mailing, provided they had not already received a refusal conversion letter. This mailing

consisted of a postcard designed to capture the attention of any household member who would see it, provide information about the study, and encourage participation. A copy of the postcard is provided in appendix F.

Weekly Progress in Completing Cases

The goal of the calling strategy for the NHES:2001, as in the NHES:1999, was to attempt initial contact with all cases as quickly as possible. Therefore, as noted above, new cases had relatively high calling priority, rather than the lowest calling priority as in most previous NHES collections. This strategy allowed the “easiest” cases, those with cooperative respondents, to be completed quickly and as many business and nonworking telephone numbers as possible to be identified early in the data collection period, when the interviewing staff was at its peak. As the nature of the work changed to encompass a preponderance of the cases more difficult to complete, it was more appropriate to have the majority of the interviewing staff composed of skilled refusal conversion interviewers and bilingual interviewers, with others released to different studies. Table 4-16 presents the number of cases completed each week of data collection, the number of interviewer hours worked, and the interviewer work hours per completed extended interview.

All sampled telephone numbers had been attempted at least twice by February 4, 2001, the end of the fifth week of data collection. At that point in data collection, Screeners had been completed with 27,596 households, 57 percent of the number eventually completed. Thirty-three Screener cases were in maximum call status, 119 in language problem status, and 3,222 had incurred two refusals. Also, 37,543 cases had been resolved as business or nonworking numbers, and 58,365 cases were in various interim statuses, including 11,542 that had received one refusal. About half of the extended interviews (13,195) had also been completed. During February, some of the “final” refusals were refiled for another conversion attempt; cases that had reached maximum call and no answer status were also refiled.

Table 4-16. Weekly progress in completing cases: NHES:2001

Week	Week ending	Screeners completed		Extended interviews completed ¹		Interview hours	Hours per completed interview ²
		Number	Percent	Number	Percent		
Total		48,385	100	27,935	100	39,744	1.42
1	January 7	2,581	5	1,027	4	1,335	1.30
2	January 14	8,131	17	3,535	13	4,269	1.21
3	January 21	4,904	10	2,581	9	3,605	1.40
4	January 28	6,044	12	3,031	11	3,733	1.23
5	February 4	5,936	12	3,021	11	3,991	1.32
6	February 11	5,170	11	2,695	10	3,968	1.47
7	February 18	4,824	10	2,497	9	3,531	1.41
8	February 25	2,298	5	1,826	7	2,793	1.53
9	March 4	2,429	5	1,345	5	2,370	1.76
10	March 11	1,981	4	1,422	5	2,166	1.52
11	March 18	1,406	3	1,611	6	2,203	1.37
12	March 25	1,211	3	1,137	4	2,104	1.85
13	April 1	763	2	855	3	1,791	2.09
14	April 8	703	1	638	2	1,266	1.98
15	April 15	4	#	465	2	619	1.33
	After data collection ³	†	†	249	1	†	†

† Not applicable.

Rounds to zero.

¹ Includes 730 reinterview cases; therefore, the total shown here exceeds the 27,205 extended interviews in the data files.

² Hours per completed interview equals the number of interviewer labor hours divided by the number of completed extended interviews.

³ Extended interviews completed after April 15 are those not completed at the close of data collection but determined to have sufficient information to be included in the data set following imputation of missing items. Thirty-two ECPP interviews, 79 ASPA interviews, and 138 AELL interviews are included in this total.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

By March 4 (the end of week nine), 42,317 Screeners, 87 percent of the total, had been completed. At that time, the number of cases identified as business or nonworking had reached 42,928, and 23,887 Screener cases were in an interim status, including 2,342 that had received one refusal. Also, 8,154 Screener cases were in final refusal status. (Some had been refiled and had received a third, and absolutely final, refusal.) Seventy-eight percent of the extended interviews (21,558 out of the 27,205 that were eventually completed) were completed at this time. Efforts in the last 5 weeks of data collection focused on working refiled final refusal, maximum call, and no answer Screener cases that had already fulfilled the standard calling protocol of two refusals or eight no contact attempts and completing extended interviews.

Some extended interviews were declared complete even though not all questions had been answered by the respondent. In order to be judged complete, respondents had to have answered questions in all the sections pertaining to the substantive topics of the surveys. Thirty-two ECPP interviews and 79 ASPA interviews were completed through the section on the child's health and disability, including all sections on participation in nonparental care/programs, and the items on parent/guardian household characteristics were set to missing and imputed. One hundred and thirty-eight AELL interviews were declared complete because respondents had answered all the participation questions and reached the section on background information.

Item Clarification Callbacks

There was very little need in the NHES:2001 to call back into households for data retrieval or clarification. Callbacks into households included 11 cases in which it was necessary to resolve questions about the number dialed and reached and to confirm the household membership. One case required a callback to resolve an issue associated with the respondent's winter home versus summer home, to determine whether the telephone number at which the respondent was interviewed was his household at the time of the survey.

In prior NHES surveys, households were called back if the respondent indicated that the telephone number automatically dialed by CATI was not his or her telephone number. In the NHES:2001, however, a question and comments screen was included so the interviewer could record the reason and provide more detailed information if available. Respondents in 11 households indicated that the number dialed by CATI was not theirs. In two cases the number was another in the household. In six cases, telephone numbers had been forwarded to another number. Three respondents reported that the sampled telephone number was not their number, and they were unable to provide an explanation; that is, they gave no indication that they recognized the sampled telephone number. There is evidence to suggest that these situations could be the result of secondary telephone numbers that are assigned by telephone companies and used for billing and accounting purposes only. The households are unaware that these secondary numbers exist.²³ These households may be sampled through this secondary number as well as the telephone numbers they believe they have been assigned. In order to properly account for their dual probability of selection, records for the case were set to indicate the household had another telephone number.

²³ See Marketing Systems Group (1999) for more information.

In approximately 860 interviews, an interviewer received the response “never heard of that person” when he or she called back into a household to administer an extended interview. Although some of these instances were covert refusals, some were caused by incorrect information having been recorded at the time the household was initially screened. Most of these households (87 percent or 747 cases) were called back to investigate the problem. Cases that occurred near the end of data collection were not called back and were finalized as enumeration errors by TRC supervisors. In 16 percent of the refiled interviews, the interviewer reached the respondent and was able to complete the interview. In 40 percent of the cases, the telephone number was identified as nonworking or nonresidential. In 12 percent of the cases, overt refusals were given. If those refusals were mild or firm, the cases were attempted again. As is standard practice, cases with hostile refusals were not called back but were assigned a final refusal code. In 8 percent of the cases, another final disposition code, such as maximum calls or language problem, was assigned. In the remaining 22 percent, it was determined that the person was enumerated incorrectly and was never a household member, and the case was given a final status code of enumeration error. These cases were treated the same as cases in which the sampled person was ineligible. In 171 cases, the Screener was cleaned out entirely and the case was refiled to attempt re-enumeration.

Quality Control Procedures

The initial steps to support quality control of data collection occurred prior to the start of the interviewing. These included careful specification and thorough testing of the CATI system by programming, project, data preparation, and TRC staff; cognitive research; a field test; and a comprehensive training program for data collection staff, all described earlier. In this section, quality control activities that occurred during data collection are described.

Quality Control Throughout the Interviewing Process

During data collection, prompt technical assistance was available for any hardware or software problems that were encountered. Also, specific efforts were focused on promoting excellence in interviewer-respondent interactions, including establishing rapport, securing respondent cooperation, administering interviews clearly, and responding to questions about the study. These efforts included monitoring interviewers as they conducted interviews, providing prompt feedback, individual coaching and group trainings, and holding information meetings to inform interviewers when project staff or TRC supervisors noticed the need for additional prompts or explanations for certain questions.

Triage

During all hours of TRC operation, interviewing was supported by one of 12 specially trained triage supervisors. The triage supervisor was called whenever a problem interfered with the ability to conduct CATI interviewing. At that time, he or she diagnosed the problem and contacted the appropriate support personnel who were contacted via home phones or beeper numbers. Speedy remedy for both hardware and software problems and decisions on project-specific issues were available during all interviewing hours.

Interviewer Monitoring

Westat systematically and rigorously monitored telephone interviewer performance throughout the field period. The purpose of monitoring was to reinforce good interviewing practice and to help build interviewing skills through coaching. Monitors, who included TRC supervisors and project staff, evaluated interviewers on their telephone manner and relationship with respondents, specifically on their level of skill in reading the questions, listening to the comments and questions of respondents and providing accurate probes and replies, correctly recording the information, and gaining respondent cooperation. Monitoring sheets were completed for each monitoring session, which was 15 minutes in length. (See appendix I for a sample monitoring sheet.) All of the TRCs can be monitored from terminals located at the Rockville TRC through Westat's telephone system, so project staff and Westat's most experienced supervisors were able to provide feedback to interviewers no matter where they were located. Monitoring hours were allocated in proportion to interviewer hour allocation; therefore, about 30 percent of the monitoring hours occurred during the daytime, 40 percent during the evenings, and 30 percent on weekends.

Monitoring rates varied across interviewers somewhat based upon experience, performance, and the results of previous monitoring sessions. Overall rates also varied across TRCs, consistent with the number of experienced versus inexperienced interviewers at the particular centers. Most of the TRCs approached the goal of having 10 percent of interviewer hours monitored, and one exceeded that goal. Twelve percent of interviewing hours were monitored at the Chestertown TRC, and 10 percent each were monitored at Toms River and Frederick. Nine percent of the interviewer hours were monitored at Sarasota, 8 percent at Chambersburg and Greeley, and 7 percent at Rockville. On average across all TRCs, 9 percent of interviewer hours were monitored. Table 4-17 presents the number of monitoring sheets and ratio of forms to interviewer air time for each week of the NHES:2001 data collection.

Table 4-17. Number of monitoring sheets and ratio of forms to interviewer air time, by week and cumulatively: NHES:2001

Week number	Week ending	Air time (hours) ¹	Total forms	Monitoring rate ²	Cumulative monitoring rate ²
1	January 7	1,007	613	10	10
2	January 14	3,444	1,530	7	8
3	January 21	2,896	1,685	10	9
4	January 28	2,888	1,916	11	9
5	February 4	2,938	1,510	9	9
6	February 11	3,017	1,815	10	9
7	February 18	2,519	1,486	10	9
8	February 25	1,922	1,301	11	10
9	March 4	1,741	1,055	10	10
10	March 11	1,554	876	9	10
11	March 18	1,559	772	8	10
12	March 25	1,520	569	6	9
13	April 1	1,416	453	5	9
14	April 8	955	246	4	9
15	April 15	432	105	4	9

¹ Air time is rounded to whole numbers.

² Monitoring rate is the ratio of forms multiplied by 0.25 (because monitoring was done in 0.25 hour increments) to air time.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

Each week, the TRC operations manager for the study reviewed the statistics on monitoring individual interviewers. If she identified interviewers in need of focused monitoring because of a low monitoring rate in a given week or because of other performance problems such as low productivity or cooperation, she directed TRC supervisors accordingly. Detailed monitoring reports were also provided to NCES on a weekly basis. They showed interviewer hours spent working cases, the total number of monitoring sheets, and the monitoring rate. (The monitoring rate is the number of monitoring sheets divided by 4, to reflect that monitoring was done in one-quarter hour increments, divided by the number of interviewing hours.) The report included weekly statistics and cumulative totals.

Standard Reports

In addition to monitoring statistics, the CATI management system produced weekly reports presenting unit response rates, refusal rates, and refusal conversion rates for each interviewer. These reports were used by TRC supervisors when they gave feedback to the interviewers and guided the supervisors in assigning interviewers to appropriate training. Copies of the reports were also sent to NCES weekly.

Coaching Sessions

During the first few weeks of data collection, TRC supervisors conducted coaching sessions with small groups of interviewers. These sessions included both new and experienced interviewers. Newer interviewers had by then experienced the challenges of interviewing in an RDD survey, and veteran interviewers suggested valuable strategies for meeting some of these challenges. In the coaching sessions, feedback from the monitoring was provided to the interviewers in a direct and positive way. This, in addition to feedback and suggestions given to individual interviewers by supervisors, helped to enhance the quality of interviewer-respondent interaction in the NHES:2001.

Interviewer Meetings

Interviewer meetings led by the TRC supervisors were held from time to time at the direction of the TRC operations manager or the project director. At these meetings, memos containing clarification of questionnaire items or contact procedures were distributed, and general news was circulated and discussed. For example, early in data collection, memos reviewing the proper way to handle range violations and to schedule appointments requested by respondents outside of normal interviewing hours were discussed. Correct probing for parents who did not respond with the child's average grade in school and careful articulation of children's activities for adult supervision were also reviewed. The meetings were scheduled so that all interviewers attended; this ensured that all interviewers received consistent information.

Online Help Screens

Interviewers had two reference sources for use when questions about the survey items arose. Question-by-question specifications were provided in the Interviewer's Manual given to each interviewer at training and reviewed periodically throughout the training sessions. Those specifications were also included in the CATI system. At a keystroke, an interviewer could access the online help screen for the question he or she was administering.

There were 610 CATI help screens in the NHES:2001; 126 of them (21 percent) were never accessed. Of those that were accessed, 317 (52 percent) were accessed 10 times or fewer, and 87 (14 percent) were accessed between 10 and 24 times. Eighty screens were accessed by interviewers 25 times or more, and they are shown in table 4-18. For six questions, the help function was accessed 200 or more

times. Three questions were in the ECPP and ASPA interview (common items), two in the AELL interview, and one household item was asked in all interviews. For another eight items, one in the Screener, three in the ECPP or ASPA interview, three in the AELL interview, and one household question, the help screen was accessed more than 100 times. Some of these questions were about unfamiliar issues or terms, for instance, questions about the Dependent Care Tax Credit (accessed 304 times), the Lifetime Learning and Hope Scholarship tax credits (accessed 659 times), and receipt of WIC/food stamps/Medicaid/CHIP (accessed 255 times). Other help screens were likely accessed in order for interviewers to clarify or confirm respondents' definitions of terms, for instance, the list of disabilities, (accessed 580 times) and questions about autism and ADHD (accessed 669 times). The question in the AELL interview about informal learning at work was accessed 280 times, suggesting some respondent confusion with this concept.

Table 4-18. Number of times CATI help screens were accessed, by item: ECPP-NHES:2001, ASPA-NHES:2001, and AELL-NHES:2001

CATI screen	Item	Number of times help accessed
Screener		
S1.....	Introduction	68
S7.....	Attending or enrolled in school	31
S8.....	Child is home schooled	25
S18.....	Adult took courses in past 12 months	182
ECPP/ASPA common items		
PA4.....	Hispanic origin	61
PT1.....	Developmental delay	61
PT5.....	Disabilities (other than infants)	580
PT6.....	Autism and ADHD	669
PT7.....	Disabilities (infants)	63
PT8.....	Receipt of services from school district/health agency/doctor or clinic/other	97
PT9.....	Services provided through IFSP or IEP	160
PU7/PV6.....	Mom's/Dad's highest grade/year of school completed	132
PU9/PV8.....	Mom/Dad worked last week for pay	29
PU12/PV11.....	Months Mom/Dad worked in past 12 months	43
PU16/PV15.....	Mom/Dad enrolled in school or job training	44
PU18/PV17.....	Child care needs affected Mom's/Dad's work schedule	85
PU20/PV19.....	Mom's/Dad's employer has dependent care account	35
PU24/PV23.....	Mom/Dad heard of Dependent Care Tax Credit	304
PU25/PV24.....	Mom/Dad used Dependent Care Tax Credit	32
PV26.....	Care from biological father	72
ECPP		
ED1.....	Receives care from relative	42
EG1.....	Receives center-based care	29
EG26.....	Center-based program provides health exams/sick child care	71
EH2.....	Any of child's care arrangements are Head Start	48
EH4.....	Ever attended Head Start	36
EH6.....	Other programs since September	25
EI1.....	Rating characteristics of care arrangements	42
EI5.....	Importance of characteristics in arrangement selection	42
EI6.....	Good choices for child care nearby	78
EJ1.....	Support for families of preschoolers	53
EK3.....	Family learning activities with preschoolers	71
ASPA		
SE3.....	Teachers/school contacted family about child's behavior problems	29
SF1.....	Receives care from relative	51
SH1.....	Receives center-based care	77
SH32.....	Rating aspects of center-based program	29

See notes at end of table.

Table 4-18. Number of times CATI help screens were accessed, by item: ECPP-NHES:2001, ASPA-NHES:2001, and AELL-NHES:2001—Continued

CATI screen	Item	Number of times help accessed
SI1	Participates in before- or after- school activities	60
SI2	Types of before- or after- school activities	131
SI3	Weekly participation in before- or after- school activities	54
SI9	Participation covers hours needed for adult supervision	97
SI12	Weekly hours in after school programs	25
SJ1	Self-care	92
SK4	Other programs since start of school year	43
SL5	Would choose nonparental care	33
SM2	Preferred after-school arrangement	71
SM4	Obstacle to program enrollment	30
SM7	Good choices for before-school care nearby	36
SM8	Good choices for after-school care nearby	33
SM9	Importance of characteristics in arrangement selection	59
AELL		
AA1	Highest grade or year of school completed	43
AA7	Self-employed in last 12 months	34
AD3	Enrolled in post-baccalaureate, masters, doctoral program	88
AD18	Semester/quarters enrolled in credential program	26
AD19	Courses taken in credential program	25
AD22	Technology methods used in credential program	60
AE1	Enrolled in voc/tech program	53
AF1	Apprenticeship program	83
AG1	Participation in formal courses	30
AG2	Other types of formal courses	53
AH2	Reasons for taking work-related course	36
AH6	Earning CEUs for work-related course	61
AH8	Technology methods used in work-related course	73
AI5	Earning CEUs for personal development course	38
AI7	Technology methods used in personal development course	40
AJ1	Informal learning methods	280
AK5	Hispanic origin	45
AK7	Long-term physical, mental, or emotional problem	74
AK16	Employer name and industry	34
AK22	Supervisory role at job	77
AK23	Certification for job	81
AK24	Certification to practice a trade/profession	102
AK25	Continuing education requirements	119
AK26	Currently member of labor union	41
AK32	Heard of Lifetime Learning/HOPE tax credits	659
AK33	Use of Lifetime Learning tax credit	103
AK34	Use of HOPE tax credit	46

See notes at end of table.

Table 4-18. Number of times CATI help screens were accessed, by item: ECPP-NHES:2001, ASPA-NHES:2001, and AELL-NHES:2001—Continued

CATI screen	Item	Number of times help accessed
Household		
PW4/AL4.....	Number of additional home use phones	28
PW10/AL10.....	Receipt of TANF/state welfare in past 3 years	113
PW11/AL11.....	Current receipt of TANF/state welfare	35
PW16/AL16.....	Receipt of WIC/Food/Medicaid/CHIP in last 12 months	255
PW17/AL17.....	Household income range	50

NOTE: Includes only those screens accessed 25 times or more.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Program Participation (ECP) Survey of the National Household Education Surveys Program (NHES), 2001; Before- and After-School Programs and Activities (ASPA) Survey of the NHES, 2001; and Adult Education and Lifelong Learning (AELL) Survey of the NHES, 2001.

Interview Administration Time

The time it takes respondents to complete survey interviews is thought to be an important factor in unit response rates and response quality.²⁴ A survey must balance the need to include all the analytic variables pertinent to its topic with the desire to avoid both response burden and response fatigue for survey respondents. Interview administration times for each of the interviews in the NHES:2001, the Screener, the ECPP interview, the ASPA interview, and the AELL interview, were automatically recorded on the CATI database. The data include the time it took to administer the entire completed interview as well as the time for specific interview paths and specific sections; therefore, the relative burden of various sections of the interviews can also be assessed.

The timings recorded by the CATI system for each interview are automatic and triggered by the accessing of certain CATI screens. If an interruption in the survey process occurs due to the respondent having to leave the phone for a few minutes, for instance, to answer the door, there is no way for the interviewer to record why the interview is taking longer than usual. Monitoring of the interviews during data collection revealed that these interruptions occasionally occur.

Screener Administration Time

Tables 4-19 through 4-23 show the administration times in minutes for the NHES:2001 Screener and three extended interviews. The administration times for completed Screeners categorized by

²⁴Bogen 1996 reviews various studies on this topic.

the sampling status of the extended interviews that were generated in the household show a relatively small respondent burden (table 4-19). Overall, the mean Screener administration time was 3.5 minutes. The average Screener administration time was 3.1 minutes in households in which no member was sampled for an extended interview, slightly less than half of the households contacted. The next lowest Screener administration time was in households in which only an adult was sampled for an AELL interview, 3.2 minutes. Households without children had a higher probability of selection for an AELL interview, which would bring the average administration time down for Screeners resulting in a person sampled for an AELL interview only. It took about one-half a minute longer to administer the Screener in households sampled for only ECPP interviews (3.7 minutes) and somewhat longer in households in which children were sampled for an ASPA interview (4.0). It should be kept in mind that up to two children could have been sampled in a household in which an ECPP or ASPA interview was generated, depending upon the ages of the children in the household. The highest Screener administration times were recorded in households in which members were sampled for all three extended interviews, 5.9 minutes. In these households, all members (not just children) would have been enumerated and questions identifying a parent respondent for the ECPP and ASPA interviews would have been administered.

Table 4-19. Mean, median, and quartile administration time of completed Screeners, by extended interview sampling status: NHES:2001

Completed Screeners by sampling status	Number	Interview length in minutes				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Overall	48,385	3.5	1.6	4.1	3.2	2.4
No one sampled	22,903	3.1	1.6	3.7	2.9	2.0
Sampled for ECPP interview	3,475	3.7	1.5	4.3	3.4	2.7
Sampled for ASPA interview.....	6,045	4.0	1.6	4.6	3.7	3.0
Sampled for ECPP and ASPA interviews.....	1,894	4.6	1.9	5.2	4.1	3.4
Sampled for AELL interview	10,740	3.2	1.3	3.6	2.9	2.4
Sampled for ASPA and AELL interviews	1,373	4.5	1.7	5.1	4.1	3.5
Sampled for ECPP and AELL interviews.....	1,729	4.7	1.6	5.4	4.4	3.7
Sampled for ECPP, ASPA, and AELL interviews.....	226	5.9	2.1	6.9	5.3	4.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), 2001.

ECPP Administration Time

The mean time to administer the ECPP survey was 20.0 minutes (table 4-20); however, the average timings varied by interview path. The infant path averaged 16.9 minutes for administration time; and the preschool path, 23.5 minutes. The most time-consuming segments²⁵ of the ECPP interview collected information about nonparental care arrangements, either relative care, nonrelative care, or center-based programs (4.1, 4.5, and 5.3 minutes, respectively, table 4-21). Eleven of the 18 segments in the ECPP interview took 2 minutes or less to administer.

Table 4-20. Mean, median, and quartile administration time of completed extended interviews, by interview type: ECPP-NHES:2001, ASPA-NHES:2001, and AELL-NHES:2001

Completed extended interviews	Number	Interview length in minutes				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Interview totals						
ECPP interview	6,749	20.0	8.4	24.9	19.3	14.0
ASPA interview	9,583	23.0	8.2	27.0	21.8	17.7
AELL interview	10,873	17.4	9.1	21.9	15.1	10.5
ECPP interview by path						
Infant	3,599	16.9	7.4	21.1	16.0	11.7
Preschool.....	3,150	23.5	8.1	27.8	22.7	18.1
ASPA interview by path						
Elementary/middle school.....	9,388	23.2	8.2	27.2	21.9	17.9
Home school	195	13.8	5.5	16.7	13.3	10.7
AELL interview by participation status						
Participants.....	6,103	22.5	8.8	26.8	20.5	16.1
Nonparticipants	4,770	10.8	3.9	12.4	10.1	8.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Program Participation (ECPP) Survey of the National Household Education Surveys Program (NHES), 2001; Before- and After-School Programs and Activities (ASPA) Survey of the NHES, 2001; and Adult Education and Lifelong Learning (AELL) Survey of the NHES, 2001.

It should also be noted that when more than one child was sampled from a household as subjects for ECPP or ASPA interviews, some data items were collected only once per household. Similarly, when a respondent to an ECPP or ASPA interview was also sampled for an AELL interview,

²⁵ A “segment” is a section of the interview.

some items about the respondent were asked only in the first extended interview. This reduces respondent burden but affects the administration times for the segments of the interviews that collect parent/respondent information and household information by slightly suppressing the mean time to complete interviews.

Table 4-21. Mean, median, and quartile administration time of completed interviews, by interview segment: ECPP-NHES:2001

ECPP interview segment	Number	Interview length in minutes				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Demographic characteristics (INTRO-PA10).....	6,749	1.9	1.0	2.2	1.7	1.3
Current school status (PB1-PB7).....	6,749	#	0.1	0.0	0.0	0.0
Early childhood care and programs						
Participation in any relative care arrangement (EDINTRO-ED4OV).....	6,749	0.7	0.5	0.9	0.6	0.5
Relative care arrangements (ED5-ED28).....	1,579	4.1	2.3	4.9	3.5	2.7
Participation in any nonrelative arrangements (EEINTRO-EE4OV).....	6,749	0.6	0.4	0.7	0.5	0.4
Nonrelative arrangements (EE5-EE32).....	1,126	4.5	1.8	5.1	4.2	3.5
Participation in any center-based programs (EGINTRO-EG4).....	6,749	0.5	0.4	0.6	0.5	0.3
Center-based programs (EG5-EG32).....	2,532	5.3	1.9	5.9	4.9	4.1
Program confirmation/continuity and (Early) Head Start (EH1-EH7).....	6,749	0.2	0.4	0.3	0.2	0.0
Past arrangements/programs (EH7-EH11).....	6,749	0.6	0.7	0.6	0.4	0.3
Perceptions of quality/factors in parental choice (EI1-EI6).....	6,749	3.0	1.7	3.9	3.1	1.8
Training and support for families of preschoolers (EJINTRO-EJ1).....	6,749	0.3	0.2	0.3	0.3	0.2
Home activities (EKINTRO-EK4).....	6,749	1.0	0.7	1.4	0.9	0.5
Emerging literacy and numeracy (ELINTRO-EL8) ...	4,421	1.3	0.4	1.5	1.2	1.1
Health and disability (PTINTRO-PT10).....	6,749	1.2	0.7	1.4	1.0	0.8
Mother items (PUINTRO-PU38).....	4,298	3.1	1.3	3.7	2.9	2.3
Father items (PVINTRO-PV27).....	3,463	2.1	0.9	2.3	1.9	1.5
Household characteristics (PWINTRO-PW18OV).....	6,749	2.3	0.8	2.6	2.1	1.8

Rounds to zero.

NOTE: Times of less than 0.1 are not reported. Timing is based on all cases that got into the segment of the interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Program Participation (ECPP) Survey of the National Household Education Surveys Program (NHES), 2001.

ASPA Administration Time

Table 4-20 presents the average administration time for the ASPA interview. At 23 minutes, it was the longest NHES:2001 survey. Table 4-22 shows mean administration times for each segment. In this survey, also, the segments in which information about the nonparental care arrangements was collected took the most time to administer. For relative care, the timing was 5.2 minutes; for nonrelative care, 5.3 minutes; and for center-based programs, 6.9 minutes. Twelve of the 21 segments took less than 2 minutes to administer.

Table 4-22. Mean, median, and quartile administration time of completed interviews, by interview segment: ASPA-NHES:2001

Interview segment	Number	Interview length in minutes				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Demographic characteristics (INTRO-PA10).....	9,583	2.2	1.1	2.6	2.0	1.6
Current school status (PB1-PB7).....	9,583	#	#	#	#	#
Home schooling (SC1-SC4).....	195	3.8	2.3	4.5	3.3	2.5
School characteristics (SD1-SD12).....	9,398	1.5	0.7	1.7	1.3	1.1
Student academic performance and behavior (SE1-SE7).....	9,398	1.1	0.5	1.2	0.9	0.7
Before- and after-school arrangements						
Participation in any relative care arrangement (SFINTRO-SF2).....	9,388	0.7	0.5	0.7	0.6	0.5
Relative care arrangements (SFI2-SF29).....	1,717	5.2	2.5	6.3	4.5	3.5
Participation in any nonrelative care arrangement (SGINTRO-SG2).....	9,388	0.4	0.3	0.4	0.4	0.3
Nonrelative care arrangements (SG3-SG29).....	624	5.3	2.8	6.0	4.6	3.6
Participation in any center-based program (SH1-SH2).....	9,388	0.5	0.4	0.6	0.4	0.4
Center-based programs(SH3-SH36).....	1,813	6.9	3.8	8.1	6.0	4.7
Before- and after-school activities						
(SIINTRO-SI14).....	9,388	1.7	1.5	2.7	1.3	0.4
Self-care (SJ1-SJ16).....	9,388	0.9	1.1	0.8	0.4	0.3
Program confirmation (SK1).....	5,022	0.4	0.7	0.3	0.3	0.2
Program continuity/past arrangements (SK2-SK9).....	9,388	0.7	0.8	0.9	0.5	0.3
Parental care (SL1-SL5).....	9,388	0.8	0.9	1.5	0.2	0.1
Perceptions of quality and factors in parental choice (SM1-SM9).....	9,388	2.4	1.6	3.3	2.4	0.9
Health and disability (PTINTRO-PT10).....	9,583	1.0	0.7	1.2	0.7	0.6

See notes at end of table.

Table 4-22. Mean, median, and quartile administration time of completed interviews, by interview segment: ASPA-NHES:2001—Continued

Interview segment	Number	Interview length in minutes				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Mother items (PUINTRO-PU38).....	8,171	3.2	1.3	3.8	3.0	2.5
Father items (PVINTRO-PV27)	6,311	2.0	0.9	2.3	1.9	1.5
Household characteristics (PWINTRO-PW18OV).....	9,583	2.3	0.8	2.6	2.1	1.8

Rounds to zero.

NOTE: Times of less than 0.1 are not reported. Based on all cases that got into the segment of the interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities (ASPA) Survey of the National Household Education Surveys Program (NHES), 2001.

AELL Administration Time

Overall, the Adult Education interview took 17.4 minutes to administer (table 4-20). Table 4-23 shows that the most time-consuming segments were those containing questions on college or university degree programs (6.1), vocational or technical degree programs (6.0 minutes), and work-related courses (7.5 minutes). Most of the other segments, 10 out of the 16, took less than 2 minutes to administer.

Table 4-23. Mean, median, and quartile administration time of completed interviews, by interview segment: AELL-NHES:2001

Interview segment	Number	Interview length in minutes ¹				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Initial background (INTRO1-AA11).....	10,873	1.7	0.9	1.9	1.5	1.3
English as a second language (INTRO3-AB24) ...	1,645	1.3	2.0	0.9	0.7	0.5
Basic skills and GED preparation (AC1-AC22) ...	2,067	1.2	1.8	0.9	0.6	0.5
Credential programs:						
Participation in college or university degree programs (AD1-AD3)	10,873	0.3	0.5	0.3	0.2	0.2
College or university degree programs (AD4-AD33)	1,208	6.1	2.7	7.0	5.4	4.4
Participation in vocational or technical degree programs (AE1-AE3)	10,873	0.2	0.3	0.2	0.1	0.1

See notes at end of table.

Table 4-23. Mean, median, and quartile administration time of completed interviews, by interview segment: AELL-NHES:2001-Continued

Interview segment	Number	Interview length in minutes ¹				
		Mean	Standard deviation	Quartiles		
				75th percentile	Median	25th percentile
Vocational or technical degree programs (AE4–AE31)	270	6.0	2.5	7.2	5.5	4.4
Apprenticeship programs (AF1–AF9)	10,873	0.2	0.5	0.2	0.1	0.1
Participation in formal courses (AG1–AG7)	10,873	2.6	2.5	3.5	1.7	0.8
Work-related courses (INTRO4–AH20)	3,785	7.5	4.3	10.2	6.2	4.0
Personal interest/development courses (INTRO5–AI16)	2,695	3.2	1.6	4.0	2.8	2.1
Work –related informal activities (AJ1–AJ2OV3)	10,873	1.5	0.8	1.7	1.3	1.0
Remaining background						
Demographics (AK1–AK10)	10,873	1.2	0.7	1.3	1.0	0.8
Employment characteristics (AK11–AK24OV)	10,873	2.7	1.6	3.5	2.7	1.4
Additional information (AK25–AK34)	10,873	0.8	0.5	0.9	0.7	0.6
Household characteristics (HHINTRO-AL17OV2)	10,016	1.6	0.8	1.9	1.5	1.2

¹ Based on all cases that got into the segment of the interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Education and Lifelong Learning (AELL) Survey of the National Household Education Surveys Program (NHES), 2001.

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 both during administration of the interview and after completion of the interview, when updating processes were performed by data preparation staff. The latter process can potentially introduce errors in other items. Therefore, extensive *post* data collection data editing procedures were conducted. These procedures included checking data alignment, confirming that data were within the defined range of values for each item, performing logic, integrity 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.

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 permitted 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 in the Data Dictionary and applied to these items. Definitions of hard and soft ranges were reviewed after the field tests. A few (e.g., transit time to before- and after-school arrangements and cost of arrangements) found to be overly restrictive were modified prior to the start of data collection. See appendix J for the range and logic edit specifications.

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 preschool-aged child attended a center-based 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*. The interviewer, even with confirmation, could not exceed hard ranges. For example, the hard range of possible values for the number of adults in a child’s center-based program room or group was 1 to 10. It is extremely rare that a single center-based room or group would contain more than 10 adults. If the respondent reiterated that more than 10 adults were present, the interviewer recorded a response of “don’t know” (shift-8) to permit the interview to continue and then

recorded the out-of-range response in comments. All comments and problem sheets were reviewed by data preparation staff who had the ability to override hard ranges to input the value.

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 difference 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 system 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 a screen until he/she entered a response that met the consistency edit criteria. Questions in which a number and a unit were collected were programmed using until statements that required an entry within the hard range for each unit before the screen could be exited. For example, if an ECPP respondent verified that the cost of relative care to the household was really \$11 per hour, the until statement edit did not permit entry of such an amount and time unit. The interviewer entered “don’t know” and recorded the out-of-range response in comments to continue with the interview. Comments were reviewed and updates posted to the data after the interview was complete.

After data collection and editing by data preparation staff, the logic edits were rerun for all completed cases as part of a batch program. Any cases that violated the batch edits were written to an error report that was reviewed by data preparation staff, and corrective action was taken. These batch edits were also programmed in SAS and were run on the post-imputation data to verify that item imputation was consistent with the range and logic guidelines.

Batch Data Integrity Edits

Batch data integrity edits were run after interview administration was complete. They checked complicated skip patterns and consistency among data items copied from one interview to another. These 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 J.

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 process.

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 that should have existed did exist, and those that should not have existed did not exist) by checking these variable values and the existence/nonexistence of concomitant 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 J. Appendix J also contains the NHES:2001 database design diagram that displays the database hierarchy graphically. It may be helpful to refer to the diagram when reviewing the structural edits.

Frequency and Cross-Tabulation Review

The frequencies of responses to all data items (both individually and in conjunction with related data items) were reviewed during and after data collection 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 difference 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.” Not ascertained responses were later imputed. (Imputation is discussed in chapter 6.)

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 response categories. If so, the recoding was done. Review of the open-ended text responses revealed questions in the ECPP and ASPA interviews that had text items recorded frequently enough to warrant the creation of new response categories. These included the unit for cost of care items, the main reason for choosing parental care, services for disabilities, the method parent is using to look for work, how the respondent learned about the nonrelative arrangement or center-based program (ECPP), activities done within care arrangements (ASPA), and obstacles to enrolling the child in before- or after-school programs (ASPA). Newly added response categories are indicated by italics on the questionnaires in appendix A.

Problem Areas and Suggestions for Improvements in Future Surveys

The NHES:2001 survey instruments (with the exception of the ASPA interview) were largely a remeasure of key indicators from past NHES collections. Therefore, this NHES collection had the benefit of the resolution of problems identified in the past. Still, there were some problem areas that could be considered for improvement in future surveys. These include enumeration errors, issues with household membership of relative care providers, and collection of current arrangements after arrangement confirmation.

Enumeration Errors

Inaccuracies in the enumeration of household members in the Screener is a recurring difficulty in RDD household surveys and occasionally causes problems for correctly sampling individuals for extended interviews and/or administering extended interviews on later callbacks into the household. In the NHES:2001 Screener, full enumeration of members was only done in households selected for an AELL interview. Complete household composition and the relationship of each member to the sampled child was collected early in the first ECPP or ASPA interview administered. At that point, the information gathered in the Screener was verified with the extended interview respondent, and additional household members were enumerated, if necessary. When the household was called back, sometimes persons listed

in the Screener enumeration, perhaps even the sampled child or adult or the person previously identified as the appropriate person to respond to an interview about a child, were claimed not to be members of the household. The NHES:2001 CATI employed contact procedures that were developed in the NHES:1999 to determine the household situation and take corrective action. In the case of a sampled child or adult, the interviewer ascertained whether the person in question had been a member of the household on the date the household was screened. An appropriate final status code that indicated household membership on the screening date was assigned to the case. If the child or adult had not been a household member on the screening date or was declared to be unknown, the case was coded a problem and the household was called back in an effort to resolve the problem. In cases in which the designated respondent to the ECPP or ASPA interview was not a household member, but the sampled child was, a new respondent in the household was identified. In the case of other persons claimed not to be household members, the new information was deemed to be correct, and a flag was set to mark the person-level record for deletion so it was not included in household counters or the delivery files.

These difficulties are inevitable, and no change to the enumeration procedure used in the NHES:2001 is recommended. The standard enumeration includes a verification question and interviewers are carefully trained on enumeration procedures. Fully enumerating only a portion of households in the Screener also reduces screening burden and likely leads to a higher Screener unit response rate. Furthermore, the callback contact procedures described above automate many of the processes for identifying nonhousehold members and selecting new respondents to child interviews.

Household Membership of Relative Care Providers

If relative care was provided in the child's home, the ECPP or ASPA respondent was asked if the relative care provider lived in the household. If the response was yes, the household composition database records were checked to verify that a household member with that relationship to the child was enumerated. If no such relative was enumerated, a warning message was displayed and the interviewer was instructed to collect the relative's name, age, and sex in an online comment. Data preparation staff reviewed the comments and added the household member after the interview was completed (incrementing household composition counters as appropriate). It is possible in some of these cases that the respondent may have interpreted the word "household" as "family" and that relatives were added as household members when they did not actually reside in the household. There is no way to anticipate respondent interpretation; continuing with the current procedure is recommended. The interviewer can record any special circumstances in the online comment, and data preparation staff can determine if adding a household member is truly warranted after interview completion.

Collection of Current Arrangements After Arrangement Confirmation

The arrangement confirmation screens in the ECPP and ASPA interviews were designed to display all weekly care arrangements collected in earlier sections of the interview and to permit addition, modification and deletion of current, regular care arrangements. Unfortunately, respondents reported current, regular care arrangements in later sections, particularly in those questions pertaining to arrangements since September/the school year started (PCOTHER) and what the child was doing while the mother was at work or school (MOMCARE and MOMCARWH).

During data collection, it was decided that these additional arrangements (approximately 250 for ECPP and 250 for ASPA) would not be added to the arrangement segments for various reasons. First, there was concern that respondents may have been confused by the care coverage questions (“What is (CHILD) usually doing or how is (he/she) usually cared for during most of the hours when (you/(CHILD’S) mother/stepmother/foster mother) (are/is) at (work) (or) (school or training)?”). Second, some of these arrangements may have taken place on weekends (when a mother was working), and these weekend arrangement hours would then be mixed with arrangement hours that were strictly limited to before- and after-school care (for ASPA). Third, over 100 variables would have been potentially affected by the addition of these new arrangement records and would have required imputation. Such extensive imputation for a single case was methodologically suspect. Fourth, each case would have to be reviewed on an individual basis, a very labor- and time-intensive project. In the end, it was decided that the addition of such arrangements would not represent a substantial increase in the number of arrangements within the various types and was not warranted. The data based on these items is on the data file and can be used as an analyst might choose. If these questions are retained in future administrations, we recommend the same approach to handling new arrangements. In addition, the wording and structure of the questions should be examined to increase their clarity for respondents.

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