CHAPTER 2: THE NLSY79 CHILD SURVEYS

The NLSY79 Child data set contains information about the family background, experiences, and development of the biological children of the female respondents. In addition to the mother's longitudinal history from the NLSY79, the Child surveys provide assessments of each child as well as demographic and other developmental information collected from either the mother or child. This profile includes not only the battery of cognitive and socio-emotional assessments administered since the 1986 survey but detailed reports on the birth history, health, school experiences, family background, attitudes, and quality of the home environment of the sample children**.**

This chapter discusses the types of data found in the child files and provides information on the data collection methods that have been used in the surveys. At the end of this guide is a detailed listing of the topics covered in each of the child survey rounds (see Appendix H: Child Survey Content, 1986-2002).

In order to use the child survey information effectively it is helpful to understand the instrumentation and methods that have been used in the field to collect the data.

Instrumentation

Multiple field instruments are used to collect information from and about the NLSY79 children. These instruments are used to assess the children and to elicit reports about their health, aptitudes, achievement, attitudes, and behavior. The Child Supplement (CS) in its current format is a CAPI questionnaire administered by the interviewer. It is used by the interviewer to verify age and grade, measure the child's height and weight, complete the interviewer-administered assessments, and to get reports from school agers about their schoolwork, work for pay and religion. A Mother Supplement (MS), given to the mother for each child, contains mother-report assessments and questions about health, school, and family background. A Child Self-Administered Supplement (CSAS), introduced in the 1988 survey, contains questions about family interactions, attitudes, and sensitive behaviors for children 10 and older.

Prior Rounds. The Child survey instruments were all in paper format until 1994 when the Child Supplement was converted to Computer Assisted Personal Interview (CAPI). In 2000 all items in the Mother Supplement for children under age four were moved to the Child CAPI Supplement. Some sections on school and family that had previously been in the MS were transferred to the Child Supplement for CAPI administration. The Child Self-Administered Supplement used in 2000 was still the confidential paper self-report aimed at children ages 10-14. The types of questionnaires and their general content for 1986-2000 are outlined in Table 2.1 and Table 2.2 of the 2000 Child-YA Data Users Guide.

Current Survey Instruments. In the 2002 survey round, each child interview involved the administration of one Child Supplement, one Mother Supplement and, for children age 10-14, a Child Self-Administered Supplement. In the 2002 survey, the Child Supplement was essentially reserved only for items that involved interviewer contact with the child. The 2002 Child Supplement focused on the interviewer-administered assessments and questions for school agers on classroom activities, teacher practices, homework, work for pay, and religion. In 2002 all items that had been traditionally addressed to the mother, such as schooling, health, and family background were moved into the Mother Supplement, which became a

CAPI instrument for the first time. In 2002 the Child-Self-Administered Supplement (CSAS) was converted from paper to CAPI and given to children who were age 10-14 by December 31, 2002. The CSAS was made available both on laptop and on hand-held PDA (Personal Data Assistant). Table 2.1 gives a detailed list of the contents of the three questionnaires that were used in the 2002 survey.

Table 2.1. NLSY79 Child Surveys: Instrument Content in 2002

Child Supplement (CS)	Child Self-Administered Supplement (CSAS)
Preliminaries – mother report:	Child Self-Report for children 10-14 years:
Age & DOB check/verification	Parent-Child Joint Activities
Enrollment & current grade	Household Task Expectations
Child Height & Weight	Rules for Child Behavior
Interviewer-Administered Assessments	Contact with father
What I Am Like (SPPC): 12-14 years	Parent-Child Decision-Making
Memory for Digit Span: 7-11 years	Parent-Child Interaction
PIAT Math: 5-14 years	Parental Consensus
PIAT Reading: 5-14 years	Child "Moods"/Depression
PPVT: 4-5, 10-11 years	School Satisfaction
Child Schooling: 8-14 yrs child report	Weapons at School
Homework	After-School Activities
Classroom activities/teacher practices	Educational Expectations
Parent assistance with homework/school plans	Club Membership
Work for Pay & Religion	Attitudes on Gender Roles
Interviewer Evaluation of Testing Conditions	Summer Activities
Observations of the Home Environment	Neighborhood Safety
Interviewer Remarks	TV Viewing
Mother Supplement (MS)	Anti-Social Activities
Child Background	Religious attendance
School enrollment; Head Start; parent involvement	Friendship Network
Child religion	Peer Pressure
Health	Risk-Taking Behavior
General health status; limiting conditions	Alcohol, Cigarette, & Drug Use
Accidents, injuries, illnesses; hospitalizations	Dating
Menarche & handedness	Marriage & Childbearing Expectations
Insurance coverage	Sex Education; Knowledge
Mother Report Assessments:	Time Away from Parents
The HOME	Computer Access/Training
How My Child Usually Acts (Temperament): 2-6 yrs	Computer Activities
Motor & Social Development: 2-3 yrs	Interviewer Remarks
School & Family (CASI): 5-14 yrs	
School progress; School ratings	
Educational expectations for child	
Child social relationships	
Behavior Problems Index (CASI): 4-14 yrs	
Child Mental Health: 0-14 (CASI 4-14 yrs)	
Interviewer Remarks	

The Child data collection instruments have undergone changes, some of which are documented in this and other users guides from prior rounds as well as in the *NLSY79 Child Handbook: 1986-1990* (Baker et al., 1993). Most of the primary variables found in the child data set are derived directly from one or more survey instruments, e.g., questionnaires or other interview forms. Even the constructed variables on the Child file that are not based directly on the Child assessments (e.g., pre- and postnatal care, child care, or maternal employment) are derived from information reported by the mothers during their own main NLSY79 Youth interviews. Users are urged to examine the NLSY79 Child data collection instruments and relevant main NLSY79 Youth questionnaires in conjunction with the other documentation that accompanies the data files. On-line documentation for these questionnaires is discussed in Chapter 5. Details on the content of each questionnaire and the mode of administration used in 2002 are discussed in the following section.

Mother Supplement, 2002. The Mother Supplement (MS), formerly a paper booklet, is a CAPI instrument administered to the mother in 2002. Table 2.2 describes the content of the MS in 2002 and the age at which each child was eligible for a particular section.

Table 2.2. Mother Supplement 2002 – Administration Pattern by Age of Child

	Verify Age & DOB	Background	Health	The HOME	How My Child Acts	Motor & Social Development	School & Family	Behavior Problems	Child Mental Health	Intervr Remarks
Age	0-14 yrs	3-14 yrs	0-14 yrs	0-14 yrs	2 yrs* - 6 yrs	2 yrs* - 3 yrs	5-14 yrs	4-14 yrs	0-14 yrs	0-14 yrs
<1	FI		FI	FI					FI	FI Only
1	FI		FI	FI					FI	FI Only
2	FI		FI	FI	FI	FI			FI	FI Only
3	FI	FI	FI	FI	FI	FI			FI	FI Only
4	FI	FI	FI	FI	FI			CASI	CASI	FI Only
5	FI	FI	FI	FI	FI		CASI	CASI	CASI	FI Only
6	FI	FI	FI	FI	FI		CASI	CASI	CASI	FI Only
7	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
8	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
9	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
10	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
11	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
12	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
13	FI	FI	FI	FI			CASI	CASI	CASI	FI Only
14	FI	FI	FI	FI			CASI	CASI	CASI	FI Only

* Children born before mother's 2000 interview date. If mother was not interviewed in 2000, then children born before 1/01/2000.

FI administered CASI FI Only

The current questionnaire begins with an introduction to obtain information about each child's schooling, religious attendance, and health. The interviewer asks about the child's home environment and temperament and then turns the laptop over to the mother so she can complete a CASI section on her child's school progress, behavior problems, and mental health. Designed to be completed by the mother or guardian for each child, the Mother Supplement contains the following sections:

Preliminaries – short introduction in which the interviewer verifies the name and age of the child to be interviewed and the mode in which the questionnaire will be administered (in-person or telephone).

Child Background – questions on school attendance, Head Start, teacher behavior and classroom activities, parental involvement in school, child's religious attendance, the importance of religion, and a confidential series on the child's progress in school and ratings of school quality.

Child Health – mother reports on the child's general health status, accidents and injuries, illnesses, menses update, handedness, insurance coverage, mental health.

Mother report assessments - The HOME; Behavior Problems Index (children 4-14); and Temperament or "How My Child Acts" (children age 4 to 6); Motor & Social Development.

CASI section – mother reports on child's school progress, educational expectations and social relationships, and mental health; provides ratings of school effectiveness.

Interviewer Remarks – Interviewer indicates which, if any, questions caused problems and rates the mother's attitude about using the CASI section.

The flowchart in Appendix G depicts the general content and pathways of the Mother Supplement in the current survey year.

Changes to the Mother Supplement. From 1986-2000 the Mother Supplement (MS) was a paper booklet, self-administered by the mother. In 2002, the paper-and-pencil Mother Supplement was converted to a CAPI instrument. Questions about child school attendance and Head Start that were previously addressed to the mother at the beginning of the Child Supplement (CS) were moved into the Child Background section of the 2002 Mother Supplement. The MS Child Health section now contains the series about limiting conditions, accidents, and injuries that used to be in the Child Supplement. School and family background questions, which were once in the paper Mother Supplement and then in the Child CAPI Supplement, are in the CAPI Mother Supplement.

Mother-report assessments, some of which were in the Child CAPI Supplement for children under age 4 in 2000, were all moved to the Mother Supplement. Three of these mother-report assessments are now administered by the interviewer:

1. The HOME
2. How My Child Usually Acts

3. Motor and Social Development

While most of the Mother Supplement questions were asked by the interviewer, mothers use CASI to self-administer a series of sensitive questions about each child's school progress, school rating, class standing, and educational expectations. They also report on each child's problem behaviors by completing the Behavior Problems Index (BPI) in the CASI section. Some confidential health questions, previously in the CS, are now self-administered in a brief MS section called Mental Health when reporting about children 4 and older.

Child CAPI Supplement, 2002. The Child CAPI Supplement (CS) is used by the interviewer to: (1) verify age and grade of the child, (2) weigh and measure the child, (3) give children the interviewer-administered cognitive and socio-emotional assessments, (4) obtain information about the child's current school experience, (5) evaluate the testing conditions, and (6) record observations of the child's home environment. Table 2.3 displays the contents of the CS in 2002 and the age at which a child was eligible for each section.

Table 2.3. Child Supplement 2002 – Administration Pattern by Age of Child

Section Name:	Preliminaries – Age Check	Consent, Grade	Child Hgt & Wgt	What I Am Like (SPPC)	Digit Span	PIATs	PPVT	Child Schooling	Work for Pay & Religion	Intv Eval of Testing Conditions	HOME Observations	Interviewer Remarks
Age Range	0-14 yrs	4-14 yrs	0-14 yrs	12-14 yrs	7-11 yrs	5-14 yrs	4-5, 10-11 yrs	8-14 yrs	10-14 yrs*	4-14 yrs	0-14 yrs	0-14 yrs
<1	FI administered		FI administered								FI only	FI only
1	FI administered		FI administered								FI only	FI only
2	FI administered		FI administered								FI only	FI only
3	FI administered		FI administered								FI only	FI only
4	FI administered	FI administered	FI administered				FI administered			FI only	FI only	FI only
5	FI administered	FI administered	FI administered			FI administered	FI administered			FI only	FI only	FI only
6	FI administered	FI administered	FI administered			FI administered				FI only	FI only	FI only
7	FI administered	FI administered	FI administered		FI administered	FI administered				FI only	FI only	FI only
8	FI administered	FI administered	FI administered		FI administered	FI administered		FI administered		FI only	FI only	FI only
9	FI administered	FI administered	FI administered		FI administered	FI administered		FI administered		FI only	FI only	FI only
10	FI administered	FI administered	FI administered		FI administered	FI administered	FI administered	FI administered	FI administered	FI only	FI only	FI only
11	FI administered	FI administered	FI administered		FI administered	FI administered	FI administered	FI administered	FI administered	FI only	FI only	FI only
12	FI administered	FI administered	FI administered	FI administered		FI administered		FI administered	FI administered	FI only	FI only	FI only
13	FI administered	FI administered	FI administered	FI administered		FI administered		FI administered	FI administered	FI only	FI only	FI only
14	FI administered	FI administered	FI administered	FI administered		FI administered		FI administered	FI administered	FI only	FI only	FI only

* Children ages 10-14 self-administer the CSAS on the laptop or PDA.

FI administered

FI only

The Child Supplement begins with questions addressed to the mother on the child's current grade, enrollment status, preschool experience and recent health history. In the 2002 survey round, the interviewer administers the following sections to the mother before starting any child assessments:

> Preliminaries – short introduction in which the interviewer verifies the name and age of the child to be interviewed and the mode in which the questionnaire will be administered (in-person or telephone).
>
> Child height and weight – either mother report or interviewer measurement.

The interviewer then administers the following assessments directly to children age 4 and older:

> Interviewer-administered Child Assessments – What I am Like (SPPC) for children age 12-14; Memory for Digit Span for children 7-11; PIAT Math and Reading subtests for children 5 and older; and the PPVT-R administered to children 4-5, and 10-11.

All interviewer-administered assessments are completed using CAPI software, a process that was introduced into the surveys in 1994. The software presents the interviewer with on-screen facsimiles of the assessment items, stores each response that is entered, and then automatically scores the test. Original materials prepared by the test designers for PIAT Math and Reading Recognition are presented to the child. The PIAT Reading Comprehension and the PPVT are presented to the child on-screen.

After the interviewer-administered assessments are completed, the following section is administered to children of school age:

> Child Schooling – questions addressed to school age children about reading, homework, classroom activities, and their perception of parental involvement in school.

The Child Supplement concludes with interviewer reports on the child's testing environment and a checklist of conditions observed in the home.

> Interviewer Evaluation of Testing – interviewer reports used to gauge the attitude of the child toward testing, the child's general physical condition, and whether there were any events that interfered with assessment or caused premature termination of the session.
>
> Interviewer Observations of the Home Environment – interviewer perceptions of the child-mother interaction and the nature of the child's physical surroundings. Most of the items that comprise the HOME scales are in the mother-report section assessment section of the Mother Supplement. However, selected interviewer observations of the home environment (found in the CS) are used in scoring the HOME assessment.

The 2002 Child CAPI Supplement flowchart in Appendix G-2 illustrates the sequence in which a case proceeds through this questionnaire according to the age of the child.

Changes to the Child Supplement (CS). In 2002 virtually all the child background questions that appeared in previous survey rounds in the beginning of the CS (directed to the mother) were moved to the Mother Supplement. The Child Supplement is still the questionnaire in which the interviewer administers child assessments directly to the child. It contains questions about school, directed to older kids, and a section where the interviewer can record any special conditions that might affect testing. It is still the instrument in which the interviewer records observations about the child's home environment.

> Changes to the Assessments: Two assessment easels have been eliminated. Children view the PIAT Reading Comprehension subtest and the PPVT on-screen while the interviewer still uses the assessment materials in the standard manner. All assessments, including the PPVT, were administered only in English in 2002. Interviewers were instructed to make comments in the assessments or interviewer remarks section if other languages were used in the interview to facilitate understanding.
>
> Child Schooling raised to age 8: Questions about the child's most recent classroom experiences and homework were directed to children 8 and older.
>
> Work for pay & Religion moved from CSAS: Questions about jobs and religious affiliation that were in the CSAS for children 10-14 in prior rounds were moved to the Child Supplement and administered by the interviewer.

Child Self-Administered Supplement (CSAS) 2002. The Child Self-Administered Supplement (CSAS), introduced in 1988, has been used to collect information from children ages 10 years and over on a wide range of topics including child-parent interactions, family decision-making, attitudes toward school, extra-curricular activities, work for pay, peer relationships, dating activities, attendance at religious services, antisocial behavior, and substance use.

In booklet form until 2002, this self-report questionnaire is now administered on laptop and on PDA by children who are 10 to 14 years old by the end of the survey year. The CSAS collects information on: (1) child-parent interactions, (2) family decision-making, (3) attitudes toward school, (4) after school and extra-curricular activities, (5) jobs and employment, (6) peer relationships and dating activities, (7) religious identification and attendance at religious services, (8) birth and marriage expectations, (9) sex education, (10) participation in various delinquent activities, (11) use of cigarettes, alcohol, and other illegal substances, (12) age at initiation of sexual activity (for those 13 or older), (13) risk taking and depression and (14) computer use. Once children reach the Young Adult survey they are asked questions about sexual activity in greater detail. See Table 2.2 for details on the current content of the CSAS.

Changes in the CSAS. The content of this supplement has gradually expanded since 1988, the first survey year that it was used. In 1992, the following items and topics were added to the Child Self-Administered Supplement: (1) dates of birth and usual residence of any children born to the NLSY79 children age 13 or older, (2) expanded categories on the decision-making questions, (3) parent interaction, (4) parent-child closeness, (5) depression, (6) peer pressure, (7) school rating, and (8) neighborhood safety.

In 1994, with the introduction of the Young Adult survey, the CSAS was limited to children ages 10-14. In that same year, a sequence of questions was added regarding the nature of parent interactions on issues relating to the child. A seven-item series was added that probes into the child's ideas about appropriate roles for boys and girls in the family, with peers, and in school. Also included for the first time in 1994 was a sequence on risk-taking. The substance use series was substantially augmented by the addition of in-depth questions about current use of cigarettes, alcohol, marijuana, and a variety of other drugs. A series of questions about computer use and programming knowledge was also introduced in 1994. The only significant change since 1996 was an expansion, in 1998, of the sequence of questions relating to substance use.

A CSAS confidential report form was used from 1988 to 2000 to collect information on early sexual activity for children 13 and older. The following questions, which were asked in the 1988-1998 surveys of children ages 13 and 14, were deleted from the 2002 survey:

CSASCC2A	Have you ever had sexual intercourse? ("had sex", "made it", etc.)
CSASCC2A	What grade were you in when you first had sexual intercourse?
CSASCC2B	How old were you when you first had sexual intercourse?

In 2000 the questions on the Confidential Card about live births were eliminated since this information is now collected, as the children become young adults.

In 2002 the Child Self-Administered Supplement was available for the first time on a hand-held personal data assistant (PDA) and on laptop. Children were encouraged to complete the CSAS on PDA while the interviewer continued other parts of the interview either with the mother or siblings on the laptop. If only one child age 10-14 was in the household or the laptop was not being used, that child could complete the CSAS on laptop as soon as the assessments were completed. Since it was necessary to determine ahead of time which children would take the CSAS, all children who might turn 10 during the field period were identified as eligible for the CSAS. This means that some children who were age 9 at the time of the interview, but who would turn 10 by the end of the year, were eligible to start the CSAS. They completed a short mini series on the PDA. Starting in 2002, questions about early sexual activity are no longer administered to children under age 15. A question was added in 2002 on the extent of the child's previous experience using any type of hand-held digital device.

Data Collection

PAPI and CAPI. The NLSY79 child interviews were conducted using paper and pencil personal interviewing (PAPI) from 1986-1992. Starting in 1994 the Child Supplement and the entire Young Adult interview were administered using computer-assisted personal interviewing (CAPI). The CAPI questionnaire, administered on laptop computers, allows interviewers to enter responses directly into the computer during the interviews. This computerized mode offers advantages in terms of timeliness of data availability, improved data quality, and the extent to which an interview can be tailored to the particular respondent. In the case of the child survey, the CAPI mode allows for computerized scoring of the assessments and machine calculation of child age. CAPI also enables the interview to utilize

pre-loaded information on the child's eligibility for various questions, including menses, and feeds current information from the main Youth interview about the mother and the status of the father in the household. In 2002 the Mother Supplement was converted to CAPI and in 2002 the Child Self-Administered Supplement was completed by children on hand-held PDA or on laptop.

Multiple Modes. Interviews with the NLSY79 children involve mother reports, child reports, interviewer observations, and interviewer administration of assessments according to strict test protocol. The Child interviewers are typically conducted in the mother respondent's home by experienced, specially trained field staff. Reports are obtained from the children and their mothers and by interviewers trained to directly assess each child and to provide evaluations of the home environment. Child interviews through 1992 were conducted primarily in person using paper and pencil. Beginning in 1994, the assessments given directly to the child were administered using computer-assisted personal interviewing (CAPI). In the 2000 Child survey 300 cases were completed by telephone interviews with mothers for children under age 4 who were not eligible for interviewer-administered assessments and could be completed without an in-person visit. In 2002, telephone was also used to complete parts of the interview that did not involve interviewer-administered assessments. Also in 2002, a hand-held Personal Data Assistant (PDA) was introduced for use in administering the Child Self-Administered Supplement. Details on each of the three major types of report are listed below:

> **Mother Report**. The mother completes the HOME for each child (regardless of age) and the following assessments for each age-eligible child: Temperament (How My Child Acts), and Behavior Problems (BPI). She answers questions posed by the interviewer on Child Background and Family and School and completes a confidential, self-report section on health and behavior problems.
>
> **Interviewer Administered**. Digit Span, SPPC (Self Perception Profile for Children), the PIAT achievement subtests, and the PPVT are administered directly to age-eligible children by the interviewer. School age children (some with help from their mothers) answer questions posed by the interviewer about their current school and classroom. Slightly older children answer questions about and work and religion. The interviewer completes a series of observations about the home environment that are tailored for each child age group.
>
> **Child Self-Report**. In 2002 the Child Self Administered Supplement, which had been a paper booklet, was converted for administration on laptop and on a hand-held personal data assistant (PDA). The instrument for both modes of administration have the same content. The laptop/PDA version of the CSAS allowed the child to enter answers directly while the interviewer completed other tasks or interviewed other members of the household. The PDA required the child to read the question on a small screen and enter an answer choice by pressing a stylus on the screen.

Field Period. The field period of the Child data collection generally coincides with the survey dates of the main NLSY79 interview of each mother. However the child instruments are not always fielded on a single date. Fielding typically occurs over a period of about six months from late May through November. In the 2000 survey round a very small number of

cases were actually completed in the year 2001. Information on fielding dates specific to each CAPI round can be found in the year-specific CHILD SUPPLEMENT areas of interest.

Child Face Sheet. This interviewer information sheet, used as a paper aid during the 1988-1996 fieldings, contained information on the child's ID, name, mother's sample type (1990 only), Child Supplement interview date, child's date of birth, child's age at date of child supplement, PPVT age, school grade, whether child has had menses, interviewer ID, and a grid indicating which assessments should be administered (through 1994). Interviewers continue to utilize this type of information in electronic formats in conjunction with their case management.

Spanish Translation. Spanish translations of several child assessment instruments have been made available to respondents with limited proficiency in English. In 1986, a total of 354 children, age eight months or older, were assigned to bilingual interviewers. Of these cases, slightly more than 100 children were actually assessed in Spanish. More than 100 children were assigned to bilingual interviewers in 1988. By 1990, 52 children were assigned to bilingual interviewers, but of this number, only 17 were actually assessed in Spanish. In 1998 approximately 50 children were interviewed in Spanish but most of them were assessed in English. In 2000 the number of children assessed in Spanish declined to fewer than 10. Part of this recent decline results from the higher minimum age of children eligible to be assessed. By the current survey round most of the Spanish language parents would have resided in the U.S. for more than two decades. In 2002 no Child instruments were translated into Spanish, although several bilingual interviewers were assigned to households in which Spanish is a principal language. Users may consult the 2000 Child-YA Data Users Guide for details on which questionnaire sections and child assessment instruments were translated for administration in Spanish in the 1986-2000 survey rounds.

Basic Documentation

Most details related to documentation of the child data appear in Chapter 5 of this guide. However, some basic information about the documentation is useful in understanding the data description that follows.

Areas of Interest. Referred to as "record types" in prior surveys, the areas of interest are topical categories used to organize the multitude of questionnaire items and constructed variables in the file. Starting with the 2000 data release, the names have been converted from mnemonics to phrases. Table 2.4 lists the Child areas of interest with a brief description of the types of variables assigned to each topical area. The "SUPPLEMENT" areas of interest are grouped in the table, but in the documentation they occur separately by year.

Table 2.4. NLSY79 Child Data Files: Child Areas of Interest

Areas of Interest	Description of Area of Interest
ASSESSMENT 1986-1988	Raw & normed assessment scores; PPVT age; child sampling weight 1986-1988
ASSESSMENT 1990-2002	Raw & normed assessment scores; PPVT age; child sampling weight 1990-2002
CHILD BACKGROUND	Child linkage variables; demographics characteristics; usual residence; father presence; interview status
CHILD CARE	Retrospective child care in first 3 years of life

CHILD SUPPLEMENT 1986	1986 *Child Supplement* assessment items; health; enrollment; grade level; testing conditions; HOME observations
CHILD SUPPLEMENT 1988-1994	1988-1994 *Child Supplement* assessments; health; enrollment; grade; Head Start; testing conditions; HOME observations
CHILD SUPPLEMENT 1996-2000	1996-2000 *Child Supplement* assessments; health; enrollment; grade; Head Start; testing conditions; schooling; HOME observations
CHILD SUPPLEMENT 2002	*Child Supplement* assessments; height & weight; grade; schooling; work; religion; testing conditions; HOME observations
CHILD SELF-ADMINISTERED SUPPLEMENT	*Child Self-Administered Supplement* questionnaire items; confidential card 1988-2000
FAMILY BACKGROUND	Maternal background: age; highest grade completed; enrollment status; original sample ID and sampling weight
MATERNAL HOUSEHOLD COMPOSITION	Maternal household composition: age, education, and work status of household members
MATERNAL WORKHISTORY	Mother's quarterly employment history linked to child date of birth
MOTHER SUPPLEMENT 1986	*Mother Supplement* assessments, 1986
MOTHER SUPPLEMENT 1988-1998	1988-1998 *Mother Supplement* assessments; school and family background
MOTHER SUPPLEMENT 2000	2000 *Mother Supplement* assessments for children under age 4
MOTHER SUPPLEMENT 2002	2002 *Mother Supplement* assessments; child background; health; school
PRE/POST NATAL CARE	Prenatal care of child; postnatal care of child; infant health in first year of life

NOTE: NLSY79 young adult children, regardless of age, are represented in all areas of interest except those related to the Child and Mother supplements or to the assessments in the years they were interviewed as young adults.

Reference Numbers. Child reference numbers refer to the identifiers, constructed with an initial letter followed by a sequence number, which uniquely identify each individual item on the file. Reference numbers generally start with C for data items from the Child files, Y for young adult variables, and R for the main NLSY79 file. Items in the CHILD SCHOOL SURVEY area of interest are assigned reference numbers prefixed with "S."

Question and Variable Names. Through 1998 the names of variables on the NLSY79 child data set were derived from one of three sources: (1) question names used in the Child, Mother, and Child-Self-Administered supplements described above (CS, or MS, or CSAS), (2) acronyms used to identify the child assessments administered at the time of the survey (e.g., *BPI2000* for Behavior Problems Index-Raw Score, 2000), or (3) mnemonic names for constructed variables that are based on inputs taken from the main NLSY79 survey (e.g., *AGEMOM2002* for Age of mother at interview date, 2002).

Starting in 2000, question names are not bound by deck and column as in the early child surveys. Items from the Mother Supplement or Child Self-Administered supplement are prefixed to indicate the source of the question (MS or CSAS). Some question names from the Child CAPI Supplement carry the CS prefix, but most indicate (with a short abbreviation) the section of the instrument from which each question was derived—e.g., question names beginning with SCHL come from the section of the Child Supplement questionnaire regarding the child's schooling. The HLTH series designates the child health questions. They also indicate the order in which the question was administered within each section of the questionnaire. Additional details on the question names can be found in Chapter 5.

The Child Data

The NLSY79 Child survey tracks children's health and growth, abilities, problems, school progress, social experiences, and home environments. Some measures are obtained through mother or child responses to questions posed by interviewers. Assessment data, described later in this Chapter, are collected through mother report and interviewer administration of standard tests directly to the children. Beginning in 1994, Young Adult members of the child sample are no longer assessed but given a questionnaire appropriate for respondents age 15 and older. All the "child" measures for these young adult children remain, however, in the child data files for the periods in which they were interviewed or assessed as children.

The Child data files provide information on the cognitive and socio-emotional development, behavior, health, home environment, school, and family background of the sample children. Reports are recorded on schooling, grade repetition, school behavior and expectations, peer relations, and religious attendance and training for children age 10 years or older. Information for older children is also available on family decision-making, school attitudes, work activities, peer relationships, religious attendance, smoking, alcohol and drug use, and sexual activity, computer use and gender roles. Table 2.5 provides the reference numbers for a set of commonly used variables in the Child file.

The section that follows first outlines the data elements that are *not* related to the child assessments. The data topics are presented in alphabetical order, starting with "AGE" and ending with "SMOKING." Particular attention is given in this section to some of the scales used to collect information from the NLSY79 children who are entering adolescence.

Table 2.5. Key Variables on the NLSY79 Child Files: Variable Descriptions and Reference Numbers

Variable Description	Child Survey Year								
	1986	1988	1990	1992	1994	1996	1998	2000	2002
Identification code of child	*	*	*	*	*	*	*	C00001.00	C00001.00
Identification code of mother of child	*	*	*	*	*	*	*	C00002.00	C00002.00
Age of child (in months) at interview date of mother	C00045.00	C00047.00	C00047.20	C00047.40	C00047.42	C00047.43	C00047.44	C00047.45	C00047.46
Age of child (in months) at child assessment date (CS)	C00065.00	C00068.00	C00070.10	C00070.30	C00070.41	C00070.43	C00070.45	C00070.47	C00070.49
Age of child (in months) at child assessment date (MS)	C00066.00	C00069.00	C00070.20	C00070.40	C00070.42	C00070.44	C00070.46	C00070.48	C00070.50
Age of mother at birth of child	*	*	*	*	*	*	*	*	C00070.00
Age of mother at date of interview	C00365.00	C00377.00	C00382.30	C00382.32	C00382.34	C00382.35	C00382.36	C00382.37	C00382.38
Race of child (mother's racial/ethnic cohort in screener)	*	*	*	*	*	*	*	*	C00053.00
Sex of child	*	*	*	*	*	*	*	*	C00054.00
Date of birth of child (month, day, year)	*	*	*	*	*	*	*	*	C00055.57
Birth order of child	*	*	*	*	*	*	*	*	C00058.00
Interview status of child							C00115.01	C00115.07	C00115.14
Does child have a Child Supplement record							C00115.04	C00115.10	C00115.16
Does child have a Mother Supplement record							C00115.05	C00115.11	C00115.18
Does child 10-14 years old have a CSAS record							C00115.06	C00115.12	C00115.20
Is child eligible for a Young Adult interview this round					C00112.00	C00112.02	C00112.04	C00112.06	C00112.08
Usual residence of child	C00078.00	C00080.00	C00080.20	C00080.40	C00080.42	C00080.43	C00080.44	C00080.45	C00080.46
Highest grade completed by mother as of current interview	C00599.00	C00611.00	C00611.12	C00611.16	C00611.20	C00611.22	C00611.24	C00611.26	C00611.28
Number of household members in household of mother	C01123.00	C01177.00	C01242.00	C01276.01	C01279.01	C01280.01	C19864.00	C24924.00	C25202.00
Number of children of mother in HH of mother	C01143.00	C01198.00	C01262.00	C01276.21	C01279.21	C01280.21	C19883.00	C24943.00	C25221.00
Is spouse of mother present in household of mother	C01117.00	C01200.00	C01264.00	C01276.23	C01279.23	C01280.23	C19885.00	C24945.00	C25223.00
Is partner of mother present in household of mother	C01119.00	C01202.00	C01267.00	C01276.26	C01279.26	C01280.26	C19888.00	C24948.00	C25226.00
Does father of child (living in HH) live in this household	C00091.00	C00097.00	C00102.00	C00107.00	C00111.12	C00111.17	C00111.22	C00111.27	C00111.32
Week # of child birth date from 1/1/78 to current interview	*	*	*	*	*	*	*	*	C02700.00
First survey year of mother after date of birth of child	*	*	*	*	*	*	*	*	C00052.00
Child sampling weight	C05812.01	C08007.01	C09999.01	C11999.01	C15089.01	C15658.01	C18012.01	C24955.01	C25240.00
Mother sampling weight, 1979 (Youth Ref # R02161.)	*	*	*	*	*	*	*	*	C00700.04
Mother sample ID code (Youth Ref # R01736.)	*	*	*	*	*	*	*	*	C00700.01

NOTE: This table displays a small subset of the total number of variables on the NLSY79 Child & YA files.
* Variables are updated as of the current survey point and therefore maintain the same reference number in each data release.
CS = Child Supplement, MS = Mother Supplement

Age & Demographics

A number of child background variables are provided in the child data files that designate each child's date of birth, birth order, sex, and mother's race. This series of variables is updated in each release to reflect information for all children as of the current survey point, including children who have become young adults. These key variables, assigned to the CHILD BACKGROUND area of interest, are updated to incorporate children born since the last interview. The demographic information is also reviewed in light of mother updates from the main Youth file. Included in this series is an indication of the child's usual residence at the time of the mother's survey. From 1979-1981 and in 1983 and 1985 the child's residence status is based on reports from the mother's household roster. In all other years, child residence information is derived from the child-specific questions on "with whom the child usually lives" in the Fertility section of the main Youth questionnaire. The set of variables in CHILD BACKGROUND also includes a variable that can be used for linking child events with information linked to the mother's survey date:

C0052. 1st SURVEY YEAR OF MOTHER FOLLOWING DATE OF BIRTH OF CHILD

Age of child. The NLSY79 Child Data Files contain a number of age-related variables specific to a birth date as well as to the child's age at various developmental or interview points. Variables such as "Age of Child at Interview Date of Mother" or "Age of Child at Child Assessment Date" are assigned to the CHILD BACKGROUND area of interest. The assessment-specific age variables "PPVT Age of Child at Child Assessment Date" are assigned to the ASSESSMENT area of interest, while PRE/POST NATAL contains such variables as "child age in weeks formula feeding data." Table 2.5 presents reference numbers for some of the more commonly used child age variables.

Users are advised to exercise caution when applying age variables in conjunction with the child assessment data. Some *unedited* child date of birth and age variables may appear in the CHILD SUPPLEMENT and MOTHER SUPPLEMENT areas of interest. These items, not available for all children, appear exactly as recorded in the field. Users are generally discouraged from using these items as reported directly from the questionnaires and instead are urged to rely on the child age variables found in the CHILD BACKGROUND or ASSESSMENT area of interest. The discussion in Chapter 1, titled "Selecting an age variable," offers additional details on the nature of the best age variables.

Most of the child assessments are designed to be administered to select age groups of children. For example, Part D of the Motor and Social Development Scale is intended for children 10–12 months of age, while PIAT Math is administered to children whose PPVT age is 5 years or older. Since assessment dates are not always the same for the Child Supplement and the Mother Supplement, users should apply the age variable specific to the supplement that was used to administer the particular assessment. In 2000 this issue became somewhat more complex in that two mother-report assessments (the HOME and Temperament) were administered in the Child CAPI Supplement for children under age 4. In all years except 2000, it is advisable to use the Mother Supplement age at assessment (MSAGE) for these two measures, but in 2000 the Child Supplement (CS) age was more appropriate for children under age 4.

Information on a child's date of birth from the *Children's Record Form* (*CRF*), an instrument used with the main NLSY79 until recent rounds, was the source of birth date information for the *Child Supplements*. Beginning in 1988, a *Child Face Sheet* was introduced as an aid to interviewers in the calculation of child ages. This instrument contained a preprinted child birth date or a place for the interviewer to record the child's date of birth from Part A of the *CRF* and provided a place for calculating child age and PPVT age in reference to the *Child Supplement* interview date. This paper *Face Sheet* was replaced in 1994 by a CAPI feature that computed child age so that interviewers could anticipate which assessments would be administered.

A child's birth date may occasionally be altered on the basis of new information received from the mother in conjunction with the internal evaluation procedures carried out at CHRR. Thus, in a small number of cases, date of birth and child age information may not be completely consistent across all survey rounds. Appendix 5-NLSY79 Supplemental Fertility File Documentation, in the *NLSY79 Codebook Supplement*, discusses cases in which child birth dates were edited.

Age of mother at child's birth. The child file contains a key age variable that indicates the age of the mother in relationship to each of her children: "Age of Mother at Birth of Child." (Table 1.2 depicts the distribution of the age of the child by the age of the mother at the birth of the child.) This maternal age variable is assigned to the CHILD BACKGROUND area of interest. A constructed variable that indicates, for each main Youth survey year, the age of the mother at the birth of her *first child* can be found in the FERTILITY & RELATIONSHIPS area of interest in the main Youth file and can be linked to the child file by case ID.

Child Activities

Unless indicated otherwise, the items about activities addressed to children 10 and older are assigned to the CHILD SELF-ADMINISTERED SUPPLEMENT area of interest.

After school and summer. Beginning with the 1988 child survey, children age 10 and older are asked to enumerate the kinds of activities they engage in after school. They are also asked where they go after school, including home, another person's home, community or sports facility, job, mall or after school facility. Children 10-14 are also asked about their activities on a typical summer day. These variables can be found in the CHILD SELF-ADMINISTERED SUPPLEMENT area of interest

Computer use. Starting with the 1994 survey round, children age 10 and older are asked a series of questions on their access to a computer at home and at school, and the extent of their computer use. They are asked whether they use a computer to do school work, write papers, correspond, play games and other recreational uses, access the internet, or search for information. The children are asked who helped them learn how to learn computers and whether they themselves have had any special training. Questions about computer use related to work, asked in the YA self-report series, are *not* asked of children under age 15. Young Adults are asked about accessing the internet while children 10-14 are asked about "surfing the net" and access to "bulletin boards." The child computer questions are assigned to the CHILD SELF-ADMINISTERED SUPPLEMENT area of interest.

Friends and dating. In all survey rounds except 1986, children 10 and older have been asked about their friendships, whether they feel lonely, and how much pressure they feel from friends to engage in anti-social behavior. They are asked how often (if ever) they go out on dates, at what age they started, and whether there are any rules in the family about dating. If there are rules, they indicate how much say they have in making such rules and whether they argue with their parents about dating or parties. Children completing the Child Self Administered Supplement are asked to express the degree to which they agree with this statement: "It is ok for a girl to ask a boy for a date." The pattern of administration by survey year for these items on friendship and dating can be found in Appendix H: Content of the Child Surveys. Questions about dating are asked in greater detail once the child becomes part of the Young Adult cohort.

TV viewing. Questions on television viewing are posed to mothers for each of her children in the HOME sections of the Mother Supplement (and in the Child Supplement in the 2000 survey). Mothers report the number of hours each child watches television, the number of hours the TV is on in the home, and for children 3 and older, the amount of TV viewing on a typical weekday as well as each weekend day. Children age 10 and older also indicate how much time they spend watching TV on a typical weekday, typical Saturday, and typical Sunday. Children 10 and older also report about family rules governing TV viewing and how much they share with their parents about what they watch.

Selected questions on TV viewing are included in the computation of the HOME scores, but in different ways according to the age of the child. For children ages 3-5 a question estimating the number of hours the TV is on is used in the total HOME score and emotional support subscale score. The total and cognitive stimulation HOME scores for children ages 6 and older only include the single TV question about whether the child discusses programs. These mother-report items as documented for the 2002 survey round are listed below and can be found in the CHILD and MOTHER SUPPLEMENT areas of interest, depending on the age of the child. The recoded items, actually used in scoring the HOME, are listed here:

C25088. (RC1B7) RECODE: (3-5 YRS): NUMBER OF HOURS PER DAY TV IS ON IN HOME
C25120. (RC1C20) RECODE: (6-9 YRS): DO PARENTS DISCUSS TV PROGRAMS WITH CHILD
C25147. (RC1D19) RECODE: (10-14 YRS): DO PARENTS DISCUSS TV PROGRAMS WITH CHILD

Two items related to TV in the child assessment files are incorporated into the computation of the Temperament scales for children ages 4 to 6 years: (1) how often child turns off the TV with no protest (question ACT-C05 in 2002) and (2) how often child obeys when told to turn off the TV (question ACT-C06 in 2002). These two items are assigned to the MOTHER SUPPLEMENT areas of interest.

Volunteer and community service. Children ages 10 and older have been asked, starting with the 1994 survey, about volunteer work or community service after school. These questions, in the CHILD SELF-ADMINISTERED SUPPLEMENT, had only two response choices of "yes" or "no" through 1996. In 1998 they were converted from a dichotomous format to a 3-point scale to gauge the frequency with which the children perform volunteer activities.

Starting in 1996 in the Child Supplement, school agers are asked to estimate how often either parent volunteers at their school. Mothers of school age children are also asked about parent volunteer activities related to the child's classroom or school. Through 1998 and again in 2002 these mother-report questions about school involvement that are addressed to mothers are found in the MOTHER SUPPLEMENT area of interest. (Only in 2000 are these items in the CHILD SUPPLEMENT area of interest.) Young adults answer a series of questions about community service in the young adult questionnaire.

Work for pay. Children 10-14 are asked if they do any work for pay, not counting jobs around the house. They list the kinds of jobs and the amount they work and usually earn in a week. In 1990 and 1992 children simply answered whether they worked or not. In 1994 children who worked for pay chose from a short list of employment categories. The code categories on this question series have been expanded, starting in 1996, to include babysitting, house cleaning, paper route, yard work for neighbors, house-sitting, fast food work, farm work, clerk or office work, pet care, and construction.

Child Alcohol Use - Drinking

The child survey includes several questions for children ages 10 and older on alcohol consumption. Introduced in 1988, this series asks whether they have ever consumed alcohol, whether they drank in the past three months, their age at first use, and the number of times in the past year they got drunk. Table 2.6 provides the child reference numbers of the alcohol use questions asked of the NLSY79 Children. The pattern of administration of these questions on drinking can be found in Appendix H: Content of the Child Surveys.

Table 2.6. NSY79 Child: Alcohol Use Questions for Children Ages 10 and Older

Year	Eligible ages	Reference number
1988	10 and older	C07325. - C07336.
1990	10 and older	C09442. - C09453.
1992	10 and older	C11396. - C11407.
1994	10–14	C13692. - C13713.
1996	10–14	C15915. - C15936.
1998	10–14	C19321. - C19356.
2000	10–14	C22176. - C22211.
2002	10-14	C27697. - C27703.

CHRR adapted forms of the NLSY79 main alcohol questions for the 1988 Child survey for 10 and older. NIAAA was involved in the development of many of the Youth alcohol items. Questions from past NHIS surveys were also incorporated that asked respondents:

- whether they had ever consumed alcohol,
- whether they had consumed alcohol in the past three months,
- their age at first use, and
- the number of times in the past year the child had gotten drunk.

In designing the alcohol (and related deviant behavior and substance use) CHRR staff were advised by NIDA staff, including James Colliver and Andrea Kopstein, Survey and Analysis Branch, Division of Epidemiology and Prevention Research, SAMHSA, and Lloyd D. Johnston. In choosing the question format for the older children instruments, the following studies were reviewed: (1) National Youth Survey (NYS) conducted in 1976, 1977, 1978, 1979, 1980, 1983, and 1987 and sponsored by the National Institute of Mental Health; (2) the National Household Survey of Drug Abuse (NHSDA), sponsored by the Office of Applied Studies at the Substance Abuse and Mental Health Services Administration; and (3) the school-based Youth Behavior Risk Surveys (YSRB), conducted every two years starting in 1991, and sponsored by the CDC.

Beginning in 1994, when the NLSY79 children age 15 and older moved into the young adult cohort, a more extensive sequence about alcohol use was introduced. The young adult series about alcohol use has some questions adapted from the Child Self-Administered Supplement but most of the young adult questions more closely resemble the main NLSY79 alcohol use questions. See Chapter 3 for the content of the Young Adult questionnaire.

Child Attitudes

The NLSY79 Child surveys contain a range of attitude information from both the child's and mother's perspective. For the younger children (not young adults) these questions are administered primarily in the Child Self-Administered Supplement (CSAS), completed by children 10 years of age and older. Mothers also report on their children's attitudes and prospects. Mother-report items have, from 1988 to 1998, been asked in the Family & Schooling section of the Mother Supplement.

In 2000 the more sensitive items were moved into the Computer Assisted Self-Interview (CASI) portion of the Child CAPI Supplement that is directed to the mother. In 2002 these same questions are in CASI format in the Mother Supplement. She responds, in CASI format if preferred, to questions that ask her to think about how things are going in her child' life and to rate (1) how much trouble it has been to bring up this child, (2) the child's health, (3) the child's relationships with friends, siblings, and with her, (4) and her child's feelings about him or herself.

Each round of the NLSY79 Young Adult survey includes a questionnaire section devoted to attitudes. The details of these young adult items are explained in Chapter 3, which also contains an overview of comparables scales addressed to NLSY79 mothers (Table 3.6). Readers who are not experienced with the NLSY79 mother data will find that main Youth respondents have been administered several scales, a number of which parallel those administered in the Child and Young Adult Surveys, such as the Rotter, the Rosenberg Self-Esteem Scale (Rosenberg, 1965), sociability and Pearlin Mastery Scales (Pearlin and Schooler, 1978; Pearlin et al., 1981), neighborhood quality, attitudes toward women working (family attitudes), and the Center for Epidemiologic Studies Depression Scale or CES-D (Radloff, 1977). More information about the attitude scales in the main Youth for NLSY79 mothers can be found in Chapter 4 of the *NLSY79 User's Guide*.

Gender roles. Children 10-14 respond to a series of questions on whether girls should be treated differently than boys. This scale appears in the Child Self-Administered Supplement (CSAS).

Risk behavior. The NLSY79 Child Administered Supplement (CSAS) asks about the child's attitude toward risky behaviors and planning for the future. The six CSAS (Q.49) ratings of propensity for risk taking ("feelings toward yourself") items were taken from Section F. (Social-Psychology) of the American Teenage Study, which contains 25 items that were intended to create at least 3 distinct scales.

Expectations and aspirations. NLSY79 Children ages 10 and older have been asked a repeat question series about when they expect to marry and when they expect to have children. Mothers of children who are at least school age are asked to rate each child's prospects for the future and to estimate how far they think their child will go in school. Through 1998 and again in 2002 these questions, posed in the Mother Supplement, were assigned to the MOTHER SUPPLEMENT areas of interest. In 2000 the future prospects questions were moved to the Child CAPI Supplement and then back to the Mother Supplement in 2002. Young Adults have also been asked about expectations at age 35 and prospects for separation and divorce (see Chapter 3).

Neighborhood safety. In 1992 a question was added to the Child Self-Administered Supplement for children 10 and older about how safe they felt walking and playing in their neighborhood. That same year mothers were first asked to rate their neighborhood as a place to raise children. They were also asked to assess the quality of the neighborhood on a number of dimensions, similar to those also addressed to young adults starting in 1994. The NLSY79 neighborhood quality series, which has continued through the current survey round, is taken from the National Commission on Children Parent & Child Study, 1990 Parent Questionnaire, p.7 (V32, V34-V41).

Child Care

A range of both cross-sectional (past four weeks) and retrospective child care information is available in the NLSY79. The mother-report child care sections from the main NLSY79 surveys provide the types of current child care arrangements used for each child in the household, the overall family expenditure for current care, and a retrospective of child care experiences during the first three years of life for all children (of at least 1 year of age) born to the respondent. Only the retrospective information about the first three years of each child's life appears on the Child files. The other cross sectional child care information can be extracted from the main Youth files and merged.

The child-based child care variables that are assigned to the CHILD CARE area of interest (child reference numbers C03564. - C03590.) provide a cumulative updated profile of the child care experiences in the first three years of life for children of at least one year of age. (While child care information was not collected in the 1990 main Youth survey round it was updated in 1992, and in subsequent rounds for mothers not interviewed in 1992.) Note that children who were less than three years old at the date of the current main Youth survey will not have a complete 3-year child care retrospective for the first three years of life until the next release of the Child data.

Child care information in the 1984 and 1985 NLSY main Youth surveys describes child care arrangements used in the past four weeks for the youngest child by parents who were either employed, in school, or in training at the survey date. Location and type of primary and secondary care, hours of use, nature of payment and grandmother care are reported in 1984. Location, type, payment, detail on group arrangements, and hypothetical care are available for 1985. In both years, respondents who are not currently employed but who have an employed spouse report limited information on location and type of care. The retrospective information collected in 1986 and the current child care information collected between 1984 and 1988 relate to different universes of children and utilize different child care definitions. These distinctions are clarified further in the topical section titled "Child Care" in the current *NLSY79 User's Guide*. Additional child care information was also collected in the 1982 and 1983 main NLSY79 surveys. The child care data from these two years can be found on the NLSY79 main Youth file.

Users are reminded that the child-based variables drawn from the mother's retrospective child care record have no noninterview values assigned. Since the variables reference each child, the inputs do not necessarily come from any single interview year.

Family Background

Age of mother. The child file contains two variables that indicate the age of the mother in relationship to her child, e.g., 'Age of Mother at Birth of Child,' 'Age of Mother at Birth of 1st Child.' The creation procedures for age of mother variables present on the NLSY79 Child File are based on the mother's 1979 NLSY79 date of birth. (Table 1.2 depicts the distribution of the age of the child by the age of the mother at the birth of the child.) The variables that indicate the age of the mother at each interview date are assigned to the FAMILY BACKGROUND area of interest while the "Age of Mother at Birth of Child" variable is found in CHILD BACKGROUND.

Mother's sample ID & sampling weight. Two key variables from the mother's main Youth record appear in the FAMILY BACKGROUND area of interest: (1) the mother's original sample identification category (whether she was in one of the cross-sectional samples or special oversamples) and (2) her 1979 sampling weight. Individual case weights are assigned for each year so that group population estimates can be produced when using tabulations. The assignment of individual respondent weights involves various types of adjustment, with additional considerations necessary for weighting of NLSY79 Child data. For information on the construction and use of the NLSY79 sampling weights, consult Chapter 2 of the *NLSY79 User's Guide*. Details on the nature of the original NLSY79 sample identification code for the main Youth respondents can also be found in the *NLSY79 User's Guide* (question S24Q01, R01736.).

Family education and competence. This series of variables describes the educational background of the child's mother at each of the mother's interview dates. Maternal enrollment status and highest grade completed by the mother at each date of interview are constructed for each main Youth survey round and assigned to the FAMILY BACKGROUND area of interest. Variables that summarize the education of the mother's spouse or partner as well as the other adult members of the household are discussed below with the MATERNAL HOUSEHOLD COMPOSITION variables. Table 2.5 only includes

key variables related to the child survey rounds starting with 1986. There are several cross-sectional variables in the child data files that are based on the mother's history from her interviews *prior* to 1986 (the first child assessment year) and for "non-child" survey years since 1986.

Maternal household composition. Since the children eligible for interview in the survey are living at least part-time with their mothers, the mother's main Youth household record is used to describe the cross-sectional composition of the child's household. Constructed cross-sectional variables describe the people living in the child's mother's household in each survey round. Variables include number of family members, family units, children and adults present at date of interview. The family unit includes members related by blood, marriage, or adoption who share the same household. The household unit additionally includes others living in the same residence as the respondent. There are also indicators of whether a spouse, partner, mother, or father of the child's mother is present as well as the number of household members present in various age ranges. These household and family variables are created from the yearly household enumeration roster. As this information is provided for all survey dates, some variables describe the composition of the mother's household prior to the birth of a particular child. Variables referring to whether a spouse or partner is present in the household are based strictly on the main Youth household record, not on the marital section of the main Youth questionnaire. The "0" or "no" category for the "spouse present" variables in this series includes responses from both ever married and never married mothers. The variables describing the number of children of the mother are based on a count of biological, adopted and stepchildren in the total. They are *not* limited to children born to the mother.

Religion. Starting with the 1988 Child survey, children ages 10 and older are asked their religious affiliation and how often they attend religious services. They are also asked if they usually attend with their parents, if they would attend without their parents, whether many of their friends attend services, and the extent to which their friends attend the same services. In 1998 the format for the affiliation question was changed to a code-all (or mark-all) format that allowed multiple choices. The "other" verbatim responses were recoded into existing categories wherever possible and other categories added to capture responses that did not match the choices offered.

Siblings and aunts. Some respondents in the original NLSY79 main sample were related either by marriage or family. A series of identification codes is included in the child file that identifies the child siblings and the interviewed spouse and sisters of each child's mother if they were part of the original NLSY79 sample selected in 1979. The sibling identification codes (CSIBID01-10), the mother's spouse ID (SPOUSEID) and the mother's sisters IDs (SISTID1-SISTID4) are assigned to the CHILD BACKGROUND area of interest.

Health

The child survey has regularly collected a range of detailed information on each child's current health conditions and health history. Table 4.4 in Chapter 4 gives an overview of the types of reports of physical development, and mental health asked over the survey rounds for children and young adults.

Accidents and injuries. Questions about child accidents and injuries were asked beginning with the 1988 survey. Mothers report: 1) whether the child had an accident in the past 12 months that required medical attention, and 2) whether the child ever had an accident (not necessarily in the past 12 months) requiring hospitalization. If the mother answers yes to either of these questions, she is asked the specific month and year of the three most recent accidents. The way that these questions have been framed means that information is available for varying time periods for different children. Some researchers interested in linking these events with maternal work history have organized the data into quarters to deal with the seasonal patterns in accident rates (Currie and Hotz, 2001). The NHIS series on accidents and injuries was the source of the NLSY79 child questions (see above).

Birth histories. On a regular basis, the NLSY79 has collected pre- and postnatal care information from the sample women as they became mothers. Fertility questions in the main Youth interview ask about all pregnancies/live births, a cumulative inventory of all children reported, and contraceptive methods used. NLSY79 mothers report on their health and behavior during each pregnancy. Pre- and postnatal practices are detailed below under "Prenatal and infant care."

Handedness. Beginning in 1996, the mother answers several questions about whether the child is right-handed or left-handed. These questions are assigned to the CHILD SUPPLEMENT area of interest through 2000 and to the MOTHER SUPPLEMENT area of interest in 2002. The Motor and Social Development assessment also contains a number of related items related to when the child held an object in one hand. Handedness questions can also be found in the Young Adult HEALTH area of interest.

Health care access/Medical visits. Details concerning use of the medical system include the presence, number, and type of accidents, injuries, or illnesses requiring medical attention in the past 12 months; hospitalization history in the past 24 months; timing of last routine health and dental checkups; and coverage by and type of health insurance. The health services questions are featured in the Child Core of the National Health Interview Survey (NHIS).

Health insurance. From the first Child survey in 1986, mothers have been asked in the CHILD SUPPLEMENT whether each child is covered by health insurance, not including public assistance, provided either by an employer or by an individual plan. They are also asked whether Medicaid covers each child's health care. Starting in 1994, mothers of young adult children in the household are asked this same set of questions in the fertility section of the main Youth questionnaire. These items are assigned to the BIRTH RECORD areas of interest in the main Youth file and can be linked to specific children by use of the child ID. There are also limited questions about the respondent's health plan related to children in the HEALTH area of interest of the main Youth file. The child health insurance questions are currently in the Family Section of the National Health Interview Survey (NHIS).

Health assessments. The child assessment data collection includes a number of questions and scales designed to capture child health information and to measure the child's temperament, motor and social development, and behavior problems. This information is obtained from the mother. The How My Child Usually Acts/Temperament scale forms a measure of temperament or behavioral style over the past two-week period for each child

under age seven. The Motor and Social Development Scale measures motor-social-cognitive development for children under age four. The Behavior Problems Index elicits mother ratings of children four years of age or older in areas of problem behavior such as hyperactivity, anxiety, dependency, aggressiveness, and peer conflict. These child health assessments were originally all in the paper self-administered booklet called the Mother Supplement. In 2000 the questions related to Temperament, Motor & Social Development were moved to CAPI format and administered in the Child Supplement. Data items related to the individual assessment responses are therefore found in the MOTHER SUPPLEMENT areas of interest for 1986-1998 and in both the CHILD SUPPLEMENT and MOTHER SUPPLEMENT areas of interest in 2000. In 2002, all the child health items (except height and weight) are in the MOTHER SUPPLEMENT area of interest.

Health conditions. The mother is asked to report on the child's health history and medical treatment in the last twelve months. The National Health Interview Survey (NHIS) was the principal source for various NLSY79 child health questions. The limiting conditions questions are featured in the NHIS Child Core. (The NHIS is a multi-purpose health survey conducted by the National Center for Health Statistics [NCHS], Centers for Disease Control and Prevention [CDC], and is the principal source of information on the health of the civilian, noninstitutionalized, household population of the United States.) The questions on limiting health conditions can also be found in the NHES Parent questionnaire section on family involvement in education (i.e., PJ3. Does CHILD have any physical, emotional, or mental condition that limits or interferes with his/her ability to do regular schoolwork? To take part in sports, games, or other activities with children his/her age?). In 2002, questionnaire design improvements allow users to identify potentially unrelated limiting conditions when multiple conditions are reported. Through 2000, a mark-all item was accompanied by a single follow up. Now, the duration and onset of separate conditions can now be examined.

Height and weight. The child's height and weight at the time of interview are measured either by the interviewer or recorded as reported by the mother. These items appear in each year-specific CHILD SUPPLEMENT area of interest.

Immunization. In the fertility section of the 1986-1990 main Youth questionnaire, mothers were asked to report on the types of shots administered to each child. Users should note that only the subset of immunization questions (DPT/oral polio and measles) most comparable across these survey years is included in the Child file. The questions used to construct the immunization variables were not asked after 1990 and therefore children born since that time have been assigned a missing value on these variables. The NLSY79 child series on shots is in the Immunizations section of the National Health Interview Survey (NHIS).

Menses. Starting with the first child survey year, mothers are asked about whether their daughter has started menstruation and the date and age of menses.

Mental health. At each survey point the mother is asked whether in the past 12 months her child has been referred for professional assistance with a behavioral, emotional, or mental problem or made any visits to a psychiatrist, psychologist, or counselor. She is also asked about use of medication to control the child's activity level or behavior. Comparable

questions continue to be asked of the young adults, allowing researchers the opportunity to continue examining health issues into adulthood.

Prenatal and infant care. Maternal prenatal care information and health-related characteristics are provided on the NLSY79 Child and Young Adult file. Information derived mother reports in the fertility section of the main NLSY79 youth questionnaire is linked to each individual biological child. The following information is available for most children in the file: prenatal doctor visits, maternal alcohol/cigarette/drug use during pregnancy, other prenatal behaviors (vitamin intake, salt intake, etc.); amniocentesis, ultrasound performed; was child born early or late; cesarean birth; mother's weight gain during pregnancy; child's birth size; length of hospital stay; well baby/sick baby health care in first year; was child breast fed; other infant feeding practices. The child pre and postnatal data are assigned to the PRE/POST NATAL area of interest in the data files.

Users who attempt in-depth analyses based on the pregnancy and postnatal information should review the Fertility Section of the main Youth questionnaire to see when certain questions were asked for specific children of specific ages. For example, while birth weight was reported in 1983 for all children born as of that date, certain feeding questions were applicable only to a subset of children. Feeding questions about solid foods, which may have been inappropriate for an infant in 1983, were updated in 1984 or 1985, depending on the developmental stage of the child at each interview date. Also, unlike the series of child illness questions asked of the mother starting in the 1984, the 1983 interview schedule refers to illnesses experienced by the youngest child in the first year only if the child had been hospitalized (see Section 10, Q. 40A and B, pages 10-105 of the 1983 NLS main Youth questionnaire). Users interested in maternal and child health information related to pregnancy and birth in the NLSY79 should consult the report titled *Maternal Child Health Data from the NLSY*, by Mott and Quinlan (1991), which can be downloaded at <ftp://ftp.chrr.ohio-state.edu/usersvc/Child-Young-Adult/ >or requested from CHRR User Services.

Maternal Employment

Each release of the Child data contains an updated series of quarterly employment variables that describes the mother's work history from one year prior to each child's date of birth up through the first five years following the birth (or the mother's most recent interview date). These variables are measured in 13-week intervals and are constructed from the main Youth work history data file that provides a weekly record of the labor force activity of each respondent from January 1, 1978, through the current survey date.

The following child-specific work history variables are constructed for up to 24 quarters in the child's life: weeks and hours worked; number of jobs held; number of weeks in the military; hours, occupation, industry, and pay at main job; earnings at all jobs. The first five variables in the series refer to all jobs held by a mother, and the next set provides details on the duration and nature of the "main" job in each quarter, defined as the job at which the mother worked the most hours. Only the 13-week intervals of a child's life that are complete within the 1978-2000 time frame receive valid values. Children born prior to 1/1/1978 can be identified by a value of "0" on C2700., "WEEK # OF DATE OF BIRTH OF CHILD FROM 1/1/78 TO CURRENT DATE OF INTERVIEW." This variable is included for users who wish to link the child's birth date with other event on the main file. The complete set of

quarterly maternal employment variables is assigned to the MATERNAL WORK HISTORY area of interest. Users interested in greater detail on the NLSY79 work history data should consult the *NLSY79 User's Guide* at <http://www.bls.gov/nls/79guide/nls79usg.htm>.

Parenting

A number of items are used in the Child surveys that are designed to measure aspects of the relationship of parents and children. Drawing on other studies in which scales of parent-child interaction and parenting were used, the Child survey introduced in 1994 the following types of measures: (1) parental monitoring, (2) emotional relationship with parents, (3) parent-child interaction in discussion and activities, and (4) child perception of the degree of parent involvement. Details on the parenting items found in the survey are outlined in Table 2.7, which is adapted from a study based on the NLSY79 Child data (Joshi et al., 1998). While several of these items are asked as part of the HOME sections of the questionnaire, many of them are *not* included as part of the HOME scale.

Table 2.7. Parenting Items in the NLSY79 Child 1994-2002

Variable	Question(s)
1. Engagement in Parent-Child Activities *a. Monthly Activities* (Child rating)	Within the last month have you and your parent(s)… (Yes/No) • Gone to the movies together • Gone out to dinner • Gone shopping to get something for you, such as clothes, books, records, or games • Gone on an outing together, like to a museum or sporting event • Gone to church or religious services together
b. Weekly Activities (Child rating)	Within the last week have you and your parent(s)… (Yes/No) • Done things together such as build or make things, cook, or sew • Worked on schoolwork together • Played a game or a sport
2. Ratings of Parental Time/Involvement *a. Amount of Time* (Child rating)	Please think about the time you spend with each of your parents. Do you think your parents spend enough time with you? (Spends enough time with me, wish s/he spent more time with me, spends too much time with me)
b. Miss Activities that Are Important (Child rating)	About how often does each parent miss the events or activities that are important to you? (Misses events a lot, sometimes misses events, almost never misses events)
3. Parent-Child Discussions *a. Talk Over Decisions* (Child rating)	How often does each of your parents talk over important decisions with you? (Often, sometimes, hardly ever)
b. Listen to Children in Discussions (Child rating)	How often does each of your parents listen to your side of an argument? (Often, sometimes, hardly ever)
c. Ability to Discuss Things (Child rating)	How well do you and each of your parents share ideas or talk about things that really matter? (Extremely well, quite well, fairly well, not very well)
4. Parental Monitoring *a. Parents Knowledge of Where Children Are* (Child rating)	About how often does each parent know who you are with when you're not home? (Often, sometimes, hardly ever)
b. Parents Knowledge of Where Children Are (Mother rating)	About how often do you know who your child is with when s/he is not at home? Would you say you know who s/he is with … (All of the time, most of the time, some of time, only rarely)
5. Emotional Relationship with Parents *a. Feelings of Closeness to Parents* (Child rating)	How close do you feel to each of your parents? (Extremely close, quite close, fairly close, not very close)
b. Feelings of Closeness to Parents (Mother rating)	How close does your child feel toward you? (Extremely close, quite close, fairly close, not at all close)

NOTE: All questions asked of children age 10-14 in the Child Self-Administered Supplement (CSAS), except for the mother rating of child's emotional relationship with parents (5b above). This question is administered in the Mother Supplement from 1994-1998, in the Child Supplement in 2000, and back in the Mother Supplement in 2002. Table adapted from Joshi et al., 1998.

Child discipline. A series of items related to child discipline are addressed to the mother in the HOME sections of the Mother Supplement. These items, derived from the National Survey of Families and Households (NSFH; 1988, M306, Q.306), ask: "Sometimes children behave well and sometimes they don't. Have you had to spank (CHILD) when (he/she) behaved badly in the past week?" The following questions are also used in the NSFH (1882-

1883 M307, Q.307): "About how many times have you had to spank (CHILD) in the past week? (NSFH/1 October 88 Page M-186).

Father presence and contact. In the main Youth interview, the mother reports, for each child, whether the child's father is living in the household, and if not, the frequency of contact, the distance of his residence, and when he left the household or died if not living. These questions are asked in the Fertility section of the main Youth questionnaire. Users should note that, due to an oversight, the parent presence/visitation question (Q.19) in the 1991 main Youth Fertility section was only asked about children born since the last interview. The documentation currently describes these items as follows:

R35564.00 FATHER/MOTHER OF 1ST CHILD LIVE IN HOUSEHOLD? 91 INT
R35570.00 FATHER/MOTHER OF 2ND CHILD LIVE IN HOUSEHOLD? 91 INT
R35576.00 FATHER/MOTHER OF 3RD CHILD LIVE IN HOUSEHOLD? 91 INT

The restriction in 1991 on the universe of children means that there is incomplete data for "Does parent of child live in HH" for all children for all years. If the mother was interviewed subsequent to 1991, information for those children may potentially be recovered based on reports of when he left/died (if not living). Comparing those dates with the 1991 interview date should allow the user to determine, in most cases, whether a given child's other parent was in the household at the time of the 1991 interview. Data loss would occur primarily for children who have a father who moves in and out of the household repeatedly. Users are reminded that rather than an event history, the father-child contact information is an indication of his residence situation at the time of the mother's interview.

Family rules. The questions on family rules that were introduced in the 1988 NLSY79 Child survey round were adapted from the National Survey of Children, Wave 2 1980. Users interested in details on this survey and its content are directed to Child Trends: <http://www.childtrends.org>. Questions about family rules are answered by NLSY79 children ages 10-14 in the Child Self-Administered Supplement (CSAS).

With the exception of variations in response choices, the following questions were taken directly from the National Survey of Children, Wave 2 (Spring 1981), Section C: Child Questionnaire, items 58-61: CSAS questions 3a-3d (child expected to help around house), Q.4a-4d (existence of rules about watching TV, parent knowledge of child's whereabouts, homework, and dating), Q.5 (how much say child has in the previous rules), and Q.6 (how often child and parents argue about the rules). The differences in response choice scoring are as follows:

> NLSY79 1988 CSAS Q.3a-d (expected to help around house) and Q.4a-d (rules) are scored 1=yes, 0=no; NSC items 58a-d and 59a-d are scored 1=yes, 2=no.
>
> NLSY79 1988 CSAS Q.5 (how much say in rules) was scored on a 4-point scale and presented in order of 4=a lot of say to 1=no say at all. This was a simple reversal of the NSC scoring for the same question (item 60, also a 4-point scale) presented in order of 1=a lot of say to 4=no say at all.

NLSY79 1988 CSAS Q.6 (argue about rules) was scored (3-point. scale) 1=hardly ever, 2=sometimes, 3=frequently. This represented somewhat more of a change from the NSC item 61 (3-point scale) 1=frequently, 2=occasionally, 3=hardly ever.

In 1990, a change was made to CSAS items 5 and 6. Rather than two global questions about the child's influence and arguments with parents about rules, CSAS items 5 and 6 were expanded to Q.5a-5d and Q.6a-6d. The updated items inquired specifically about each of the four categories of rules asked about in Q.4a-4d. The response choices for the expanded items were kept consistent with previous scoring.

In the 1988-1994 CSAS (and the corresponding NSC wave 2 item), a conditional skip follows question 4d. If child answered "no" to all four items 4a-4d (i.e., the child reported none of the four categories of rules were in force in the household), the question flow skips over items 5 (child's say in the rules), and 6 (arguments about the rules). This skip was dropped from the CSAS beginning in 1996.

Child "moods" and depression. The depression or child "moods" items in the NLSY79 Child CSAS questionnaire came from the National Commission on Children, Parent & Child Study. The specific source for these questions can be found in the 1990 NCC Parent & Child Final Questionnaire and Codebook for Children, question V432. (Several other parent-child interaction questions in the CSAS were also drawn from this instrument: V322, V323, V339, V307 for example on spending time with each parent, parent missing activities, peer pressure.)

Parent-child interaction. The questions on parent-child interactions that were introduced into the NLSY79 Child survey in 1996 were developed with the assistance of Robert Emery, University of Virginia. Three of the parental agreement items were derived from scales developed in the Stanford Divorce Study that measure (1) How often do your parents get along well, (2) How often do they agree about rules, and (3) How often do your parents argue (Buchanan, Maccoby, & Dornbusch, 1991). The other parental agreement items were taken from instruments prepared for The 1991 American Teenage Survey, a large-scale survey of adolescent sexual behavior. A study using the NLSY79 child parent-child interaction items indicates that parent-child discussions and arguments can be used to discriminate self-esteem and problem behavior trajectories (Bailey, 1996; Carlson, 1998).

Schooling

The NLSY79 Child surveys contain schooling information, linked to each child, for: (1) children assessed during each child survey year, (2) NLSY79 mothers, and (3) members of the mother's household such as spouse, partner, or other adult household members. The types of schooling information available for young adults and their partner or spouse are discussed in Chapter 3. The Child schooling items added in 1996 were drawn primarily from the 1988 National Education Longitudinal Study (NELS88). These questions on parent involvement, teacher style, and classroom practices are addressed directly to children ages 6 and older in 1996-1998 and to children ages 8 and older in 2002.

Enrollment and grade. Current school enrollment and grade information is collected at each survey point for children ages four years or older. Grade information is gathered for those

children currently attending and, if not currently attending, for those who have ever attended regular school.

Preschool and Head Start. Post-1986 child surveys include questions, posed to the mother, for children three years of age or older (under age 9 in 1990) on whether the children attend nursery school or a preschool program or had ever been enrolled in preschool, day care, or Head Start. The Head Start series provides information on age first attended, length of time attending, and how satisfied the child's mother is with the Head Start program. Main Youth respondents interviewed in 1994 were asked if they had attended Head Start as a preschooler (Q3-31, R45317.).

School experiences. Starting in 1988, mothers of school-age children (ten or older 1988–1994; five and older starting in 1996) are asked for additional information on their child's schooling experiences. For children attending school, mothers are asked what type of school their child attends. They are asked if the school is "public," "private," or "religious," and whether the second identifies the school as a "school for gifted children," a "school for handicapped children," or a "regular public or private school." In the main Youth interview the mother also gives information on what type of school the child currently attends or last attended with the following categories: 1 Elementary School, 2 Middle School/Intermediate School/Junior High School, 3 High School, 4 Two Year College, Community College, or Junior College, 5 Four Year College or University. Note that she reports this school type information for all children of school age.

The introduction of CAPI in 1998 enabled CHRR to recode verbatim responses to the "other-specify" verbatim responses to these school-type questions. Starting in 2000, the procedure used for documenting the recodes changed so that the school type question (BGN-20-RC) now contains only verbatim recodes for question BKGN-20. (In contrast, the 1998 variable MS98TYPSCHL contained all response values plus recoded "other specify" verbatims.)

Information is also collected for children attending school on: (1) whether the child attends special classes for remedial or advanced work and (2) whether the child has ever repeated a grade and, if so, the reason(s), e.g., the child failed academically (too young or immature, moved to a more difficult school, was truant, frequently absent, etc.). Reasons for not attending school are identified by the mother according to the following categories: expulsion or suspension, physical, emotional, or mental condition, the school was closed, or the child's father would not let the child attend.

School ratings and classroom experiences. During the child interviews, children ages ten and older (including young adults) supply information on: (1) the grade they currently attend (or last attended); (2) characteristics of their school; and (3) satisfaction with their school. The rating and satisfaction items, asked repeatedly of children 10 and over starting in 1988, include the following: (1) most teachers know their subjects well; (2) most teachers help with personal problems; (3) most classes are boring; (4) don't feel safe at this school; (5) at this school a person has the freedom to learn, etc. (see pg. 15 of the Child2000 CSAS). This school satisfaction scale is the same as one addressed to the mother in 1979. The school rating questions addressed to the child are assigned to the CHILD SELF-ADMINISTERED SUPPLEMENT area of interest.

Through 1998 the Mother Supplement contained a series of items rating the children's school as reported by the mother (Q.16 in the MS 1998). In 2000 these questions were moved to the Child CAPI Supplement but in 2002 they are back in the Mother Supplement in the CASI section. In both 2000 and 2002 the school rating series has the same question names: BKGN-43A to BKGN-43H. The mother-report items in which she grades the school performance can be found in MOTHER SUPPLEMENT through 1998, CHILD SUPPLEMENT in 2000, and back in the MOTHER SUPPLEMENT area of interest in 2002.

Homework and parent involvement. In 1996, the schooling section of the survey was augmented for both the children aged 10 to 14 and the young adults. This expansion, which has continued to the current survey round, asks children about the extent of involvement by their parents in homework and the school. The NLSY79 Child questions on parent involvement and time spent on homework can be found in the National Household Education Surveys (NHES) parent questionnaire, section on parent/family involvement in education ("Now I have some questions about CHILD's homework. How often does CHILD do homework at home? Would you say never, less than once a week, 1 to 2 times week, 3 to 4 times a week, or 5 or more times a week?" pg.1). The NLSY79 Child schooling series also solicits information on the frequency of specific teaching and learning activities and the use of certain materials in the classroom.

Child school survey. A separate, one-time survey was conducted in 1995-1996 of the schools attended by NLSY79 children (over the age of five) in the 1994 and 1995 school years. The survey collected information about the characteristics of the school, graduation rate, ethnic and gender composition of student body and staff, school policies and practices, and community involvement. Information was also obtained about the child's academic success, social adjustment, participation in school activities, the child's grade level, attendance record, and involvement in special programs. The third part of the survey collected standardized test scores from student transcripts for each child.

The data collection had several components. The Principal Questionnaire, completed by the principal of the school, included information about characteristics of the school, school policies and practices, and school-community interfaces. A second Child Schooling Questionnaire, filled out by school office personnel for each child, included grade, attendance, involvement in special programs and grade level information. Requests for transcripts yielded standardized test scores for about 34 percent of the children.

The Child data file contains 375 Child School Survey variables for a sample of about 3,000 children. Due to confidentiality restrictions, not all the items that were asked in each Child School Survey questionnaire appear on the public file. The original eligible universe of children consisted of those enrolled between grades one and twelve in the 1994-1995 school year. For a few children, enrollment status referred to their 1993-1994 school year, but for most the reference period was the 1994-1995 school year. Children under the age of 15 as of the end of 1994 were eligible for data collection if they were living with their mother; older children could be living either with their mother or in other types of residence. Children also needed to be at least age 5 at the time of interview. An estimated 4,441 children met these eligibility criteria.

For 334 children, information was obtained from more than one school, since the child attended more than one school during the interview window. Additionally, some children were eligible for inclusion in only one of the two years, so the data collection window encompassed only that one school year. The data file includes information for these children for up to two schools. Information collected during the 1995-1996 year could only be collected for schools attended during the preceding two years as the waiver formed signed by the parent only permitted access to records available in the schools the children had attended during that period.

The Child School survey variables are assigned to the CHILD SCHOOL SURVEY area of interest. Unlike all the other Child variables, the school survey variables are identified by reference numbers that begin with the letter "S." The question names for variables from the Child Schooling Questionnaire are prefixed with a "C" following by the school number (1 or 2), while those from the Principal Questionnaire begin with a "P". The question items in the file are named according to the sequence in which they appeared in the field questionnaires. Users are encouraged to access copies of the actual instruments on the BLS-NLS Child-YA website or via the CHRR public ftp site: <ftp://ftp.chrr.ohio-state.edu/usersvc/Child-Young-Adult/>.

Smoking, Drugs, and Antisocial Behavior

Cigarette use. Questions on smoking have been asked in each Child survey round, starting with the 1988 survey. Children 10 years of age and older have been asked about age at first use and extent of cigarette use. (A more extensive set of questions has been asked of NLSY79 mothers and of the children once they became NLSY79 young adults starting in 1994.) Variables related to smoking for NLSY79 children can be found in the CHILD SELF-ADMINISTERED area of interest of the data files. Table 2.8 illustrates the types of questions on cigarette smoking that have appeared in the Child surveys and the years in which they were asked.

Table 2.8. NLSY79 Child: Smoking and Drug Use Questions for Children Ages 10 and Older

Topics	1988	1990	1992	1994	1996	1998	2000	2002
Cigarettes	10+	10+	10+	10-14	10-14	10-14	10-14	10-14
Marijuana	10+	10+	10+	10-14	10-14	10-14	10-14	10-14
Inhalants				10-14	10-14	10-14	10-14	10-14
Hallucinogens (LSD, PCD, peyote)						10-14	10-14	10-14
Cocaine (crack)						10-14	10-14	10-14
Uppers or downers (amphetamines)						10-14	10-14	10-14
Other, unspecified	10+	10+	10+	10-14				
Other (LSD, cocaine, uppers, downers)					10-14			
Reference Number	C07325.-C07336.	C09442.-C09453.	C11396.-C11407.	C13692.-C13713.	C15915.-C15936.	C19321.-C19356.	C22176.-C22211.	C27704.-C27724.

Drug use. Starting with the 1988 survey, children age 10 and older answer a series of questions on whether they have ever used marijuana and/or other drugs such as LSD, cocaine, etc. If they answer "yes," they report whether such use occurred in the past three months and how old they were at first use. In 1994 more details were added to the substance use questions, also asked of children aged 15 and older in the Young Adult survey (see Chapter 3). Drug use questions are posed to children in the *Child Self-Administered Supplements* and are assigned to the CHILD SELF-ADMINISTERED area of interest in the child data files. The types of drug-use questions that have been asked in the Child surveys are displayed in Table 2.8.

Antisocial behavior. Starting in 1988, the child surveys included questions for children who were ten years of age and older dealing with (1) the extent of each child's self-reported participation during the past year in various illegal activities such as vandalism, shoplifting, and assault and, as mentioned above, and (2) the extent of use and age of first use of cigarettes, alcohol, marijuana, and drugs. (Table 2.6 details the alcohol use questions posed to NLSY79 Children and Table 2.8 lists the substance use questions.) Children ages 10 and older are asked if they have ever: (1) Stayed out later than parents said, (2) Hurt someone badly enough to need doctor, (3) Lied to parents about something important, (4) Taken something from store without paying, (5) Damaged school property intentionally, (6) Gotten drunk. The CSAS Q.40 (CSAS040A-I) series on "risk behaviors" ("In the last year, about how many times have you...") were drawn from a larger set of main Youth NLSY79 items that in turn were adapted from previously used self-report delinquency scales. Four of these Child items are the same as items used in Section U: Other Behaviors, from the American Teenage Study Teen In-Home Questionnaire, female version (p.124). (The American Teenage Study, which was funded in 1988 but never fielded, was designed as a five-year national study to provide information about teen health related to sexual activity.) Self-report items on antisocial and delinquent behavior are in the CHILD SELF-ADMINISTERED area of interest in the Child files.

The Child Assessments

The NLSY79 Child surveys contain a wide range of detailed assessment information about the children of female respondents. Since 1986, a battery of child cognitive, socioemotional, and physiological assessments has been administered biennially for age appropriate children. Many of the assessments, and much of the supplemental information about each child, are based on reports from the child's mother. These reports include child demographic and family background characteristics, health history (both pre- and postnatal), and information on the child's home environment, including maternal emotional and verbal responsiveness and involvement with her child. Each of the child assessment measures is discussed in detail in this section.

Starting with the 1994 survey, children ages 15 and older are no longer assessed. As explained in detail in Chapter 3 of this guide, these older children complete an interview modeled on the NLSY79 main Youth questionnaire administered to their mothers. Users are reminded that, while young adults are no longer administered the child instruments, they possess a child history represented in the child data file. Data obtained in the surveys during the time the young adult children were under age 15 are included as part of the child files in

such areas of interest as CHILD BACKGROUND and ASSESSMENT 1988. Most young adults, as discussed in Chapter 4, have at least one survey round in which they were assessed as a child.

What Assessments Are Used and When?

The assessments used in the Child surveys were selected on the basis of their validity, reliability, and suitability for use in a large-scale household survey. The selection was designed to accommodate a range of child ages and a broad spectrum of dimensions in the child's development. In the following section, information is presented on the nature of each assessment and how each one is administered and scored. Issues essential to using the current assessment data are highlighted. The following assessments, listed here and then discussed in detail, have been used in the Child surveys:

1. The HOME Short Form - items from the HOME (Home Observation for Measurement of the Environment) Inventory, developed by Bradley and Caldwell, designed to measure the nature and quality of the child's home environment from birth to adolescence.
2. How My Child Usually Acts/Temperament - items from Rothbart's Infant Behavior Questionnaire, Kagan's Compliance Scale and other items from Campos, which combine to form a set of maternal-report scales measuring temperament or behavioral style over the past two-week period for each child under age seven.
3. Motor and Social Development - items drawn from Poe, Bayley, Gesell, and the Denver Developmental Screening Test, which measure motor-social-cognitive development for children under age four.
4. Behavior Problems Index - items from Zill and Peterson's adaptation of the Child Behavior Checklist, developed by Achenbach and Edelbrock, which elicit mother ratings of children four years of age or older in such areas of problem behavior as hyperactivity, anxiety, dependency, aggressiveness, and peer conflict.
5. Parts of the Body - ten items, developed by Kagan, that measure the ability of children aged one or two to identify various parts of their bodies. This assessment was not administered after 1988.
6. Memory for Location - an assessment, developed by Kagan, that measures the ability of children eight months of age through three years to remember the location of an object which is subsequently hidden from view. This assessment was not used after 1988.
7. Verbal Memory - a subtest of the McCarthy Scales of Children's Abilities (Psychological Corporation) that assesses short-term verbal memory of children aged three through six years to remember words, sentences, or major concepts from a short story. Part C, the story, was not used after the 1990 survey. This assessment was not administered after 1994.
8. What I Am Like/Self-Perception Profile for Children (SPPC) - two scales from Harter's Self Perception Profile for Children that measure perceived self-competence

in the academic skill domain and sense of general self-worth for children aged eight and above (12 and above beginning in 1996).

9. Memory for Digit Span - a component of the revised Wechsler Intelligence Scales for Children (Psychological Corporation) which assesses the ability of children seven through eleven years of age to remember and repeat numbers sequentially in forward and reverse order.
10. Peabody Individual Achievement Test (PIAT) Math - (American Guidance Service), a PIAT subtest that offers a wide-range measure of achievement in mathematics for children with a PPVT age of five years or older.
11. PIAT Reading Recognition and Reading Comprehension - (American Guidance Service), PIAT subtests that assess the attained reading knowledge and comprehension of children with a PPVT age of five and older.
12. The Peabody Picture Vocabulary Test-Revised (PPVT-R), Form L - (American Guidance Service), a wide-range test used to measure the hearing vocabulary knowledge of children whose PPVT age is three and above. Administered to children age 4 and 5 or 10 and 11 starting with the 1996 survey round.

Changes in the Child Assessments

Over time there have been changes in the administration of various assessments in the Child surveys. Details on changes in the content, administration, or scoring of particular assessments are discussed in the appropriate assessment-specific sections below. Two assessments, Memory for Location and Body Parts, were administered in 1986 and 1988, but have since been deleted from the data collection effort due to funding constraints. However, the 1986 and 1988 individual items and scores for these two assessments remain in the data file and are available to users. A brief description of these two assessments is included in this chapter.

Not all assessments are fielded in each child survey year. In some instances, assessments are administered only to children for whom no valid score has been obtained during a previous survey. In 1988 a procedure was introduced by which children ages 10 or 11 were designated to complete any assessment for which they were age-eligible in order to establish a representative index group for future analyses. Starting in 1996, the Self-Perception Profile (What I Am Like) is only administered to children ages 12 and over. The McCarthy Verbal Memory Subscale was administered for the final time in 1994. Starting in 2002 very young children are no longer administered assessments, which means that scores are no longer generated for Motor and Social Development, Temperament.

Users are urged to examine the NLSY79 Child and Young Adult data collection instruments in order to understand the assessments that were administered to various age groups and to learn about variations in administration across survey rounds. Printable versions of the child questionnaires are available either from NLS user services or on-line at: <ftp://ftp.chrr.ohio-state.edu/usersvc> (see Chapter 5 for details).

What Scores Are Computed?

The NLSY79 Child data files contain summary scores for each assessment measure. For a subset of assessments subscores are constructed. Where available, the user is provided with national norms based on the raw scores. Table 2.9 lists the raw and normed scores that are available in the Child data files for years 1996-2002. (Scores for assessment years prior to 1996 can be found in Appendix K.) The data file includes individual item responses as recorded in the field as well as interviewer reports of testing conditions for each assessment. Edit or imputation "flags" are constructed for selected assessments to indicate where prorations were necessary or where alternate scoring schemes were considered. Scoring procedures are addressed below in relation to specific assessments.

Members of the CHRR staff have examined the assessment data as carefully as possible while preparing the assessment scores for the public use files. Researchers who encounter data or documentation problems with the assessments are encouraged to contact NLS user services. Should a problem be detected, an effort will be made to inform data users by publicizing the issue in the quarterly NLS newsletter, posting updates to the NLSY79 errata website, and by correcting subsequent public releases. Chapter 5 contains details on where users can find such updates.

Table 2.9. Assessment Scores on the NLSY79 Child File, 1996-2002

Assessment	1996 Scores			1998 Scores			2000 Scores			2002 Scores		
	Raw	Percentile	Standard	Raw	Percentile	Standard	Raw	Percentile	Standard	Raw	Percentile	Standard
Total HOME[1]		C15566	C15569		C17923	C17926		C25025	C25024		C25310	C25309
0-2 Years	C15550			C17907			C25008			C25293		
3-5 Years	C15554			C17911			C25009			C25294		
6-9 Years	C15558			C17915			C25010			C25295		
10 & Over Years	C15562			C17919			C25011			C25296		
HOME Cognitive Stimulation[1]		C15567	C15570		C17924	C17927		C25027	C25026		C25312	C25311
0-2 Years	C15552			C17909			C25016			C25301		
3-5 Years	C15556			C17913			C25017			C25302		
6-9 Years	C15560			C17917			C25018			C25303		
10 & Over Years	C15564			C17921			C25019			C25304		
HOME Emotional Support[1]		C15568	C15572		C17925	C17928		C25029	C25028		C25314	C25313
0-2 Years	C15553			C17910			C25020			C25305		
3-5 Years	C15557			C17914			C25021			C25306		
6-9 Years	C15561			C17918			C25022			C25307		
10 & Over Years	C15565			C17922			C25023			C25308		
Temperament												
Activity	C15572			C17929			C25050					
Predictability	C15573			C17930			C25051					
Fearfulness	C15574			C17931			C25053			C25336		
Positive Affect	C15575			C17932			C25055			C25338		
Compliance	C15576			C17933			C25047			C25332		
Insecure Attachment	C15577			C17934			C25048			C25333		
Sociability	C15578			C17935			C25049			C25334		
Difficulty Composite–Abbrev.	C15579			C17936			C25052			C25335		
Neg. Hedonic Tone Composite	C15580			C17937			C25056			C25339		
Friendliness Composite–Abbrev.	C15581			C17938			C25054			C25337		

Assessment	1996 Scores			1998 Scores			2000 Scores			2002 Scores		
	Raw	Percentile	Standard	Raw	Percentile	Standard	Raw	Percentile	Standard	Raw	Percentile	Standard
Motor & Social Development – All	C15582	C15583	C15584	C17939	C17940	C17941	C25030	C25033	C25034	C25315	C25318	C25319
Same Gender		C15585	C15586		C17942	C17943		C25031	C25032		C25316	C25317
Behavior Problems	C15587	C15594	C15601	C17944	C17951	C17958	C24956	C24959	C24961	C25241	C25244	C25246
Antisocial	C15588	C15595	C15602	C17945	C17952	C17959	C24974	C24976	C24978	C25259	C25261	C25263
Anxious/Depressed	C15589	C15596	C15603	C17946	C17953	C17960	C24979	C24981	C24983	C25264	C25266	C25268
Headstrong	C15590	C15597	C15604	C17947	C17954	C17961	C24989	C24991	C24993	C25274	C25276	C25278
Hyperactive	C15591	C15598	C15605	C17948	C17955	C17962	C24994	C24996	C24998	C25279	C25281	C25283
Dependent	C15592	C15599	C15606	C17949	C17956	C17963	C24984	C24986	C24988	C25269	C25271	C25273
Peer Conflict	C15593	C16000	C15607	C17950	C17957	C17964	C24999	C25001	C25003	C25284	C25286	C25288
Trichotomous Items	C15622	C15623	C15624	C17979	C17980	C17981	C24962	C24963	C24964	C25247	C25248	C25249
External Score	C15625	C15626	C15627	C17982	C17983	C17984	C24966	C24971	C24972	C25251	C25256	C25257
Internal Score	C15628	C15629	C15630	C17985	C17986	C17987	C24967	C24969	C24970	C25252	C25254	C25255
Self-Perception												
Scholastic	C15637			C17991			C25059			C25342		
Self-Worth	C15639			C17993			C25060			C25343		
Digit Span	C15641		C15644	C17995		C17998	C25004		C25007	C25289		C25292
Forward	C15642			C17996			C25005			C25290		
Backward	C15643			C17997			C25006			C25291		

[1] Internal norms provided.

Other child assessment documentation. Key references related to the assessments are cited at the end of this guide. Users interested in additional research based on the NLSY79 child assessment data are encouraged to access the annotated, on-line NLS bibliography at <http://www.nlsbibliography.org>.

Detailed information about the validity of the Child data through the 1992 survey round can be found in the *NLSY79 Children 1992: Description & Evaluation*. Background information on the child assessment data in the initial child survey rounds is discussed in *The NLSY Child Handbook, 1986-1990* (Baker et al. 1993). Both of these documents are available at no charge from NLS user services or on-line at <ftp://ftp.chrr.ohio-state.edu/usersvc/> (see Chapter 5).

Tables that describe the Child assessment scores in each survey round, starting with the 1994 data collection, can be found in a series of reports entitled *The NLSY79 Child Assessments: Selected Tables*. These reports display distributions of the raw and normed assessment scores by various child characteristics such as age and race/ethnicity. They are available, starting with the 1994 survey, from NLS user services or on-line at <ftp://ftp.chrr.ohio-state.edu/usersvc/> (see Chapter 5).

Which Children Are Assessed?

In the initial 1986 Child survey round efforts were made to assess *all* biological children of NLSY79 mothers, regardless of their residence status. Starting in 1988 the sample of children eligible for assessment was restricted to children living part or full-time with their mothers.

Table 2.10 displays the number of children interviewed in each survey round from 1994-2002 by single year of age and race/ethnicity. Information on the number of children interviewed in earlier survey rounds can be found in Appendix L. (The age range exceeds 14 years in the table for years prior to 1994, since that marks the first year of the Young Adult interview.) A comparable set of frequencies showing the number of young adults interviewed in each survey year, 1994-2002, can be found in Table 3.1 in Chapter 3.

A number of factors help explain the decline in the numbers of children interviewed in recent survey rounds: (1) diminished child-bearing of the NLSY79 women, (2) aging of the child samples into the Young Adult cohort, and (3) increased attrition rates in recent main Youth surveys. The particularly sharp decline in the overall-level size of the child sample in 2000 reflects the fact that about 38% of the minority child oversamples were excluded from interview in that survey year.

Users should note that the distribution of children interviewed should not be equated with the number of children who completed the assessments. The distributions in Table 2.10 (and Appendix L) simply indicate the number and types of children for whom some child interview information, collected in one of the child instruments, is available.

Table 2.10. NLSY79 Children Interviewed by Single Year of Age and Race/Ethnicity, 1994-2002

Child Age at Mother's Date of Interview	1994				1996				1998				2000				2002			
	Hisp	Black	White	Total	Hisp	Black	White	Total	Hisp	Black	White	Total	Hisp	Black	White	Total	Hisp	Black	White	Total
< 1	52	68	153	273	49	46	113	208	36	39	105	180	29	25	55	109	11	10	23	44
1	72	91	193	356	42	56	140	238	35	42	113	190	27	27	59	113	19	16	33	68
2	73	91	187	351	52	80	169	301	49	42	110	201	32	28	103	163	32	21	59	112
3	80	100	240	420	63	80	184	327	39	59	156	254	25	35	97	157	20	26	62	108
4	84	115	228	427	68	82	174	324	57	77	154	288	33	35	102	170	33	34	107	174
5	98	142	211	451	76	91	233	400	62	76	178	316	24	41	130	195	33	35	106	174
6	94	134	226	454	88	120	205	413	72	88	161	321	26	44	126	196	38	44	94	176
7	103	126	216	445	87	134	198	419	77	92	226	395	38	57	175	270	37	45	129	211
8	108	141	218	467	89	125	205	419	80	113	217	410	41	52	140	233	40	71	144	255
9	110	154	243	507	101	128	202	431	88	141	194	423	45	63	201	309	70	66	163	299
10	97	159	193	449	111	138	200	449	98	130	194	422	49	83	195	327	56	83	156	295
11	100	160	188	448	95	146	232	473	100	136	204	440	48	98	170	316	71	78	198	347
12	126	154	165	445	88	147	171	406	105	140	197	442	57	81	175	313	74	102	198	374
13	86	156	145	387	98	155	178	431	100	137	223	460	56	92	170	318	82	129	172	383
14	80	144	131	355	56	63	73	192	37	64	81	182	39	53	111	203	46	62	101	209
Total	1363	1935	2937	6235	1163	1591	2677	5431	1035	1376	2513	4924	569	814	2009	3392	662	822	1745	3229

NOTE: Child age in this table is measured as of the mother's interview date and may differ from the age at which the child was assessed.

For information on exactly which children completed assessments in 2002, users will need to turn to Table 2.12 which provides the number of children with valid scores for each assessment in that survey year. Comparable tables of assessment completion rates for years prior to 2002 appeared in past Child Data Users Guides. Users interested in copies of those tables will need to contact NLS User Services.

Some assessments are completed only once by a child at the first time he or she becomes age-eligible. Others are completed at each survey point by all age-eligible children. With the exception of SPPC, at *each* survey, ten- and eleven-year olds complete all assessments for which they are age-eligible, regardless of whether or not they had previously completed the assessment(s). This "index" group of children will ultimately represent a large, more fully representative sample for analysis. Table 2.11 contains details on the ages at which children were administered particular assessments. This table also summarizes changes in administration patterns.

Table 2.11. NLSY79 Child: Variations in Ages of Children Eligible for Assessment by Survey Year

Assessment	Eligible ages[1]								
	1986	1988	1990	1992	1994	1996	1998	2000	2002
Parts of the Body	1–2	1–2	—	—	—	—	—	—	—
Memory for Locations[2]	8 mos–3 yrs	(8 mos–3 yrs)	—	—	—	—	—	—	—
McCarthy Verbal Memory Subscale[2]	3–6	(3–6)	(4–6)	(3–6)	(3-6)	—	—	—	—
What I Am Like (Self-Perception Profile)	8 and older	8 and older	8 and older	8 and older	8-14	12-14	12-14	12-14	12-14
WISC-R Digit Span Subscale[2]	7 and older	10–11 (7 and older)	10–11 (7 and older)	10–11 (7 and older)	10-11 (7-14)	7-11	7-11	7-11	7-11
PIAT Math and Reading	5 and older	5 and older	5 and older	5 and older	5-14	5-14	5-14	5-14	5-14
PPVT-R[2]	3 and older	10–11 (3 and older)	10–11 (3 and older)	3 and older	10-11 (3-14)	10-11 (4-14)	4-5, 10-11	4-5, 10-11	4-5, 10-11
HOME environment	All ages	All ages	All ages	All ages	0-14	0-14	0-14	0-14	0-14
Temperament	0–6	0–6	0–6	0–6	0-6	0-6	0-6	0-6	2-6*
Motor & Social Development	0–3	0–3	0–3	0–3	0-3	0-3	0-3	0-3	2-3*
Behavior Problems Index	4 and older	4 and older	4 and older	4 and older	4-14	4-14	4-14	4-14	4-14

[1] Age in years unless otherwise noted.

[2] Parentheses indicate age eligibility for children with no previous valid score. 2Parentheses indicate age eligibility for children with no previous valid score. For example, in 1996, all 10- and 11-year-olds were eligible for the PPVT-R; a 6-year-old with no previous score was also eligible, but a 6-year-old with a previous valid score from 1994 or an earlier survey was not eligible.

* Children born before the R19 (2000) interview or 1/1/2000.

NOTE: Beginning in 1994, assessments were no longer given to children who reach age 15 by the end of that calendar year.

Beginning in 1994, children age 15 or older by December 31 of the interview year were no longer given any of the assessments. The data collected for these children as they enter adulthood are discussed in Chapter 3.

Users can rely on the child sampling weights to determine which children have assessment information in any given survey year. Cases restricted to where a child sampling weight is greater than zero will yield a sample of assessed children in that year. However, these assessed children will not necessarily have a valid score on any particular assessment in that year. A series of flags was introduced in 1998 to indicate the child's interview and assessment status. In 2000, the interview status series was simplified to identify children interviewed, whether the child's mother was interviewed, and an indication as to whether each type of child field instrument was administered. In 2002 the following child interview status variables were created:

Reference Number	Variable Description	Question Number
C00115.14	INTERVIEW STATUS OF CHILD R20-2002	CINTRV2002
C00115.15	INTERVIEW STATUS OF MOTHER R20-2002	MINTRV2002
C00115.16	DOES CHILD HAVE A CHILD SUPPLEMENT RECORD R20-2002	INCSUP2002
C00115.17	COMPLETION STATUS OF CHILD SUPPLEMENT R20-2002	CSCOMP2002
C00115.18	DOES CHILD HAVE A MOTHER SUPPLEMENT RECORD IN 2002?	INMSUP2002
C00115.19	COMPLETION STATUS OF MOTHER SUPPLEMENT R20-2002	MSCOMP2002
C00115.20	DOES CHILD HAVE A CHILD SELF-ADMINISTERED SUPPLEMENT RECORD R20-2002?	INCSAS2002
C00115.21	COMPLETION STATUS OF CHILD SELF-ADMINISTERED SUPPLEMENT R20-2002	CSASCOMP2002
C00115.22	NUMBER OF DAYS BETWEEN CHILD SUPPLEMENT AND MOTHER SUPPLEMENT INTERVIEWS	CSMSINTERVAL2002
C00115.23	SEQUENCE OF CHILD SUPPLEMENT AND MOTHER SUPPLEMENT INTERVIEWS	CSMSORDER2002

Assessment Completion Rates

Table 2.12 provides estimates of the number of children who were administered each assessment in 2002 and the completion rate for each assessment. (Similar completion rate tables can be found for prior survey rounds in their respective users guides.) The number of children undertaking and completing each assessment continues to be substantial, including reasonably high numbers of black, white, and Hispanic children available for separate analyses by race/ethnicity. Sufficient sample sizes are particularly important for those assessments where there are major differences in outcome by race, or more importantly, where the linkages between critical explanatory inputs and assessment outcomes vary by race/ethnicity.

Table 2.12 shows that, for the most part, the percent of children receiving valid scores is quite high, frequently over 90 percent. Variations in completion rates by race/ethnicity are generally quite modest. A more detailed discussion of assessment completion rates for the Child surveys can be found at the end of this chapter.

Table 2.12. NLSY79 children with valid assessment scores: Children ages 0-14 assessed in 2002

Assessment	Child age	All children		Race/ethnicity					
				Hispanic		Black		Non-black/ Non-Hispanic	
		Valid	%	Valid	%	Valid	%	Valid	%
Child home environment									
The HOME Inventory	All ages birth-14	3,078	95.3	627	94.7	784	95.4	1,667	95.5
	< 3 years	148	67.0	42	68.9	32	69.6	74	64.9
	3–5 years	441	96.3	83	95.4	89	92.7	269	97.8
	6–9 years	924	98.5	181	98.9	222	98.7	521	98.3
	10 to 14 years	1,565	97.1	321	97.0	441	96.9	803	97.2
Child motor/social/emotional development									
Temperament Scale*	2–6 years	718	97.7	151	97.4	152	97.4	415	97.9
Motor and Social Development Scale	Under 4 years	211	95.9	51	96.2	46	97.9	114	95.0
Behavior Problems Index	4 to 14 years	2,872	99.1	571	98.4	738	98.5	1,563	99.7
Self-Perception Global	12 to 14 years	872	91.0	184	92.0	271	94.1	417	88.7
Self-Perception Scholastic	12 to 14 years	872	91.0	184	92.0	271	94.1	417	88.7
Child cognitive development									
WISC-R Digit Span Subscale	7–11 years	1,307	93.6	250	91.6	333	97.4	724	92.7
PIAT Math	PPVT ages 5-14	2,487	91.9	491	90.3	669	94.5	1,327	91.3
PIAT Reading Recognition	PPVT ages 5-14	2,491	92.1	492	90.4	672	94.9	1,327	91.3
PIAT Reading Comprehension	PPVT ages 5-14	2,469	91.3	485	89.2	670	94.6	1,314	90.4
PPVT-R	PPVT ages 4-5 and	294	88.8	51	82.3	59	88.1	184	91.1
	PPVT ages 10-11	585	93.3	114	90.5	151	96.8	320	92.8

* The Temperament scale score reported is "Compliance," administered for children ages 2-6. Scores for other temperament subscales are computed and available in the data file for subgroups of more restricted age ranges.

NOTE: Of the 8,100 children born to mothers interviewed in 2002, 3,229 children ages 0-14 were living in the household of an eligible mother or were otherwise known to be available, and were interviewed and assessed in 2002. The % valid column indicates children with a valid score of those eligible for a particular assessment. Mother Supplement completion rates increased in 2002 due to CAPI administration of the mother-report assessments. Children who reached age 15 by the end of 2002 were not eligible for assessment. The Black and Hispanic child over-samples dropped in 2000 were reintroduced into the sample in 2002.

The HOME-SF (Home Observation of the Environment - Short Form)

The Home Observation Measurement of the Environment-Short Form (HOME-SF) is the primary measure of the quality of a child's home environment included in the NLSY79 child survey. It has been extensively used as both an input in helping to explain other child characteristics or behaviors and as an outcome in its own right—for researchers whose objective is to explain associations between the quality of a child's home environment and earlier familial and maternal traits and behaviors.

The HOME-SF is a modification of the HOME inventory (Caldwell and Bradley 1984, 1992), a unique observational measure of the quality of the cognitive stimulation and emotional support provided by a child's family. The HOME-SF is about half as long as the original HOME Inventory, an adaptation necessitated by survey time and cost constraints. More than half of the HOME-SF's items are multi-response maternal reports that were reworded, with the assistance of the instrument's designers, from the original HOME Inventory's dichotomous observer ratings.

A complete listing of the HOME-SF items appears in Appendix A. From 1986-1998 all mother-report HOME items were located in Section 1 of the *Mother Supplement*. In 2000 the HOME items designed for children under age four were all moved to the Child CAPI Supplement. All the mother report HOME items were consolidated in the Mother Supplement in 2002, once it was converted to CAPI. The HOME items based on interviewer observation appear in the *Child Supplement* for <u>all</u> survey years.

The HOME-SF is divided into four parts: one for children under the age three; a second for children between the ages of three and five; a third for children ages six through nine; and starting with the 1988 survey round, a fourth version for children ten and over. At several survey points, as mentioned, the set of questions in the HOME sections of the survey was expanded, but these added items are not part of the total HOME score or subscores.

Bettye Caldwell designed the Infant version of the original HOME Inventory and, with Robert Bradley, developed the Preschool and School Age versions. Bradley and Caldwell reviewed and approved the final draft of the Infant, Preschool, and Elementary HOME-SF versions used in the 1986 Mother and Child Supplements of the NLSY79, and Bradley was involved in a 1988 review of what has now become known as the HOME-SF to distinguish it from the original.

Changes in the HOME. The following changes have been made to the HOME sections in recent years. In 1988 a version of the mother-report HOME was added for children 10 and older. In 1986 one set of items was used for all children ages 6 and older. Beginning with the 1992 *Mother Supplement*, code categories were added to the questions on the relationship of the child's father/father-figure to the mother, and a category was added to the parent efficacy question for older children. Three questions on the following topics were added to the School & Family section (Section 5) of the *Mother Supplement* in 1992: (1) rating of child's current school, (2) rating of the child's general well-being and prospects, and (3) degree of parent knowledge about child's friends. These questions are now completed by mothers for all their children of school age. In 1996 and thereafter the minimum child age for these schooling questions was lowered from age 10 to 5 years.

Beginning with 1994, one additional sequence was added to the HOME assessment to measure child-parent closeness. Mothers are now asked how close each of her children feels to her, to the child's biological father, or to his/her stepparents (e.g., see Q16a for children under the age of three). In 1996, check questions asking if the child ever sees his or her father were dropped. *Neither this change nor any of those made in previous years affect the HOME score or subscores in any way. The components of the HOME scores have remained unchanged since 1986.*

In 2000 only, the HOME questions addressed to the mother for children under the age of 4 years were moved from the paper Mother Supplement to the Child CAPI Supplement. In 2002 all the mother report HOME items are back in the Mother Supplement. While the question format was slightly altered for CAPI administration, the content of these items remains the same.

Scoring the HOME. The total raw score for the HOME-SF is a simple summation of the recorded individual item scores and it varies by age group, as the number of individual items varies according to the age of the child. The procedure used to recode non-dichotomous responses into a 1,0 form is documented for the year 2002 in Appendix A. The data transformation process used in all survey years was essentially the same.

The total HOME-SF score and the two subscores have one implied decimal place. For example, a score of 30 in the public data file is really 3, and so on. In addition, total scores were imputed for children where one or more of the component items had inadvertently been left unanswered. The imputation procedure assigns an average value, derived from all those items that had been completed, to each of the unanswered items. Proration flag variables specify the number of items that require imputation for the different age groups; a score of zero on this proration flag variable means that all individual component items were answered. For the two subscores specified below, a more stringent proration rule was followed: scores were derived only for cases where no more than one item was missing.

Recoding of HOME Items. Prior to constructing an overall score and the two subscores for the HOME-SF, all of the individual items were translated into dichotomous zero-one variables and then appropriately summed. The precise recoding used in computing the HOME scores can be found in Appendix A-2. The dichotomous HOME items, available only for 1998-2002 on the public data file, are assigned respectively to the following areas of interest: ASSESSMENT 1998 (reference numbers C18996.-C19084.), ASSESSMENT 2000 (reference numbers C25061.-C25149.), and ASSESSEMENT 2002 (C25344.-C25432.).

Cognitive Stimulation and Emotional Support subscales. In addition to the overall HOME-SF score, the Child file includes two subscores: a cognitive stimulation and emotional support score. The (questionnaire item) components of the total scale, as well as cognitive stimulation and emotional support subscales are specified in the HOME appendix A-2 to this document. Because there are no appropriate national norms available for the overall HOME-SF score or its components, internally normed standard and percentile scores are provided for the overall HOME-SF scores and for the cognitive stimulation and emotional support subscores.

HOME Norms. Internal norms for the NLSY79 HOME were developed using standard normal curve assumptions. Children were normed on a single year of age basis with each (weighted) single year age of age group being assigned a standard score mean of 100 and standard deviation of 15. Percentile scores were derived from the standard scores using an inverse normal routine. To the extent that the single year of age data deviate from normality, this procedure produces less than optimal results. An alternate percentile score can be generated using the empirical cumulative distribution function by age that is computed using

the sampling weights. That frequency could be used to crosswalk from raw score to percentile score.

The HOME Discipline Items. Several of the HOME-SF items required review and coding of verbatim comments from the mother in order to fully utilize the responses originally coded as "other." The HOME-SF Part B (for children 3-5) contains items concerning the mother's response to the child hitting her (Mother Supplement question B08). Part C (for children 6-9) and Part D (for children 10-14) of the HOME-SF contain items concerning the mother's response to the child swearing at her (questions C22 and D21 respectively). Both items are coded "1" if the parent's response is moderate, defined as without harsh reprisal.

The discipline item for children ages 3-5 (previously called HOME-Part B) contributes to the HOME-SF scale scores only when certain alternatives ("send to room," "talk," "ignore," and "give a chore") are selected and the "other" alternative is without harsh reprisal—that is, if a mild reaction is the first response. The discipline item is scored zero if any of the following are selected: "hit," "spank," or the "other" alternative is harsh. Harshness is defined as either extensive or excessive deprivation (time-out longer than two hours; deprivation longer than two days) or physical punishment (firmly grasping the child, spanking then talking, or talking then spanking).

The HOME discipline item for older children was scored in a similar manner. Yelling back and withdrawal of love were assigned a value of "1" if there was no indication of a severe or physical responses. The item is scored zero if "spanking" is selected or if the "other" alternative is excessive (longer than three hours of time-out; longer than three days of deprivation) or if physical means ("eat soap") are the first types of punishment selected. Examples of verbatim scores as harsh are "break him up," "spank and ground for two weeks," and "spank then explain why." If the length of time was not specified ("send to room"), then it was assumed to be a moderate amount of time, so scoring the item was mild. Other examples of verbatims scored non-harsh are "never happens," "depends on the situation," "stand in corner until apologizes." Another example of a mild response (conveying no harsh discipline) was "give him something to eat." A few other verbatims should be noted. Some mothers selected the "hit" category and commented, "Then say I'm sorry," while others who checked "hit" said, "But not like I'd hit an adult." The latter were scored as harsh and assigned a value of "0."

Three primary coders were used in this process. Inter-coder reliability on the coding of the HOME discipline items was evaluated using Cohen's Kappa and also by computing percent disagreement. In 2002 there was 100 percent agreement on the recoding decisions for the discipline items.

The HOME Scores. As indicated above, the items that mothers complete are dependent on the age of the child: children under age 3 years, 3 through 5, 6 through 9, and 10 and over follow different question sequences. The HOME items and the recoding instructions can be found in Appendix A-2. The reference numbers for the raw and normed HOME scores are listed in Table 2.9 and Appendix K (for years 1986-1994). All children under the age of 15 living with their mothers are eligible for the HOME assessment (until 1994 all children, regardless of age, had a HOME supplement completed by their mother). Thus, children born

by the 1986 survey date (and still below the age of 15 in 2002) may have eight rounds of HOME scores available. Children born between 1986 and 1988 may have seven HOME scores and children born since the 1988 survey can have up to six HOME scores—assuming of course that their mothers completed a HOME assessment for them at the relevant survey points. Note also that whereas the *raw* scores are specific to a child's age at a particular survey point, a single set of normed scores is created for each survey round, regardless of the child's age.

Completion Rates – The HOME. Table 2.12 indicates the number and types of children at different ages for which a HOME assessment was completed in 2002. Overall, 95.3 percent of children under age 15 have a HOME score in 2002. This level of completion for the HOME assessment has been maintained over recent survey rounds. However, completion rates are much lower for the youngest children, because the interviewer observation items at the end of the *Child Supplement* are less likely to be completed for this age group. Since there are no assessments directly addressed to children under the age of four, interviewers are less likely to see the mother in direct contact with the child, and thus are less able to answer the items that require direct observation of mother-child contact. This lack of data is even a more significant issue with respect to the emotional support subscore, partly because the conditions permitting proration of subscores are more stringent, as noted above.

Validity and Reliability – The HOME. The HOME assessment is among the most often used of all the assessments. It is widely employed both as an input, predicting many other child outcomes, and as an outcome in its own right. Several analyses based on the NLSY79 child data indicate that the HOME-SF is closely related to several different indices of family poverty, and, that the measure is sensitive to increments in family income, particularly when looking at children born into poverty. Numerous researchers have continued to utilize the HOME-SF child assessment for various purposes in recent years. The overall HOME-SF scale and the cognitive stimulation and emotional support subscales are used frequently as outcomes of interest predicted by various family circumstances, such as mothers' and fathers' employment. These measures of the home environment continue to be often used as predictors of children's cognitive and/or behavioral outcomes using PPVT, PIAT, and BPI scores. Studies that utilize existing or previously constructed measures from the HOME-SF typically cite one or more of the following sources for reliability and validity information: Baker and Mott, 1989; Menaghan and Parcel, 1989 & 1991; Luster and Dubow, 1990 & 1992; Parcel and Menaghan, 1990. A recent comprehensive review evaluates the strengths and limitations of the NLSY79 HOME-SF scales as well their utility in research across a variety of disciplines (Mott, 2004).

Slight variations on the overall HOME-SF scale are used in order to isolate a facet of the home environment for theoretical reasons. The most frequent example is that father presence has been isolated in some studies so that its unique effects can be examined (Mott, 1993; Baydar, 1995). Although not as frequently utilized as the overall scale and the two main subscales, individual items and researcher-constructed subscales representing a variety of specific concepts are also studied as predictors and as outcomes. For example, some studies use measures of discipline/punitiveness constructed from one or more HOME-SF items to predict later child behavioral outcomes (Dornfeld and Kruttschnitt, 1992; McLeod and

Shanahan, 1993; McLeod et al., 1994; Rodgers et al., 1994; Parcel and Geschwender, 1995; Straus et al., 1997).

Some researchers with concerns about the reliability of some of the subscales have opted to rely on the overall HOME-SF (Ketterlinus et al., 1992). Some analysts, who have conducted confirmatory factor analysis on factor structures for the HOME-SF for younger children, recommend that the HOME-SF should not be thought of as measuring a single concept (Ferron et al., 1994). Researchers with concerns about the validity of the HOME for Hispanic children should be aware that the instrument is administered in Spanish if that is the preferred language of the mother. An extensive discussion of the unique aspects and numerous applications of the NLSY79 HOME scales can be found in Mott, 2004.

As mentioned earlier, bibliographies of research based on the NLSY79 child data are available on-line or from NLS User Services (see Chapter 5). An extensive body of research has developed in which the NLSY79 HOME scales have been used. The *NLSY79 Child Handbook: 1986-1990* describes this research in detail through 1990, emphasizing earlier work that examined the reliability and validity of the HOME (Baker et al., 1993). *The NLSY Children 1992* provides further evidence regarding linkages between the HOME scale and subscales, and a variety of family and maternal antecedents (Mott et al., 1995). Finally, *The NLSY79 Child Assessments: Selected Tables* provides detailed distributions by age and race/ethnicity for the overall HOME scores and the two subscores. Tables series 1 in each of these survey-year assessment reports contains information about the HOME scores.

Temperament (How My Child Usually Acts)

At the time of the design of the initial NLSY79 Child survey design, no single instrument seemed adequate to use for measuring child temperament, within the context of a large national survey administered by lay personnel. As a result, a Temperament scale was developed, based on Rothbart's Infant Behavior Questionnaire, Campos and Kagan's compliance scale, and other items from Campos.

Because the child's temperament is partially a parental perception, the behavioral style of children in the NLSY79 was measured by a set of maternal-report items (for all children younger than seven years) and interviewer ratings (in 1996-1998, for children three years or older and In 2002 for children age 4 and older). The maternal scale "How My Infant Usually Acts" addresses the activity, predictability, fearfulness, positive affect, and friendliness of infants below age one. "How My Toddler Usually Acts" addresses the fearfulness, positive affect, and friendliness of one-year-olds. "How My Child Usually Acts" measures the compliance and attachment of two- and three-year-olds and additionally, the friendliness of children aged four through six. For children ages three through six, the interviewer rates the child's shyness when first introduced, shyness at the end of the session, and the child's cooperation, interest and motivation, energy, persistence, and attitude toward and rapport with the interviewer during the assessment. All of the scales were available for administration in English and Spanish.

The Temperament Scores. A total of ten distinct scores tap various dimensions of temperament, but not all dimensions are appropriate for all ages. For example, when examining infant temperament as a predictor of childhood behavior problems, Colder, Mott

and Berman (2002) performed a confirmatory factor analysis on six items producing two factors or subscales: fear and activity level (p. 6). Gortmaker, Kagan, Caspi and Silva (1997) used the sum of two shyness questions taken at two different time points to produce an indicator of overall shyness in children ages 2 to 7 years old. The specific (questionnaire) items for each Temperament score, and the age appropriateness of the scores are indicated in Appendix B. The complete listing of assessment scores for 1996-2002 can be found in Table 2.9 and Appendix K (for years 1986-1994).

The behavioral tendencies of the children are rated by the mother on a five-point scale, ranging from Almost Never (value of 1) to Almost Always (value of 5). The scores of the various scales are computed by summing the individual items in the scale where appropriate. Some items are recoded in reverse before summing. The question names for such items are in bold in Appendix B. If any item component of a subscale was missing, that subscore was not computed. Since no appropriate national norms are available for this assessment, only raw scores are provided.

Changes in Scoring the Temperament Scales. An important and necessary change was made beginning with the 1990 Temperament scoring. Because in some survey rounds children under the age of four are not administered any of the *Child Supplement* items, it is necessary to truncate two scales addressed to younger children. These are the difficulty composite score for children between the ages of 8 months and 23 months and the friendliness scale for children under the age two. For researchers requiring comparability over time, abbreviated and unabbreviated versions of the scores for 1986 and 1988 are included in the public use file.

Completion, Validity, and Reliability - Temperament. Researchers considering the use of the Temperament scores may wish to examine Table series 2 in *The NLSY79 Child Assessments: Selected Tables*, as well as the evaluation of the temperament reliability and validity included in *The NLSY Children 1992* (Mott, et al., 1995). The latter document examines, within a multivariate context, the extent to which selected temperament scores are independently linked to a wide range of demographic and socioeconomic antecedents while also predicting other child outcomes in subsequent survey rounds. In general, completion rates for this assessment are quite high, often well above 90 percent (see Tables series 2 in *The NLSY79 Child Assessments: Selected Tables*).

Motor and Social Development

The Motor and Social Development scale (MSD) was developed by the National Center for Health Statistics to measure dimensions of the motor, social, and cognitive development of young children from birth through three years. The items were derived from standard measures of child development (Bayley Scales of Infant Development, the Gesell Scale, Denver Developmental Screening Test), which have high reliability and validity (Poe 1986). The scale has been used in the National Health Interview Survey (a large national health survey that included 2,714 children up to age four) and in the third National Health and Nutrition Examination Survey (NHANES, 1988-1994). Analyses by Child Trends, a non-profit, non-partisan research organization, of the scale in the 1981 *Child Health Supplement to the National Health Interview Survey* established the age ranges at which each item's developmental milestone is generally reached by U.S. children (Peterson and Moore 1987).

Based on the child's age, NLSY79 mothers answer fifteen age-appropriate items out of 48 motor and social development items. These items have been used with a full spectrum of minority children with no apparent difficulty. A Spanish version of the schedule was available to NLSY79 mothers whose principal language is Spanish.

Scoring Motor & Social Development. The NLSY79 Motor and Social Development assessment has eight components (parts A through H) that a mother completes contingent on the child's ages. Part A is appropriate for infants during the first four months of life (i.e., zero through three months) and the most advanced section, Part H, is addressed to children between the ages of 22 and 47 months. All of the items are dichotomous (scored either zero or one) and the total raw score for children of a particular age is obtained by a simple summation (with a range 0 to 15) of the affirmative responses in the age-appropriate section. Associated with each raw score is a series of norms: (1) an overall percentile and standard score and (2) same-gender by age percentile and normed scores. That is, boys were scored using the male national norms and girls were assigned female national norms, and both genders received combined gender norm scores. All these normed scores were constructed by CHRR using data from the nationally representative sample in the 1981 Child Supplement to the National Health Interview Survey (National Center for Health Statistics 1984). The reference numbers for the various raw scores, overall scores, and same-gender normed scores for Motor & Social Development are listed in Table 2.9 and in Appendix K (for years 1986-1994).

MSD Norms. The Motor & Social Development norms are grouped into fairly narrow age categories reflecting the extreme sensitivity of a child's level of development to his or her age: following a (four month) zero through three months age break, the four through thirty month age range was normed by successive three month age groups with the thirty-one through forty-two month range being normed according to three successive four month categories, followed by one five month (forty-three through forty-seven month) category. No proration was attempted on this assessment since the proportion of missing items is modest and there was some question about the appropriateness of the procedure, given that later items in the assessment tend to be more difficult than earlier items, and non-response is not random across items. Appendix C contains the norming tables for this assessment.

Caution should be exercised when interpreting results for three-year-olds, the oldest group completing this assessment. The Motor and Social Development assessment tends to "top out" for three-year-olds and does not provide a sensitive ceiling for these older children. *For this reason, researchers using the assessment should include an age control in any multivariate analyses even when they are using normed scores*. In general, the distribution of scores for NLSY79 children on this assessment tends to be more peaked for the youngest and oldest children (e.g., see Table 3.3 in *The NLSY79 Child Assessments: Selected Tables*).

While not described in these tables, it is also useful to note the reported gender differences at the youngest ages. Infant girls score significantly higher than their male counterparts, consistent with other evidence regarding early gender differences in motor and social development. Researchers interested in separately analyzing boys or girls are reminded that separate gender-specific norms are available.

Completion, Validity, and Reliability - MSD. As seen in Table 2.12, the overall completion rate for MSD in 2002 is about 96 percent, with a fairly uniform pattern of completion evident across all three categories of race/ethnicity. The overall completion rate for this assessment showed a decline through 1998. A substantial proportion of the non-completions resulted from situations where the mother skipped the section in the paper booklet or inadvertently left a number of the items blank. In 2000 this assessment was converted to CAPI administration to the mother, which may account for the significant increase in overall unit and item response.

Readers interested in information about the validity and reliability of the NLSY79 Child data for this assessment may want to examine the discussions of MSD in the *NLSY79 Child Handbook: 1986-1990* (Baker et al., 1993) and *The NLSY Children 1992* (Mott et al., 1995). Analyses based on the NHANES III data indicate that low birth weight status and pre-term delivery are associated independently with small, but measurable, delays in MSD (Hediger et al., 2002).

The Behavior Problems Index

The Behavior Problems Index was created by Nicholas Zill and James Peterson to measure the frequency, range, and type of childhood behavior problems for children age four and over (Peterson and Zill 1986). Many items were derived from the Achenbach Behavior Problems Checklist (Achenbach and Edelbrock 1981) and other child behavior scales (Graham and Rutter 1968; Kellam et al., 1975; Rutter, Tizard and Whitmore 1970).

Parent respondents to the 1981 Child Health Supplement of the National Health Interview Survey were asked an extensive series of structured questions concerning the child's problem behaviors and use of mental health services (NCHS 1982: 100-102). The specific questions varied somewhat depending on the age of the child. The behavior problem items utilized in the NLSY79 were developed from these items.

Scoring the BPI. The Behavior Problems total score is based on responses from the mothers to 28 questions in the *Mother Supplement* (items 1-26, 31, and 32 in the Behavior Problems scale). These mother-report questions ask about specific behaviors that children age four and over may have exhibited in the previous three months. (Note: Questions 27 through 30 in the BPI section are *not* part of the Behavior Problems scale. They were added by CHRR to tap dimensions that are particularly relevant for older children.) Three response categories were used in the questionnaire: (1)"often true," (2) "sometimes true," and (3) "not true".

Overall Score and Subscores. For the overall Behavior Problems scale and the set of six subscales defined below, responses to the individual items are dichotomized and summed to produce an index for each child. In this recoding process, each item answered "often" or "sometimes true" is given a value of one. Each item answered "not true" is given a value of zero. Thus, higher scores represent a greater level of behavior problems. Two of the items (Q.31 and Q.32 in the Behavior Problems sequence) are appropriate only for those children who have attended school at some time. *Only the overall score and the antisocial subscore use these two items*. Thus, for the BPI assessment, parallel raw scores are computed for children in school and children not yet in school.

Factor analysis was used to determine the six subscores alluded to above according to the following domains: (1) antisocial behavior, (2) anxiousness/depression, (3) headstrongness, (4) hyperactivity, (5) immaturity (6) dependency, and (7) peer conflict/social withdrawal. Appendix D-1 of this document displays the components of these subscales. The procedures used to define these subscores are detailed in the *NLSY79 Child Handbook: 1986-1990* (Baker et al., 1993).

Externalizing/Internalizing scales. Starting with the 1994 survey, CHRR has prepared an alternate set of BPI scores that measure a child's tendency to internalize or externalize behaviors. Available as raw, normed and percentile scores, they are titled:

BEHAVIOR PROBLEMS INDEX: EXTERNAL SCORE TRICHOTOMOUS ITEMS
BEHAVIOR PROBLEMS INDEX: INTERNAL SCORE TRICHOTOMOUS ITEMS

These "trichotomous" scales are constructed from items that are *not* dichotomized but are recoded from 1 (Often True), 2 (Sometimes true), 3 (Not true) to 0, 1, 2 with the following recoding: 3 = 0, 2 = 1, 1 = 2 before summing. The composition of these externalizing and internalizing scales can be found in Appendix D-1.

BPI Norms. Except the above non-dichotomous external, internal and total scores (based on trichotomous items), overall as well as "same-gender" normed scores have been created based on data from the 1981 National Health Interview Survey. Girls are systematically more likely to be reported as exhibiting "better" behavior on most of these scales. Normed scores for the BPI include both percentile and standard scores (with a national mean of 100 and a standard deviation of 15) and are based on single year of age data. For children below the age of six, separate norms are created for children in school and out of school.

Nationally normed percentile and standard scores are provided for the three trichotomous scores, but normed "same-gender" scores are not available. With regard to the six subscores, the user is cautioned that the range of normed outcomes is quite constrained, because of the limited number of possible responses for some of the subscores. As with the other *Mother Supplement* assessments, a user who wishes to select a sample of children of a particular age should access the *Mother Supplement* child age variable. Users will find the reference numbers for the Behavior Problems scores in Table 2.9 and Appendix K (for years 1986-1994). The components of the BPI overall scores and subscores are listed in Appendix D-1. Note: Normed scores are not available for the Dependency subscale for children ages 12 and over. The BPI norming tables are printed in Appendix D-2.

Imputation of BPI scores. Since 1992, imputed values have been assigned for the overall dichotomous raw score for all children for whom one item was missing. Norms are, of course, also provided for all those children. Similarly, beginning in 1994, scores have been imputed for the overall internal and external subscales where only one item is missing. Starting in 2000, the overall trichotomous score was *not* imputed. The overall dichotomous raw score includes one extra digit; with the final digit representing one implied decimal place. The external and internal raw scores have been rounded to the nearest full digit. Imputation flags (assigned to the ASSESSMENT area of interest) are available that identify those cases that have been prorated. In no instance does imputation involve very many cases.

Completion, Validity and Reliability - BPI. The Behavior Problems Index is among the most frequently used of the NLSY79 child assessments, both as an outcome in its own right and as a robust predictor of a wide range of child attitudes and behaviors. Table 2.12 shows that in 2002, the overall completion rate for the BPI reached 99 percent, probably as a result of CAPI administration of the Mother Supplement. Through 2000, the overall completion rate for the Behavior Problems scale is about 93 percent, with somewhat lower levels of completion by Hispanic children in the sample. The racial/ethnic variation evident in the last three rounds is not as pronounced as in earlier survey rounds (Mott, 1998).

A fully representative sample of children would be expected to have a mean standard BPI score of 100, however the mean for the NLSY79 child sample is 103.5 in 1998, 101.5 in 2000, and 101.7 in 2002 (see Table 4.3 in the *Selected Assessment Tables*). Previous evaluations (Mott 1998) speculated that the higher levels reflect the fact that the NLSY79 children are not yet fully representative of a national cross-section of American children and somewhat over-represent children born to younger and less-educated women. This becomes less of an issue with the passing of time as the NLSY79 mothers approach the end of their childbearing years. For example, whereas the NLSY79 children over the age of ten in 1996 have mean behavior problem scores well over 100 (as high as 106 in 1996), the mean score for children ages 4 or 5 is closer to 98. While the age-score pattern appears somewhat erratic over time, there is evidence that the sample of NLSY79 children may have normed scores not substantially different from the overall 1982 national norming sample. The assessment tables reports include distributions for the Behavior Problems Scales starting in 1994 (see Chapter 5 for information on the *Selected Assessment Tables*).

Researchers continue to frequently use the BPI assessment in studies based on the NLSY79 child data. The overall scale, typically used more often that its subscales, is often seen as an outcome predicted by family circumstances and parental characteristics. The overall index has also been used to test the reliability and validity of other scales, such as the temperament scales (Baydar 1995).

Original or modified versions of the internalizing and externalizing subscales have been used as outcomes of interest in a number of studies (Chase-Lansdale and Gordon 1996; McLeod and Shanahan 1993; McLeod and Edwards 1995; Mott, Kowaleski-Jones, and Menaghan 1997).

The six NLSY79 Child behavior problem subscales (antisocial, anxious/depressed, headstrong, hyperactive, dependency, and peer conflict) are often used as child outcomes of interest within a single study. The antisocial and anxious/depressed subscales are also studied separately in some cases. Several researchers have created their own subscales from the items in the BPI child assessment to use as child outcomes. The most frequently studied outcome of this type is oppositional action, a fifteen-item scale that represents “acting out” behaviors (Cooksey, Menaghan and Jekielek 1997).

The *NLSY79 Child Handbook: 1986-1990* (Baker et al., 1993) discusses additional literature on this assessment. *The NLSY Children 1992* includes a discussion of the reliability and validity of the assessment based on the earlier waves of child data (Mott et al., 1995). Users

are encouraged to review an annotated listing of research in which the BPI scales are used by accessing the NLS on-line bibliography or contacting NLS user services (see Chapter 5).

Parts of the Body (1986 and 1988 only)

The Parts of the Body assessment was completed by age-eligible NLSY79 children in 1986 and 1988 only. Developed by Jerome Kagan of Harvard University, Parts of the Body attempts to measure a one- or two-year-old child's receptive vocabulary knowledge of orally presented words as a means of estimating verbal intellectual development. The interviewer names each of ten body parts and asks the child to point to that part of his or her body.

Scoring Body Parts. The child's score is computed by summing the items that a child correctly identifies (C7972. for 1988 and C5799. for 1986). Thus, a minimum score is 0 and a maximum score is 10. No proration was attempted since the later items in the sequence are more difficult than the earlier items. A Spanish version of this assessment was available for use with young Hispanic children. A complete protocol for the Body Parts assessment can be found in the *1988 Child Supplement* (available from NLS User Services or online at <ftp://ftp.chrr.ohio-state.edu/usersvc/>).

Because of inconsistency in the way some interviewers interpreted the instructions, the Body Parts assessment was scored in 1988 using three alternate criteria. First, a child had to answer each of the ten items either (1) correctly or (2) incorrectly on at least one of the two attempts (see page CS-18 in the *1988 Child Supplement*). If scoring was completed according to this criteria, then the case was coded a "1" on the Body Parts scoring criteria flag (C7973.). A second, less restrictive criterion, allowed some of the individual items to be coded "3" (no answer) on some of the attempts. For this subset of children, a code of "3" was treated as an incorrect response and the overall assessment was accordingly scored. These cases can be identified by a value of "2" on the Body Parts criteria flag. Children for whom virtually all the responses were coded "3" (and translated into incorrect responses) received a value of "3" on the Body Parts criteria flag. Thus, users may restrict analyses to the more constrained sample or opt to include only children who had been scored according to the less conservative definitions. As with all the assessments, users who plan to use a particular assessment are strongly urged to evaluate the scoring schema and data quality according to their own criteria. While we have made every effort to create scores that are faithful to the intentions of the assessment designers, there are instances where researchers could reasonably disagree about what precise scoring procedures should be utilized. The Body Parts assessment was given to very young children for whom there could be considerable ambiguity in differentiating between "incorrect" and "non responses."

Norms – Body Parts. As no appropriate national norms are available for scoring this assessment, CHRR has provided (for 1988) internally normed standard and percentile scores (see Appendix K). No normed results are provided for 1986. As the raw score on this assessment is extremely sensitive to the age of the child, users of the raw scores are encouraged to apply appropriate techniques that permit analytical comparisons of children across different ages. When controlling for age, the user should select the appropriate *Child Supplement* age variable that specifies the child's age (in months) as of the *Child Supplement* interview date.

Completion, **Validity, and Reliability – Body Parts.** Notwithstanding the availability of a Spanish version of this assessment in the NLSY79, the user should proceed cautiously when interpreting its reliability and validity, particularly with regard to minority and relatively more disadvantaged children. It appears that a child's score may be quite sensitive to the child's English language capabilities as well as rapport with the interviewer. In 1986, the non-completion rate for this assessment was about 17 percent. For about half of the completed assessments, a child is reported to have not responded on at least one question, requiring the alternate assumptions with regard to scoring we describe above to be made. For a more complete discussion of the reliability and internal validity of this assessment and the Memory for Location assessment, please see pages 30-31 in *The NLSY Children 1992* (Mott et al. 1995).

Memory for Locations (1986 and 1988 only)

The Memory for Locations assessment was completed by age-eligible NLSY79 children in 1986 and 1988 only. It was developed as a measure of a child's short-term memory and has been extensively used by Jerome Kagan of Harvard University (Kagan 1981). The child, aged eight months through three years, watches as a figure is placed under one of two to six cups. The cups are screened from a child's view for one to fifteen seconds; the child is then asked to find the location of the figure. Items increase in difficulty as the number of cups and/or the length of time during which the cups are hidden from view increases. A child's score is based on his or her ability to select the cup hiding the figure.

Scoring Memory for Locations. The number of individual items that a child can potentially answer in this assessment is contingent on the age of the child. Children between the ages of 8 and 23 months start with item 1, the easiest question; children who are at least two years of age begin with item 4, and children age three start with item 7. A child's score is based on the highest (most difficult) question answered. A child who cannot answer the entry item receives a raw score of zero *regardless of where he or she enters*. Otherwise, if Q.1 is the highest item answered correctly, the child receives a score of 1. The maximum score is 10, if the tenth or final item is correctly answered. A child under two years of age is eligible to receive a score between zero and ten; a child age three, by virtue of the fact that he/she enters at item seven, can only receive a raw score of 0, 7, 8, 9, 10. Because external norms were not available, internally normed standard and percentile scores were developed. The scores that are constructed for this assessment are identified in Appendix K. The user is still advised to use the normed scores cautiously because of the unusual distribution of raw scores described above.

Because of the complexity of the administration procedures for the Memory for Locations assessment, a number of responses were not coded precisely according to the decision rules. On the advice of the assessment developer, children who followed a sequence that might have led to "extra learning" (as part of the assessment administration process) were still scored. For example, if a child was asked Q.1B after having correctly answered Q.1A, the child was scored and not given an "invalid skip" code, even though, theoretically, the child was supposed to proceed directly from Q.1A to Q.2A. In addition, a careful examination of the individual responses suggests that there were a number of children who began the assessment at an improper entry point but who ended up at a level where they would, in all likelihood,

have wound up anyway. In these instances, a score was provided for the children and these cases were "flagged" with a code of "2" on the Memory for Location flag variable (C7977. for 1988 and C5782. for 1986). A code of "1" on this flag includes all scored cases *except* those defined as 2's. Researchers who plan to use this assessment extensively should carefully examine the actual response patterns to individual items. Individual researchers may choose to impose scoring criteria that are more or less stringent than those used in computing the raw scores provided in this data file.

This assessment displays a clear tendency to "top out" for the oldest children in the sample. That is, a very large proportion (63 percent in 1986) of all three- year-olds and 32 percent of two year olds received the maximum raw score of ten on the assessment. A relatively normal distribution may be in evidence only for children below the age of two.

The Body Parts and Memory for Locations assessments were no longer used in the NLSY79 Child surveys following the 1988 Child data collection effort, partly because of funding constraints and partly because of the greater difficulty in administering them to children in a home setting. Interviewers found it difficult to make an unambiguous determination as to whether a child was unable to respond or whether he/she was just shy. It was sometimes difficult to be definitive regarding the direction in which a child was pointing, either toward a cup or toward a body part.

Finally, evaluation of these two assessments in 1986 showed little in the way of significant linkages between a wide range of socio-economic antecedents and these two outcomes. However, more recent research suggests that these two assessments may be useful independent predictors of cognitive development (Mott, et al., 1995) since Body Parts and Memory for Location scores in 1986 are highly significant predictors of Peabody assessments in 1992. It appears that, in standard multivariate analyses, these early child cognitive measures may indeed be useful predictors of aptitude and achievement measures six years later.

McCarthy Scales of Children's Abilities - Verbal Memory (1986-1994)

The Verbal Memory subscale of the McCarthy Scales of Children's Abilities was last administered in the NLSY79 Child survey in 1994. This assessment taps a child's *short-term* memory in response to auditory stimuli. The Verbal Memory subtest selected for use in the NLSY79 Child is only one of six scales that form the complete McCarthy assessment battery. Verbal Memory was administered by first asking the child, age three through six years, to repeat words or sentences said by the interviewer (Parts A and B). Then the child listens to and retells the essential aspects of a short story read aloud by the interviewer (Part C).

Verbal Memory has typically been completed by children between the ages of three and six, although in 1990, administration was limited to ages four to six. In all child survey years it was only administered to age-eligible children who had not previously (in a prior round) completed the assessment. The precise administration pattern by year is noted in Table 2.11. The Verbal Memory Scores that are available on the NLSY79 Child data file are listed in Appendix K.

Changes in Verbal Memory. From 1986 to 1990, both the word and sentence components as well as the story part of the assessment were administered. In 1992 and 1994, administration was limited to the word/sentence component of the assessment. This means that in 1992 and 1994, only the first two parts (A and B) of Verbal Memory were administered. After 1994, due to cost reasons and concerns about data quality, administration of this assessment was discontinued.

Scoring Verbal Memory. In the first half of the word-sentence component of the assessment (Part A), the score that the child received was contingent on the child repeating a series of words, ideally in the same sequence that they were uttered by the interviewer. In Part B of this first section, the child was scored according to the number of key words that he or she repeated from a sentence read by the interviewer. The combined total score for Parts A and B determined whether the story (Part C) was administered. In Part C, the child was read a story paragraph and then scored on the basis of his or her ability to recall key ideas from that story. National norms are available for this assessment, so children were assigned normed scores based on his or her performance in comparison with a nationally representative sample.

The number of correct responses to the words and sentences on pages 50 and 51 in the 1994 *Child Supplement* (the last year the assessment was administered) were combined to generate one total raw score. Appropriate national norms are available in the McCarthy manual (McCarthy, 1972: 205). Thus, percentile and standard scores are available for linking with the raw scores. The specific identification of these raw and normed scores is found in Appendix K.

As noted in the 1986 through 1990 rounds of data collection, the Verbal Memory assessment included a "Part C" or a "Story" section. Children who received this assessment in 1986-1990 received two scores in each year. Entry into the "Story" was contingent upon receiving a minimum combined score of 8 on Part A plus Part B. The researcher may note that there were a few instances of children entering and receiving a score on Part C who had received an invalid skip score on Part A and Part B. While it may not have been possible to score A and B for various reasons, the available information was sufficient for the scorer to be confident that the A and B score was at least 8. Children who received a valid score of less than 8 on Part A and Part B were automatically assigned a zero on Part C. This explains the considerable heaping at the zero outcome for Part C.

The scoring on Part C is a simple summation of the number of key words/phrases identified correctly from the paragraph on page CS-36 of the 1990 *Child Supplement*. No proration was attempted for missing responses. The individual items appear on page CS-38 of that supplement. A total raw score and two normed scores were generated for Part C in 1986 through 1990 (see Appendix K).

From an analytical perspective, the prospective user may note that the distributions of the percentile and standard scores for Part C are somewhat uneven, reflecting the fact that the Part C outcome allowed for only 12 possible responses (0 and 1 through 11) with a major heaping as noted, at the zero category. The fact that the percentile/standard scores assigned to the various raw scores vary by the age of the child helps to smooth the normed pattern somewhat. However, the user is encouraged to examine the pattern of normed responses before

proceeding with his or her research. As with all of the assessments in the *Child Supplement*, the *Child Supplement age* variable should be used when stratifying the sample by age of child.

Validity – Verbal Memory. While this subscale has a high face validity regarding what it purports to measure, the user should be sensitive to the fact that the scoring of Part C, the story section, undoubtedly includes an element of subjectivity. Interviewers can, in some instances, disagree regarding whether or not a child's specific response was indeed a "correct" or "incorrect" interpretation of an aspect of the story. Also, to some extent, the verbatim verbal responses recorded by the interviewer could, in some instances, be coded in different manners by different interviewers. In order to test this latter premise, NORC had the 1986 verbatim responses for about 400 children independently coded by two coders. There was complete agreement between coders for 92 percent of the respondents.

At a different level, there is also some possibility that the Part A response patterns reflect a lack of precision in the instruction—an ambiguity that also exists in the McCarthy manual. The instructions (for Part A) only ask the child to repeat the words that the interviewer reads to him or her, but do not specify that the words should be repeated in the same sequence. However, in the scoring, the respondent loses a point if the words are repeated out of sequence. Thus, the extent to which the words were repeated in or out of sequence may have been a function of how the instructions were understood, an artifact that could attenuate the reliability of the Part A score.

Completion Rates - Verbal Memory. The 1994 completion rate for Parts A and B was only about 82 percent, below the completion rate for all of the other child-administered assessments. Hispanic children had a completion rate of only 77 percent, substantially below that for other children. Thus, as with some of the other assessments, there is surface evidence that language constraints come into play when evaluating the reliability and potential validity of this assessment. With regard to this assessment, it is important to note that a Spanish translation was *not* utilized. Since this test measures *English* language verbal retention, a language bias is likely for at least some children. Hispanic children and children of less educated mothers are heavily over-represented among those who could not be scored—the "invalid response" subset.

Verbal Memory has been one of the most difficult of the assessments to administer because of the ambiguity involved in determining whether a child does not know an answer or is just shy (see Baker and Mott 1995, for a discussion of this issue and its impact on the assessment). This is primarily an issue with younger children who had not previously been tested or had not been in a formal school environment. With the introduction of the CAPI administration procedures in 1994, one additional problem became apparent. The number of cases scored "zero" increased substantially, but interviewer comments suggest that many of these cases really should have been "non-completions." This is discussed in detail in Baker and Mott (1995). For the reasons noted above, this assessment should be used cautiously. Additional discussion relating to the reliability and validity of this assessment, as well as how it has been used by other researchers, can be found in the *NLSY79 Child Handbook: 1986-1990* (Baker et al., 1993) and in *The NLSY Children 1992* (Mott et al., 1995).

Self-Perception Profile for Children (SPPC)

The Self-Perception Profile for Children (SPPC) is a self-report magnitude estimation scale that measures a child's sense of general self-worth and self-competence in the domain of academic skills (Harter 1982, 1985). Harter's instrument taps five specific domains of self-concept as well as global self-worth. The twelve items selected from the original for use in the NLSY79 assessment translate into two subscores, a global self-worth score and a scholastic competence score. There is no overall self-perception score. The global self-worth score is a summation of the six "even-numbered" items, beginning with the second item. The scholastic competence score is a summation of the odd numbered items, beginning with item one. These two scales represent two of six subscales developed by Susan Harter. A full description of all the subscales appears in the SPPC Manual (Harter 1985). The NLSY79 testing protocol for this assessment is also explained in the user version of the *Child Supplement* (see Chapter 5 for details about questionnaire documentation).

The assessment, titled "What I Am Like" in the *Child Supplement*, was completed by children ages eight and over in the survey years 1986-1994. Beginning with the 1996 survey, administration was limited to children 12 and over. Scale items are typically phrased as follows:

> "Some kids like the kind of person they are BUT other kids often wish they were someone else."

Children select which option is most like them and then indicate whether the statement is *sort of true* or *really true* for them. A value of "4" for each item denotes the highest level of self-worth and a "1" denotes the lowest level.

In the NLSY79, interviewers administer this instrument directly to the children. The interviewer reads each statement to the child, then asks "which kind of kid is more like you," and follows up by asking whether or not the particular response is "really true for you" or "sort of true for you." Older children have the option of reading along on printed cards and simply answering whether they are more like the "X" side or the "Y" side of the card. The graphical format and layout of the CAPI screens for SPPC can be found at the back of the Child Supplement (available from NLS User Services or on-line at <ftp://ftp.chrr.ohio-state.edu/usersvc/>). These sample pages are included in the appendix to the Child CAPI Supplement (see Chapter 5 for access information).

Changes in SPPC. From 1986 to 1994 the Self-Perception Profile for Children (SPPC) was administered to children ages 8 and older. Beginning with the 1996 survey, SPPC is administered only to children ages 12 and over.

Scoring the SPPC. Each of the two subscales include six items that are scored between one and four, with higher scores representing greater scholastic competence or greater global self-worth. Only raw scores, which are a simple summation of the six individual items in each scale, are provided, as no national norms are available. Subscore identification is documented in Table 2.9 and Appendix K (for years 1986-1994).

For a small number of cases, there are some missing items. In these instances, a prorated score is computed, assigning average values to the missing items. Flag variables that identify the degree to which cases have been prorated are included in each year's data. For example, a value of zero on these flags indicates that all items were completed and no proration performed; a "1" indicates that one item was missing, and so on.

Completion Rates - SPPC. The SPPC assessment has a relatively high completion rate (87.5 percent) in the current round, with only modest ethnic or racial variability (see Table 2.12). However, there is evidence that younger children, those under ten (who had been administered this assessment in the pre-1996 survey years), may have had greater difficulty in understanding some of the items. For this reason, scores for younger children may have been somewhat less reliable and valid. In this regard, it is useful to note that within and cross-year correlations between the two SPPC subscales and the various other cognitive assessments are significantly higher for children age ten and over than for eight and nine year olds. The zero-order correlation between the two subscales is about 0.3 for eight- and nine-year-olds compared with 0.4 for children age ten and over (Baker, et al. 1993: 130-131). For younger children, there is little association between the two scores and demographic or socioeconomic priors (Mott, et al. 1995).

Validity and Reliability - SPPC. In general, the reported reliabilities for the NLSY79 administration of these two subscales are somewhat lower than those reported by Harter (1985, 1990). She reports internal reliability of about .8 compared with .67 for the NLSY79 samples. This may partly reflect differences between the samples in their racial, ethnic, or socio-economic mix.

Researchers who have used these SPPC measures have relied on the constructed SPPC scores that are provided in the NLSY79 public child file. Using the 6-item global self-worth subscale, Baydar, Hyle, and Brooks-Gunn (1997) report a significant effect of a sibling birth on global self-worth, particularly among children of economically disadvantaged families. Turner (2000) used the scholastic subscale in finding that children resistant to overall delinquency, including drug use, report greater self-perceived scholastic competence than children who report engaging in delinquent behavior and drug use (p. 137 and p. 160). Both the *NLSY79 Child Handbook: 1986-1990* and *The NLSY Children 1992* include more extensive evaluations of the reliability and validity of these two subscores; the *NLSY79 Child Handbook* reviews other literature on the topic (Baker et al., 1993; Mott et al., 1995).

As a final note, it appears that there has been some escalation in the scores of the Global Self-Worth assessment over time. For example, in 1988, 58.4 percent of the children scored 20 or over, compared with about 63-64 percent in 1990-1992, 69 percent in 1994 and 76 percent (children age 12 and over) in 1996. This category surpassed 71 percent in 1998 and reached 70 percent in 2000 and 2002 (see Table 5.4 in the *Child Assessment Tables*). The reasons for the decline in the proportion with very low scores during the period remain unclear.

Wechsler Intelligence Scale for Children - Memory for Digit Span

The Memory for Digit Span assessment, a component of the Wechsler Intelligence Scales for Children–Revised (WISC-R), is a measure of short-term memory for children aged seven and

over (Wechsler 1974). The WISC-R is one of the best normed and most highly respected measures of child intelligence (although it should be noted that the Digit Span component is one of the two parts of the Wechsler scale not used in establishing IQ tables).

There are two parts to the Memory for Digit Span assessment. First, the child listens to and repeats a sequence of numbers said by the interviewer. In the second part, the child listens to a sequence of numbers and repeats them in reverse order. In both parts, the length of each sequence of numbers increases as the child correctly responds. Starting in 1996, this assessment is administered to all children age seven through 11 years. In prior rounds, it was administered typically to children ages seven and over who had not previously received the assessment, and to all ten and eleven year olds (see Table 2.11).

The child is instructed to repeat a series of 14 numbers (with increasing numbers of digits) forward and a different series of digits in reverse order. Each correct response is worth one point; the theoretical maximum on each of the subscores is, thus, 14 and for the total score, 28. The forward digit sequence is completed prior to the backward digit sequence. However, entry into the reverse sequence is not contingent on successful entry or completion of the forward sequence. Where appropriate, this assessment is administered in Spanish.

Digit Span Scores. This assessment generates three non-normed "raw" scores and one overall age-appropriate normed (standard) score. Whereas the normed scores for the other assessments are based on a mean of 100 and a standard deviation of 15, the Digit Span assessment is normed against a distribution that has a mean of 10 and a standard deviation of 3. Norms are only available for the total score. The variables to be accessed for these raw and normed scores can be found in Table 2.9 and Appendix K (for years 1986-1994). The norms are published in the *WISC* manual (Wechsler 1974: 118-150). The precise instruction and items used in this assessment can be found in the Memory for Digit Span section of the 1996 *Child Supplement*, available from NLS user services or on-line at <ftp://ftp.chrr.ohio-state.edu/usersvc/>.

Completion Rates – Digit Span. The completion rate for Digit Span in the current round is over 90 percent (Table 2.12), significantly higher for black children. Based on a cross-year examination of Digit Span scores, it is difficult to generalize about racial or ethnic differences in scores. As in 1998, the scores for whites in 2000 appear to be slightly above those of minority groups, with this difference being most prevalent on the "backwards" assessments (see Tables series 6 in the *Assessment Tables* Report). The 2002 scores show a slight increase across all three racial/ethnic sample groups in the overall and forwards scores but about the same pattern as 2000 for digits backward. However, in at least several prior years, different patterns were in evidence, with racial differences not following any systematic pattern.

As noted above, a Spanish version is available for administration. While this version is available for use, it may be that some Hispanic children with a less than adequate understanding of verbal English (the assessment is verbally administered by an interviewer) nonetheless completed the English version with less than optimal results.

Validity and Reliability – Digit Span. In multivariate analyses carried out with the 1992 data that controlled for a wide range of demographic and socio-economic antecedents, the

scores of black and Hispanic children were not below those of non-Hispanic, non black children on either the forward or backward assessment (*The NLSY79 Children 1992*). In the same analyses, it was also found that the Digit Span subscores in 1986, in particular the reverse order "digit backwards" assessment, are useful independent predictors of all of the PIAT scores for older children in 1992. Users who want more detailed information about the reliability and validity of these assessments and a brief discussion of other literature about studies that have used these assessments should consult the *NLSY Child Handbook: 1986-1990* (Baker et al., 1993) and *The NLSY Children 1992* (Mott et al., 1995).

PIAT Mathematics

The Peabody Individual Achievement Test (PIAT) is a wide-ranging measure of academic achievement for children aged five and over and is widely known and used in research. It is among the most widely used brief assessment of academic achievement having demonstrably high test-retest reliability and concurrent validity. The NLSY79 *Child Supplement* includes three subtests from the full PIAT battery: the Mathematics, Reading Recognition, and Reading Comprehension assessments. Many of the comments related here to the PIAT math subtest are equally appropriate for the other PIAT (as well as PPVT) assessments.

The PIAT Mathematics assessment protocol used in the field is described in the Appendix to the *Child Supplement*. This subscale measures a child's attainment in mathematics as taught in mainstream education. It consists of 84 multiple-choice items of increasing difficulty. It begins with such early skills as recognizing numerals and progresses to measuring advanced concepts in geometry and trigonometry. Essentially, the child looks at each problem and then chooses an answer by pointing to or naming one of four options.

PIAT Basal and Ceiling. The PIAT Mathematics assessment was administered to all children below young adult age whose "PPVT age" was five years and above. Administration of this assessment is relatively straightforward. Children entering the assessment at an age-appropriate item (although this is not essential to the scoring) and establish a "basal" by attaining five consecutive correct responses. If no basal is achieved then a basal of "1" is assigned (see PPVT). A "ceiling" is reached when five of seven items are answered incorrectly. The non-normalized raw score is equivalent to the ceiling item minus the number of incorrect responses between the basal and the ceiling scores.

PIAT Norms. For a precise statement of the norm derivations, the user should consult the *PIAT Manual* (Dunn and Markwardt, 1970, pp. 81-91, 95). In interpreting the normed scores, the researcher should note that the *PIAT assessments used in the NLSY79 Child were normed about 30 years ago*. Social changes affecting the mathematics and reading knowledge of small children in recent years undoubtedly have altered the mean and dispersion of the reading distribution over this time period. In this regard, a revised version of the PIAT ("PIAT-R") was released in 1986, but this release occurred too late to incorporate as a 1986 child assessment. To date, we have opted to maintain internal continuity within the NLSY79 by continuing to use the 1968 version of the PIAT.

In 1998 and 2000, the overall (weighted) standard score mean for NLSY79 children completing the PIAT Mathematics assessment is about 104 compared with 100 for the 1968

norming sample (see Tables series 7 in the *Selected Tables* reports). In 2002, the mean overall (weighted) standard score of 106.8 is somewhat higher with slight increases most evident in the black and nonblack/nonHispanic sample groups. Thus, even though NLSY79 children are somewhat disadvantaged compared with a full cross-section of contemporary American children, they nonetheless score above average compared to what one might expect from a full national cross-section. It is likely that this pattern at least partly reflects changes that have occurred in American society in the last 30 years. For example, it is very possible that factors such as child educational television viewing patterns or involvement in pre-school programs have improved younger children's readiness for mathematics and reading, if not their advanced capability.

Normalized percentile and standard scores are derived on an age-specific basis from the child's raw score. The norming sample has a mean of 100 and a standard deviation of 15. The user is reminded that *a child's age determination for this assessment is based on a PPVT age*. The norming procedures essentially are a two-step process with the percentile scores being derived from the raw scores and the standard scores from the percentile scores. The reference numbers for the raw and normed PIAT Math scores are listed in Table 2.9 and Appendix K (for years 1986-1994).

Completion Rates – the PIATs. The majority of the invalidly skipped items in the PIATs between 1986 and 1992 (years when the survey was administered by paper and pencil) fall into two categories. First, there are some children who inadvertently were skipped over even though they were of an appropriate age. Second, a number of children could not be scored because the scoring decision rules were not followed properly so either a basal or ceiling could not be obtained. Starting in 1994, this procedure, which resulted in children being asked a greater number of questions than was required by protocol, is no longer utilized. The introduction of computer-assisted personal interview (CAPI) technology in the 1994 child data collection took the decision making regarding basal and ceiling procedures out of the hands of the interviewer. Thus, a PIAT assessment can no longer be terminated inadvertently because an interviewer errs in deciding whether a basal or ceiling has been reached.

Users of the PIAT assessments are encouraged to examine the individual response patterns as well as the reasons for invalid scores, particularly for the 1986–1992 period. Having the individual responses will permit the user to note that a number of assessments originally considered "unscorable" were scorable once the actual patterns of response on the various assessments were considered individually. This edit was possible because the interviewer recorded the actual response and a score of correct or incorrect for each answer. Thus, if the correct-wrong item was left blank inadvertently (something which was possible only with paper-and-pencil administration), but the actual response was available, it was frequently possible, in scoring the 1986 through 1992 assessments, to make a post hoc determination of "correctness." In addition, depending on the user's research intention, it may be possible to "score" additional cases if one is willing to sacrifice some precision in the scoring. For example, some additional cases could be scored, if one is willing to accept as adequate a score that does not deviate by more than one or two points from the "true" score. This issue has become less relevant since the introduction of CAPI interviewing procedures in 1994.

Table 2.12 shows that the overall completion rate for PIAT Math in 2002 is about 92 percent. There are modest differences between the white, black and Hispanic completion rates.

Changes in PIAT Scoring. Beginning with 1990, changes were introduced into the PIAT norming scheme to improve the utility of these measures and to simplify their use. First, children between the ages of 60 and 62 months (for whom no normed percentile scores had been available previously) are now normed using percentile scores designed for children enrolled in the first third of the kindergarten year—the closest approximation available to ages 60 to 62 months.

Starting in 1994, children with raw scores translating to percentiles that were below the established minimum were assigned percentile scores of "1"; children with raw scores translating to percentile scores above the maximum are assigned percentile scores of 99. In prior years, the "out-of-range" children had been assigned arbitrarily scores of 0, which led to some inadvertent misuse of the data. (Prior to the 1994 period, children who were more than 217 months of age were assigned normed scores of -4, since they were beyond the maximum ages for which nationals normed scores are available.)

Validity and Reliability – PIAT Math. In general, the PIAT Math is a highly reliable and valid assessment. As described in the *NLSY Child Handbook: 1986-1990* and *The NLSY Children 1992*, it is correlated closely with a variety of other cognitive measures. It is both predicted by and predicts scores on a variety of the other assessments. A particularly strong analytical advantage derived from all of the PIAT assessments is the fact that they have now been asked repeatedly of children aged five and over. Some children in the sample aged 13 or 14 years completed these assessments five times and, indeed, most of the children in the Young Adult sample have several PIAT administrations in their NLSY79 history. This patter of repeat assessment permits the careful examination of their developmental profiles in relation to school and early-career development. A more detailed discussion of repeat assessment can be found later in this Chapter.

PIAT Reading Recognition

The Peabody Individual Achievement Test (PIAT) Reading Recognition subtest, one of five in the PIAT series, measures word recognition and pronunciation ability—essential components of reading achievement. Children read a word silently, then say it aloud. PIAT Reading Recognition contains 84 items, each with four options, which increase in difficulty from preschool to high school levels. Skills assessed include matching letters, naming names, and reading single words aloud. To quote directly from the PIAT manual, the rationale for the reading recognition subtest is as follows:

> "In a technical sense, after the first 18 readiness-type items, the general objective of the reading recognition subtest is to measure skills in translating sequences of printed alphabetic symbols which form words, into speech sounds that can be understood by others as words. This subtest might also be viewed as an oral reading test. While it is recognized that reading aloud is only one aspect of general reading ability, it is a skill useful throughout life in a wide range of everyday situations in or out of school" (Dunn and Markwardt 1970:

> 19-20). The authors also recognize that "performance on the reading recognition subtest becomes increasingly confounded with the acculturation factors as one moves beyond the early grades."

This assessment is administered to children below young adult age whose PPVT age is five and over. The scoring decisions and procedures are identical to those described for the PIAT Mathematics assessment. A description of the process and a list of the words uttered by the interviewer are included in the public user version of the *Child Supplement*. The only difference in the implementation procedures between the PIAT Mathematics and PIAT Reading Recognition assessments is that the entry point into the Reading Recognition assessment is based on the child's score in the Mathematics assessment, although entering at the correct point is not essential to the scoring.

As with PIAT Mathematics, it is important to note that the norming sample for Reading Recognition was selected and the norming carried out in the late 1960s. This has implications for interpreting the standardized scores of the children in the NLSY79 sample, as already described in the PIAT Mathematics discussion. In this regard, the child sample that has completed the Reading Recognition assessment has a mean standard score of about 108 compared with 100 for the national norming sample (see Table series 8 in the *NLSY79 Child Assessments Tables* report).

Most children with invalid Reading Recognition scores (assigned a value of -3) have either not entered the assessment or prematurely terminated the assessment. In some instances, a careful review of the individual responses in conjunction with an examination of the interviewer's actual scoring calculations permitted clarification, and ultimately scoring, of additional cases. This type of data review was more prevalent during the years that the assessments were administered on paper without the benefit of CAPI scoring.

It is however, important to note that while interviewers are able to record the actual response to each PIAT Math item, the nature of the PIAT Reading Recognition makes this infeasible for the individual items. This is one reason that, in years that this assessment was administered on paper, the overall response rate is slightly lower on the PIAT Reading Recognition assessment. In contrast with the PIAT Mathematics assessment, it was not possible to rectify inadvertent skips for some children on the PIAT Reading Recognition assessment where the "correct-noncorrect" check item inadvertently was left blank. Researchers who plan to use the PIAT Reading Recognition assessment extensively are encouraged to examine the individual response patterns. Where a particular researcher does not require great precision on this particular outcome (e.g., a categorization of scores into a number of discrete categories being sufficient), it possible to reduce the non-completion rate. In a number of cases, while an exact score may not be determined, an appropriate score determination (e.g., within two or three points, or a score of at least a certain level) may be possible.

Scoring Changes – PIAT Reading. Changes were introduced beginning with the 1990 PIAT norming scheme to improve the utility of these measures and to simplify their use. First, children between the ages of 60 and 62 months (for whom no normed percentile scores had been available in 1986 or 1988) are now normed using percentile scores designed for children

enrolled in the first third of the kindergarten year—the closest approximation available to ages 60 to 62 months.

Starting in 1994, children with raw scores translating to percentiles below the established minimum are now assigned percentile scores of one; children with raw scores translating to percentile scores above the maximum are assigned percentile scores of 99. In prior years, the "out-of-range" children had been arbitrarily assigned scores of 0, which led to some inadvertent misuse of the data. (Through 1994, children more than 217 months of age were assigned normed scores of -4 since they were beyond the maximum ages for which national normed scores are available.)

PIAT Reading Recognition Scores. Three scores are reported for the PIAT Reading Recognition assessment in the child data file: an overall nonnormed raw score and two normed scores—a percentile score and a standard score. The norming sample has a mean of 100 and a standard deviation of 15; these were normed against standards based on a national sample of children in the United States in 1968. The specific child reference numbers for the PIAT Reading Recognition scores for all survey years appear in Table 2.9 and Appendix K (for years 1986-1994).

Completion, Validity, and Reliability – PIAT Reading Recognition. The relatively low overall PIAT Reading Recognition completion rate (89%) for 2000 largely reflected the decline in interview completion rates for the mothers. In 2002, the completion rate climbed back to about 92 percent, with some differences evident between non-Hispanic white and minority children (Table 2.12). As is true for the mathematics assessment, the recognition assessment is considered quite reliable and valid. The *NLSY Child Handbook: 1986-1990* includes a comprehensive discussion of these issues, drawing on material from the PIAT Manual as well as a variety of research that has been completed using the NLSY79 Child PIAT reading data (Baker et al., 1993). This discussion also includes internal CHRR evaluation of the cross-year correlations with other NLSY79 PIAT scores and the full spectrum of other cognitive assessments. Analyses presented in *The NLSY Children 1992* offer evidence of strong longitudinal independent associations between PIAT reading and a full set of demographic and socio-economic priors (Mott et al., 1995). In general, this assessment, as well as all of the other Peabody assessments, is widely used and has a well-established record in research.

PIAT Reading Comprehension

The Peabody Individual Achievement Test (PIAT) Reading Comprehension subtest measures a child's ability to derive meaning from sentences that are read silently. For each of 66 items of increasing difficulty, the child silently reads a sentence once and then selects one of four pictures that best portrays the meaning of the sentence.

> "While understanding the meaning of individual words is important, comprehending passages is more representative of practical reading ability since the context factor is built in, which plays an important role, not only in deciphering the intended meaning of specific words, but of the total passage. Therefore, the format selected for the reading subtest is one of a series of sentences of increasing difficulty. The 66 items in Reading Comprehension

> are number 19 through 84, with item 19 corresponding in difficulty with item 19 in Reading Recognition." (Dunn and Markwardt, 1970, pp. 21-22)

The PIAT Reading Comprehension assessment is administered to all children below young adult age whose PPVT age is five years and over *who scored at least 19 on the Reading Recognition assessment*. (From 1986 through 1992, PIAT Reading Comprehension was actually administered to all children who scored 15 or higher on Reading Recognition. This lowered threshold was used to maximize our ability to score the Reading Comprehension assessment for those cases where interviewers made minor addition errors in totaling the Reading Recognition test, computing actual scores of 19 or more as only being 15 through 18.)

Children who score less than 19 on Reading Recognition are assigned their Reading Recognition score as their Reading Comprehension score. If they score at least 19 on the Reading Recognition assessment, their Reading Recognition score determines the entry point to Reading Comprehension. Entering at the correct location is, however, not essential to the scoring. Basals and ceilings on PIAT Reading Comprehension and an overall nonnormed raw score are determined in a manner identical to the other PIAT procedures. The only difference is that *children for whom a basal could not be computed (but who otherwise completed the comprehension assessment) are automatically assigned a basal of 19.* Administration instructions can be found in the assessment section of the Child Supplement. As with the other PIAT tests, norming was accomplished in the late 1960s with all of its attendant potential analytical problems. These are noted in more detail in the discussion above about the PIAT Mathematics subtest. For a precise statement of the scoring decisions and the norm derivations, the user should consult Dunn and Dunn (1981) and Dunn and Markwardt (1970).

The PIAT Reading Comprehension Scores. The NLSY79 Child dataset provides the following PIAT Reading Comprehension scores: overall nonnormed raw scores that can range from 0 to 84, normed percentile scores, and normed standard scores. Reference numbers for the PIAT reading comprehension scores are listed in Table 2.9 and in Appendix K (for 1986-1994). It should be noted that many younger children (aged seven years and below) who receive low raw scores *cannot be given normed scores* because their scores are out of the range of the national PIAT sample used in the norming procedure. These children have been assigned "-4" codes on the percentile and standard score variables. Researchers wishing to keep these children in their analyses will need to consider special decision rules. The way to identify these children is to cross-classify children by their raw score and standard score. They will be identified by having a raw score of zero or greater but a standard and percentile score of -4.

If one is using the PIAT Reading Comprehension assessment for analyzing five- and six-year-olds, the proportion of children without a standard score is a major constraint that cannot be ignored. A large proportion of five- and six-years-olds that have a *valid* raw score on Reading Comprehension could not be given a normed score. All of these children had raw scores below 19 and thus, had their Reading Recognition score imputed as the Comprehension score; one solution for the youngest children (those with PPVT ages under 7) is to limit analyses to Reading Recognition. Another possible strategy is to use the raw score and to include an age control in one's equations.

By applying procedures parallel to those used with PIAT Mathematics, it was sometimes possible to clarify the score of a previously "unscorable" child by carefully examining the individual response patterns, particularly where the actual response for the "correct-incorrect" item had not been completed. This was more relevant in the 1986–1992 "pre-CAPI" administration survey rounds. In this way, we were able to retrieve a number of cases not previously scorable. Depending on a researcher's individual inclination or need for precision, it may be possible to score, in an approximate manner, a number of additional children. In order to accomplish this, the researcher will need to examine the individual PIAT comprehension items. Researchers who plan to use this outcome extensively are encouraged to examine the individual item responses.

Scoring Changes – PIAT Reading Comprehension. Changes were introduced beginning with the 1990 PIAT norming scheme to improve the utility of these measures and to simplify their use. First, children between the ages of 60 and 62 months (for whom no normed percentile scores had been available previously) are now normed using percentile scores designed for children enrolled in the first third of the kindergarten year—the closest approximation available to ages 60 to 62 months.

As of the 1994 round, children with raw scores translating to percentiles below the established minimum are now assigned percentile scores of one; children with raw scores translating to percentile scores above the maximum are assigned percentile scores of 99. In prior years, the "out-of-range" children actually had arbitrarily been assigned scores of 0, which led to some inadvertent misuse of the data. (Prior to 1994, children more than 217 months of age are assigned normed scores of -4 since they are beyond the maximum ages for which normed scores are available.)

Completion Rates – PIAT Reading Comprehension. Reading Comprehension completion rates have typically been lower than many of the other assessments. For example, in 1992 only about 86 percent of eligible youth received a comprehension score. In the pre-1994 survey period, several reasons have been suggested for the relatively low comprehension completion rate. In some instances, the assessment was simply skipped over with no reason given. In other instances, a valid Reading Recognition score was available, but the interviewer neglected to assess the child on Reading Comprehension. More typically, the Reading Comprehension assessment was attempted, but the interviewer did not attempt a sufficient number of items to attain a basal or ceiling. An apparently common problem was where an interviewer entered Reading Comprehension at a fairly low level, apparently tested a child, but did not record all of the responses. As with all of the assessments, the researcher is encouraged to examine the scoring patterns for the invalid responses. Depending on one's research objectives, some flexibility in rescoring may be possible.

The PIAT Comprehension completion rates in 1994 and 1996 are substantially higher than in 1992, almost reaching 90 percent, and dipped to about 88 percent in 1998, reflecting the lower overall survey completion rates. This decline appears for virtually all ages, with the poorest completion rates continuing to be in evidence for the youngest, 5-6 year old children. In 2002, as shown in Table 2.12, completion rates for Reading Comprehension reached 91 percent with the highest level of completion (94.6%) evident among black children in the sample.

Validity and Reliability – PIAT Reading Comprehension. As with the other PIAT assessments, Reading Comprehension is generally considered to be a highly reliable and valid assessment that has been extensively used for research purposes. This version was normed in the late 1960s and thus is subject to the same analytical constraints as the other PIAT assessments. In this regard, while the level of the standardized scores appears too high, it is likely that the patterning of the responses is reasonable. That is, higher scores will represent better outcomes in comparison with lower scores. Readers wishing additional detail regarding specific research, which has utilized this NLSY79 assessment, should examine the PIAT discussion in the *NLSY Child Handbook* and review the most recent articles based on the NLSY79 Child reading assessment data by accessing the NLS on-line bibliography (see Chapter 5 for details). Additional information documenting the association between PIAT Comprehension and a full range of socio-economic and demographic maternal and family antecedents can be found in *The NLSY Children 1992* (Mott et al., 1995). Distributions of the PIAT Reading Comprehension scores are summarized in the Table series 9 in the *Selected Assessment Tables* reports.

The Peabody Picture Vocabulary Test - Revised (PPVT-R)

The Peabody Picture Vocabulary Test (PPVT) "measures an individual's receptive (hearing) vocabulary for Standard American English and provides, at the same time, a quick estimate of verbal ability or scholastic aptitude" (Dunn and Dunn, 1981). This assessment, designed for ages three and over, has been administered, with some exceptions, to NLSY79 children between the ages of 3-18. Variations in the patterns of administration are somewhat complex for this assessment so the user is encouraged to examine Table 2.11 in order to understand which samples of children took this test over the various survey years.

Readers who wish to examine more than a single example of the actual images (or "plates") presented to the child, should access the PPVT-R Manual and materials (Dunn and Dunn, 1981) or contact NLS User Services. The English language version of the assessment consists of 175 vocabulary items of generally increasing difficulty. The child listens to a word uttered by the interviewer and then selects one of four pictures that best describes the word's meaning. A child's entry point into the assessment is based on his or her PPVT age. A Spanish version of the PPVT-R was introduced into the child survey in 1988.

Administration of the PPVT. Children enter the assessment at an age-appropriate level, although this is not essential to the scoring. A "basal" is established when a child correctly identifies eight consecutive items. (Exceptions to this are those cases where a basal cannot be established. In these instances, a child is given a basal of one.) A "ceiling" is established when a child incorrectly identifies six of eight consecutive items. A child's raw score is determined by adding the number of correct responses between the basal and ceiling to the basal score. In 2000 the interviewer read from a laminated list while the child matched the word by selecting one of four on-screen images designed to reproduce the pictures from the original PPVT easel.

In 1986 the PPVT assessment was administered only in English. However, beginning in 1988 through 2000, a small number of children who preferred to do so were given the Spanish version of this assessment, the "Test de Vocabulario en Imágenes Peabody" or "TVIP." For

this reason, post-1986 assessment results may be less culturally biased than the 1986 version. In 2002 the Spanish version of the PPVT was no longer administered.

In 1986, all children age three and over were given this assessment. In 1988, all ten- and eleven-year-olds (our "index" population) as well as other children age three and over who had not previously completed the assessment in 1986 were given this assessment. In 1990, all children age ten and eleven as well as all other children age four and over who had not previously completed the assessment were eligible for the PPVT-R assessment. In the 1992 survey round, all children age three and over were eligible to be assessed. Thus, there are at least two survey points (1986 and 1992) in which all age-eligible children who were still being interviewed had a PPVT-R score. Of course, many of these children may also have had an intervening (at age 10 or 11) PPVT-R score. Starting in 1998, the administration of the PPVT-R was largely limited to 4- and 5-year-old children who had not been previously administered the test as well as the index group of children 10-11 years old.

Completion Rates – the PPVT. The youngest children administered this test generally score the poorest, probably reflecting their unfamiliarity with a testing environment. Their lower scores do *not* reflect lower status as these younger children have parents with more education than do the older, 10-11 year olds. In the current survey round, 88% of the children ages 4-5 received valid PPVT scores while slightly more than 93% of the index group, ages 10-11, completed the assessment. The across-year administration pattern is described in Table 2.11.

Scoring the PPVT. As with PIAT Math and Reading Comprehension, it was possible, primarily in the pre-CAPI years, to improve the overall quality and completion level by utilizing information on the actual responses where "correct-wrong" check item had inadvertently been skipped. In addition, depending on the user's research intention, it may be possible to "score" additional cases if one is willing to sacrifice some precision in the scoring. For example, some additional cases could be scored if one is willing to accept as adequate a score that does not deviate by more than one or two points from the "true" score. For a precise statement of the scoring decisions and some of the norm derivations, the user should consult the PPVT-R Manual (Dunn and Dunn, 1981, pp. 96-110, 126).

PPVT Norms. The PPVT-R was standardized on a nationally representative sample of children and youth. The norming sample included 4,200 children in 1979, and norms development took place in 1980 (Dunn and Dunn, 1981). For a comprehensive discussion of this norming procedure, researchers should refer to the *PPVT-R Manual for Forms L and M* (Dunn and Dunn, 1981). The *PPVT-R Manual* provided information about the linkage between the standard and percentile score.

Users may note one very important distinction between the PPVT-R and PIAT scores—a difference of particular interest to those who plan to use both assessments concurrently. Whereas the PIAT assessments had surprisingly high mean scores (see PIAT discussions) for a sample with an above average proportion of disadvantaged children, the PPVT-R means are somewhat below those of the norming sample. The NLSY79 PPVT-R sample in 2002 has a mean standard score of 99.6 and a standard deviation of about 22. The mean for the white sample (103.3) is slightly higher than the overall national average (see Table 10.4 in the "*Selected Tables*"). This differential between the NLSY79 PIAT and PPVT-R mean scores

may reflect the fact that the PPVT-R norming sample is relatively more contemporary (1979), whereas the PIAT norming sample is from the late 1960s.

Beginning in 1990, the procedure used to create the NLSY79 Child PPVT-R normed scores was refined in two important ways. First, children with raw scores that translated into standard scores between 20 and 39 are now normed using the *PPVT-R Supplementary Norms Tables* (American Guidance Service, 1981). Second, raw scores that would translate to normed standard scores above the maximum provided are assigned standard scores of 160, and raw scores translating to standard scores below the minimum are now assigned standard scores of 20. Prior to 1990, children with these scores were assigned a standard score of zero. CHRR has prepared a file of revised 1986-1988 scores using this updated norming procedure. Users who wish to obtain this file should contact NLS User Services.

Three types of PPVT scores are provided for each child: a non-normed raw score, a standard score, and a percentile score. The reference numbers that identify the PPVT scores in the child documentation can be found in Table 2.9 for years 1996-2002 and in Appendix K for earlier survey years. Instructions in the *PPVT-R Manual* provide information about the linkage between the raw score and the standard score. The percentile score is mechanically determined by the known linkage between the standard and percentile. The NLSY79 Child sample has been normed against a national population with a standard score mean of 100 and a standard deviation of 15.

Users are reminded that the eligibility of children for the PIAT and PPVT-R assessments is based on their "PPVT age," which can differ from their calendar age (in months). When working with the PPVT-R or PIAT assessments, the "PPVT age" variable should be used.

Validity and Reliability – the PPVT. The PPVT-R is among the best-established indicators of verbal intelligence and scholastic aptitude across childhood. It is among the most frequently cited tests in Mitchell's (1983) "Tests in Print." Numerous studies have replicated the reliability estimates from the PPVT standardization sample. The *NLSY Child Handbook* synthesizes much of this work. This report also provides cross-year (1986-1990) reliability and validity evaluation using the NLSY79 Child data. *The NLSY Children 1992* contains an evaluation of the quality issues for the 1992 PPVT-R sample, which included the full spectrum of children age three and over. These analyses show strong associations between a full range of social and demographic priors and 1992 PPVT-R scores. The report also documents strong independent linkages between PPVT-R scores in 1986 and PPVT, PIAT Reading and Mathematics, and SPPC scores in 1992. Typically, stronger associations are found for white and Hispanic than for black children. One other finding of importance should be mentioned. More than for any of the other assessments, substantial racial and ethnic variations may be noted for the PPVT. In the current survey round, the average non-Hispanic white child scores at the 56th percentile compared to the 32nd percentile for his or her Hispanic counterpart and the 27th percentile for his or her black counterpart (see Table series 10 *The NLSY79 Child Assessments: Selected Tables*). Substantial ethnic and racial variations remain in multivariate analyses even with demographic and socio-economic controls. The reader is referred to *The NLSY Children 1992* for a more comprehensive evaluation of racial, ethnic, and socio-economic differentials in PPVT-R scores using the 1992 NLSY79 data which included PPVT-R assessment scores for all children 3 and over.

Repeat Assessments

The availability of comprehensive child data over time, coupled with longitudinal information on the family background, education, employment histories, and well-being of the NLSY79 mothers, provide researchers with a unique opportunity to examine the linkages between maternal- family behaviors and attitudes and subsequent child development. Certain measures in the NLSY79 Child surveys, such as the HOME, are taken at each survey point. Some assessments, such as the PIAT achievement battery, are administered to a wide range of age-eligible children over a period of time. Still others, such as the PPVT, are administered at the first eligible age, and then usually at the index age of 10 or 11.

Overall patterns of repeat interviews, described in Chapter 1, can be seen for children in Table 1.5 and for young adults in Table 1.6. Table 2.13 offers an example of the extent of repeat assessment for NLSY79 by showing the number of children with only one valid score and the number with multiple scores. The counts in Table 2.13 summarize the number of repeat PIAT and PPVT scores based on sample children with valid scores across assessment points. In this table children are counted if they had any valid PIAT math or reading score in any of the assessment years 1986-2002. Viewed in connection with the longitudinal child assessment information discussed in Chapter 4, these counts of repeat assessment scores offer a preliminary idea of the number of data points on these measures over time. Significant numbers of NLSY79 children have three or more PIAT achievement measures, and more than 5,000 children have multiple PPVT assessment scores.

Table 2.13. Repeat PIAT and PPVT Scores: Children Assessed in Any Year 1986-2002

Number of Valid Scores[1]	PIAT Math Score	PIAT Reading Score	PPVT Score
One valid score	1211	1207	2846
Two valid scores	1398	1409	2621
Three valid scores	1392	1373	3177
More than three valid scores	4512	4513	145
Total	8513	8502	8789

[1] The number of PIAT Math scores is based on a count of the survey years in which the child received a valid Math score. The number of PIAT Reading scores is based on a count of either valid Reading Recognition and/or Reading Comprehension scores in any survey year. The number of PPVT scores is based on a count of valid PPVT scores available in any survey year. Counts are based on the number of valid raw scores.

The pattern of repeat PIAT scores by age at the most recent assessment point is displayed in Table 2.14. This table shows the number of children with multiple PIAT scores, based on a count of any valid math or reading score between 1986 and 2002. Children with only one valid PIAT score comprise the smallest subgroup in this table. As one might expect, the majority of 5- and 6-year-olds at the last interview date have only been tested once. Children in the middle age group and those in early adolescence have multiple survey points for measuring change. Clearly the number of children for whom repeat achievement scores are available is significant, particularly when viewing the distribution for children ages 10-14.

Table 2.14. Number of PIAT Scores by Age of Child at Date of Last Valid Score: Children Assessed in Any Year 1986-2002

Valid PIAT Scores[1]	Age of Child (Years)											
	5	6	7	8	9	10	11	12	13	14	15 +	Total
One score	389	364	150	91	52	44	31	26	20	11	4	1182
Two scores	0	12	283	365	191	187	110	92	81	49	35	1405
Three scores	0	0	0	9	273	364	189	211	144	80	87	1357
More than three scores	0	0	0	0	0	35	386	988	1845	1063	257	4574
Total	389	376	433	465	516	630	716	1317	2090	1203	383	8518

[1] The number of PIAT scores is based on a count of the number of survey rounds in which a child received a valid PIAT Math and/or Reading Recognition and/or Reading Comprehension score. Counts are based on the number of valid raw scores.

The number of repeat PPVT scores by child age at the date of the last valid score is profiled in Table 2.15. Users interested in multiple PPVT scores are directed to the index group of children who were assessed at preschool or early school levels and then again at the age of 10 or 11. Table 2.15 highlights the power of pooling the sample. This table shows larger numbers of children with multiple scores for assessments that were administered to them when they were age 10 or 11 years old. These children may now be of differing ages since the table displays counts at the *last* time a child was administered the PPVT.

Table 2.15. Number of PPVT Scores by Age of Child at Date of Last Valid Score

Valid PPVT Scores[1]	Age of Child (Years)													
	< 4	4	5	6	7	8	9	10	11	12	13	14	15 +	Total
One score	349	1005	813	177	91	47	61	128	80	40	31	12	12	2846
Two scores	0	1	38	63	139	64	49	925	923	60	68	59	232	2621
Three scores	0	0	0	0	0	0	9	954	1240	338	250	298	88	3177
More than three scores	0	0	0	0	0	0	0	0	116	26	3	0	0	145
Total	349	1006	851	240	230	111	119	2007	2359	464	352	369	332	8789

[1] The number of PPVT scores is based on a count of the number of years in which a child received a valid PPVT score. Counts are based on the number of valid raw scores.

These examples illustrate how NLSY79 children experience varying degrees of repeat administration of various assessments. An overall picture of the assessment history of NLSY79 children who have become young adults is available in Table 1.6 in Chapter 1.

Interviewer Remarks and Testing Conditions

At the conclusion of each assessment in the *Child Supplement*, there is a series of interviewer remarks designed to describe the factors that might influence a child's performance. For each assessment the interview records the child's energy level, who else was present during testing, what impact others might have had on a child's performance, and whether an assessment was

prematurely terminated. These remarks are in the CHILD SUPPLEMENT area of interest. The titles for these items are prefixed with the name of each assessment.

Summary evaluations of the overall testing conditions, completed by the interviewer immediately after the entire interview, are found at the end of the *Child Supplement*. These items, prefixed for all years except 1986 with the phrase TESTING CONDITIONS, are assigned to the CHILD SUPPLEMENT area of interest. Users are encouraged to examine both the assessment-specific remarks and these interviewer observations when evaluating quality issues associated with assessment reliability. In the majority of cases, interviewers indicated that they encountered no particular problems or distractions and they viewed the interviewing environment as quite appropriate, indeed positive. Where an assessment was prematurely terminated, the reason for the termination is frequently noted in the interviewer remarks at the end of that particular session. Based on one's research intentions, individual researchers can choose to exclude certain children from their study. For example, children coded with low energy level or who were in testing environments characterized by substantial interference could be excluded from analyses.

In some instances interviewers neglected to complete the remarks items. Thus, an individual user should proceed with caution when using an interviewer remark that suggests that no one other than the target child was present during testing. This is an unlikely scenario in situations where younger children are being assessed. With respect to the interviewer remark items that indicate the presence or absence of parents or siblings, a positive response (i.e., one or greater) indicates that this particular relation was present. However, the absence of that relation was often left blank or not coded zero, particularly in survey years prior to CAPI.

To date little in-depth analysis has been completed that uses the interviewer reports of testing conditions. One study based on the 1992 NLSY79 child data found that differences in achievement test scores by race/ethnicity could be partly explained by testing conditions, including interviewer characteristics, interviewer-child interactions, and the testing environment (Kim et al., 2001). *The NLSY Children 1992* contains a discussion of the impact of testing conditions on selected outcomes. Analyses of the information about the presence of others during the testing indicates that younger children may experience some difficulty in certain cognitive tasks when there is interference in the testing environment and when other adults are present. Younger children who take the SPPC assessment tend to report more positive self-evaluation in the presence of other adults while the presence of other children tends to boost the reports of older children on this assessment. These early results helped inform the field-testing protocol so that interviewer procedures could be refine to minimize any external effects on child performance.

Child Completion Rates

There are several ways that interview completion rates can be defined, depending on one's objective and the potential bias one might be attempting to clarify. The primary reason a child cannot be assessed in any given year is that an eligible mother (main Youth respondent) is not interviewed in that year. The magnitude of this level of nonresponse, as well as potential biases, can be measured by examining the main NLSY79 completion rates. These main Youth patterns, documented in the most recent NLSY79 Handbook, can be explored in greater depth by examining the NLSY79 data file.

The complexity of the NLSY79 Child interview suggests that completion rates for the NLSY79 children can be defined and measured in a number of ways. A "child" interview is comprised of information obtained directly from the child as well as data about the child as reported by the mother. The Mother Supplement contains not only questions about the child's health status, educational progression, and related topics, but also a significant amount of assessment information, including: Motor and Social Development Scale, the Temperament scales, the HOME scale, and perhaps most importantly, the Behavior Problems Index. Of course, a child interview also includes the assessments that are directly administered to the child, and are contingent on the age of the child. This series, administered in the Child Supplement, includes the PIAT assessments, the PPVT, Digit Span and SPPC. Finally, since children between the ages of ten and 14 are asked a ranged of behavioral and attitudinal questions in a separate Child Self-Administered Supplement (CSAS), response rates for these questions are dependent on the child's willingness or ability to complete the CSAS instrument. From an overall perspective, it is worthwhile noting that all children who completed a CSAS in 2002 also have at least partial completion on one of the other two instruments noted above (Child Supplement or Mother Supplement).

Since the primary focus at the outset of the NLSY79 Child was on assessment completion, it was decided at the time of the first child interview round in 1986 to define as eligible for inclusion all children who either completed (or had completed for them) any of the child assessments. This count then forms the denominator utilized for defining assessment completion. Importantly, these are the only children who are assigned a child sampling weight. This weight is essential for estimating potential population bias due to selective non-completion, given the fact that all children do not have the same weights (see discussion of weights in this document). Any of the following sources may cause an incomplete assessment: the child interview may have been broken off before entering a specific assessment; an assessment for which the child was eligible was started but not completed; or an assessment may have been improperly administered and thus could not be scored.

The following tables help clarify the implications of these different ways of estimating completion success. We focus first on completion rates where the denominator is limited to children who have any assessment data (note the italicized section of the above paragraph). This is the definition currently utilized in measuring assessment completion for NLSY79 children. Using this definition, Table 2.16 shows that in 2002, the completion for those assessments that are completed by the mother range from a high of about 99 percent for Behavior Problems, to a low of about 95 percent for most of the others. These completion rates are systematically higher than those for the last comparable wave of child data collection. (We compare with 1998 rather then 2000 because in 2000, reflecting budget constraints, about 38 percent of child minority over-sample cases were not interviewed.) This systematic improvement in the percent of children receiving valid scores on the mother-completed assessments reflects the introduction of an improved interviewing technology in 2002. Prior to 2002, most of the mother-report child assessments were completed in a paper booklet that allowed for more opportunities for mothers to fill out inappropriate or partial assessments.

Table 2.16. Percentage of Valid Assessments for Interviewed Children

Child Assessments Completed by Children					
	1986	1990	1994	1998	2002
PIAT Math	92.4	92.2	91.6	88.5	91.9
PIAT Reading Recognition	92.0	90.6	91.3	88.5	92.1
PIAT Reading Comprehension	84.9	89.1	89.7	87.7	91.3
PPVT	86.9	88.0	85.2	85.8	88.8/93.3*
Digit Span	90.4	89.2	94.8	89.8	93.6
SPPC	95.9	93.2	91.7	87.5	91.0
Child Assessments Completed by the Mother					
Motor And Social	93.9	90.8	89.3	86.9	95.9
Temperament (Compliance)	95.8	96.2	94.7	92.5	97.7
The HOME	96.3	92.3	93.6	92.4	95.3
Behavior Problems Index	95.3	94.9	94.5	92.6	99.1

NOTE: The denominator in this table is all children reported by interviewed mothers and living at least part-time in their mother's household at the time of the mother's interview and with some case data from the child interview (any instrument). The year 2000 is omitted from the table since, in that round, 38% of the minority oversamples were excluded.

* The first PPVT percentage refers to children ages 4-5 and the second to children ages 10-11. Only these age groups took this test in 2002.

In 2002, the component of the child survey completed by the mother was more directly integrated into the mother interview and the data were entered electronically in the field thus making the transition from the main mother interview to the assessments much more seamless, especially for phone interviews. When this interview was used, mothers had more opportunities to complete the mother-report child assessments by phone, reducing the likelihood that one of these assessments would be left incomplete.

Table 2.16 also indicates that there has been an increase over prior rounds in the proportion of valid scores for the assessments directly administered to the children by the interviewer. It is likely that this improvement in assessment completion rates also reflects the change in data capture technology. That is, a greater continuity in the mother-child interviewing process may have reduced the likelihood of interview discontinuity and break-offs than had been true in earlier survey rounds. There is systematic evidence of improvement in specific assessment completion for all of the child-completed assessments. Indeed, just the assurance of completion of the interview through all of the maternal components increases the likelihood of entry into the child-completed component.

A broader definition of eligibility would include *all age-eligible children in the household of the interviewed mother in 2002*. The completion rates for this population are unweighted as children in their mother's household who were not interviewed did not receive a sampling weight. The ages for those children in an interviewed mothers household who were not themselves interviewed were estimated as of the mother's date of interview. These estimates are more appropriate for measuring the proportion of children who were interviewed of those available for possible interview. As seen in Table 2.17, the estimated completion rate for those who were age-eligible and living in their mother's home in 2002 is considerably lower

than the rate based on the first definition. For the mother-report assessments, completion rates range from about 90 percent for the HOME to 95 percent for Temperament. For the child-completed assessments, completion rates range from about 81 percent for the PIAT assessments to almost 88 percent for Digit Span.

Table 2.17. Percentage of Valid Assessments for All Children of Interviewed Mothers 1998 and 2002

Child Assessments Completed by Children		
	1998	2002
PIAT Math	83.4	81.4
PIAT Reading Recognition	83.3	81.5
PIAT Reading Comprehension	82.5	80.8
PPVT	79.5	83.9
Digit Span	84.0	87.6
SPPC	81.6	84.5
Child Assessments Completed by the Mother		
Motor and Social Development	83.8	92.0
Temperament (Compliance)	89.1	95.1
The HOME	87.6	90.5
Behavior Problems Index	87.3	94.0

NOTE: The denominator in this table is all children reported by interviewed mothers and living at least part-time in their mother's household at the time of the mother's interview.

Table 2.18 highlights the fact that while completion rates according to this broader definition vary little by race/ethnicity for the mother-report assessments, there is some variation for those assessments given directly to the children by the interviewer. Completions levels for interviewer-administered assessments are typically highest for Black children and lowest for Hispanic children. Completion based on this definition also has risen considerably in recent years for all of the mother-completed assessments, and for all the interviewer-administered child assessments except the PIAT reading and Mathematics assessments. Thus, it is fair to generalize that recent changes in administration procedures have substantially augmented this important quality dimension of the child data collection.

Table 2.18. Percentage of Valid Assessments for All Children of Interviewed Mothers By Race/Ethnicity 2002

Child Assessments Completed by Children			
	Hispanic	Black	Non-Black Non-Hispanic
PIAT Math	79.6	84.7	80.5
PIAT Reading Recognition	79.7	85.1	80.5
PIAT Reading Comprehension	78.6	84.8	79.7
PPVT	78.9	85.7	84.9
Digit Span	84.5	91.0	87.2
SPPC	84.8	88.0	82.3
Child Assessments Completed by Mothers			
Motor and Social Development	93.1	92.5	91.3
Temperament (Compliance)	94.8	93.3	95.8
The Home	89.3	90.3	91.1
Behavior Problems Index	92.5	93.4	94.8

NOTE: The denominator in this table is all children reported by interviewed mothers and living at least part-time in their mother's household at the time of the mother's interview.