

NSAF

Methodology Reports

# 1997 NSAF Survey Methods and Data Reliability

Report No. 1

Prepared by:

Genevieve Kenney

Fritz Scheuren

Kevin Wang



Assessing  
the New  
Federalism

*An Urban Institute  
Program to Assess  
Changing Social Policies*

## **ACKNOWLEDGEMENTS**

We would like to thank the authors of the first 15 reports in the 1997 Methodology Series, since this volume is based on their work: David Judkins, Gary Shapiro, J. Michael Brick, Ismael Flores-Cervantes, David Ferraro, Teresa Strickler, and Joseph Waksberg (Report No. 2); J. Michael Brick, Gary Shapiro, Ismael Flores-Cervantes, David Ferraro, and Teresa Strickler (Report No. 3); Ismael Flores-Cervantes, J. Michael Brick, and Ralph DiGaetano (Report No. 4); Pat Cunningham, Gary Shapiro, and J. Michael Brick (Report No. 5); Jennifer L. Ehrle and Kristin Anderson Moore (Report No. 6); Robert Groves and Douglas Wissoker (Report No. 7); Alicia Powers for her excellent research assistance on Report No. 7; J. Michael Brick, Ismael Flores-Cervantes, and David Cantor (Report No. 8); Nancy Vaden-Kiernan, David Cantor, Pat Cunningham, Sarah Dipko, Karen Molloy, and Patricia Warren, (Report No. 9); Sarah Dipko, Michael Skinner, Nancy Vaden-Kiernan, John Coder, Esther Engstrom, Shruti Rajan, and Fritz Scheuren (Report No. 10); Brian Russell, Melissa Leonard, and Fritz Scheuren (Report No. 11); Kevin Wang and Susannah Higgins (Report No. 12); Brian Russell, Nathan Converse, and Fritz Scheuren (Report No. 13); Michael Petron and Fritz Scheuren (Report No. 14); and Pat Dean Brick and Fritz Scheuren (Report No. 15).

## PREFACE

*1997 NSAF Survey Methods and Data Reliability* is the first report in a series describing the methodology of the 1997 National Survey of America's Families (NSAF). The NSAF is part of the *Assessing the New Federalism* project at the Urban Institute, conducted in partnership with Child Trends. Data collection for the NSAF was conducted by Westat.

The NSAF is a major new survey focusing on the economic, health, and social characteristics of children, adults under the age of 65, and their families. During the first round of the survey in 1997, interviews were conducted in over 44,000 households, yielding information on over 100,000 people. The NSAF sample is representative of the nation as a whole and of 13 states, and therefore has an unprecedented ability to measure differences between states.

### About the Methodology Series

This series of reports has been developed to provide readers with a detailed description of the methods employed to conduct the 1997 NSAF. The early reports focus on:

- No. 1: An overview of the NSAF sample design, data collection techniques, and estimation methods
- No. 2: A detailed description of the NSAF sample design for both telephone and in-person interviews
- No. 3: Methods employed to produce estimation weights and the procedures used to make state and national estimates for *Snapshots of America's Families*
- No. 4: Methods used to compute and results of computing sampling errors
- No. 5: Processes used to complete the in-person component of the NSAF
- No. 6: An assessment of several measures of child and family well-being
- No. 7: Studies conducted to understand the reasons for nonresponse and the potential bias impacts of missing data
- No. 8: Response rates obtained (taking the estimation weights into account) and methods used to compute these rates
- No. 9: Methods employed to complete the telephone component
- No. 10: Data editing techniques and imputation techniques for missing variables
- No. 11: Documentation to accompany the Child Public Use File
- No. 12: Qualitative comparison of the 1997 and 1999 questionnaires
- No. 13: Most Knowledgeable Adult Public Use File Codebook
- No. 14: Impact of census undercount-adjusted weights on survey estimates
- No. 15: National benchmarking measures

### About this Report

This first report in the Methodology Series provides readers with an introduction to the National Survey of America's Families, its sample design and data collection techniques, and estimation methods.

An overview is provided of how both households with and without telephones were sampled, the format of interviews, and types of questions asked. In addition, the methods used to minimize errors and compensate for those that are unavoidable in data collection are described. Finally, the report presents information on the survey's resulting reliability—both in terms of sampling and nonsampling errors.

### **For More Information**

For more information about the National Survey of America's Families, contact *Assessing the New Federalism*, Urban Institute, 2100 M Street, NW, Washington, DC 20037, telephone: (202) 261-5377, fax: (202) 293-1918, Web site: <http://newfederalism.urban.org>.

*Jenny Kenney  
and  
Fritz Scheuren*

*March 31, 1997*

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## 1 INTRODUCTION

This report introduces the methodology series developed as part of the 1997 National Survey of America's Families (NSAF). To properly frame the survey and the series, there is a need to look at the rationale for the NSAF, including how the survey fits into other efforts to assess the effects of the New Federalism. This is our main goal in this introductory chapter. Later chapters of this report summarize the survey work done and how it connects with surveys conducted elsewhere. Also, occasionally, there is some discussion of the later rounds of the NSAF—notably the 1999 round, which is about 80 percent complete as of July 1999.

### 1.1 *Assessing the New Federalism*

During this period of devolution, the Urban Institute mounted a project entitled *Assessing the New Federalism*. The project's goals are to give policymakers, state administrators, and advocates information they need to make better decisions and to help the nation determine the consequences of devolution.

The project is premised on the obvious notion that better information yields better policies. With increased state-level authority, state data becomes increasingly more important; yet such data are currently very limited. Of course, devolution should not be “evaluated” with a pronouncement of success or failure at the end, but should be monitored, with continuous input into the policy and implementation process. This implies that a new relationship between research and practice is necessary and a long-term effort needed.

One of the project's defining features is the breadth of topics it covers:

- Welfare Reform
- Employment and Training
- Health Care
- Health Insurance Coverage
- Child Care
- Child Support
- Child Welfare
- Child Well-Being

While the focus is on states, the scope is national—with a primary emphasis on low-income families with children.

Data collection and analysis are extensive and varied, with wide dissemination a major component. The project has employed four major data sources:

- (1) The compilation and integration of existing state databases;
- (2) In-depth, state-specific baseline case studies with follow-up monitoring;
- (3) Special surveys of states; and
- (4) Our topic here, the National Survey of America's Families.



## 1.2 Goals for the NSAF

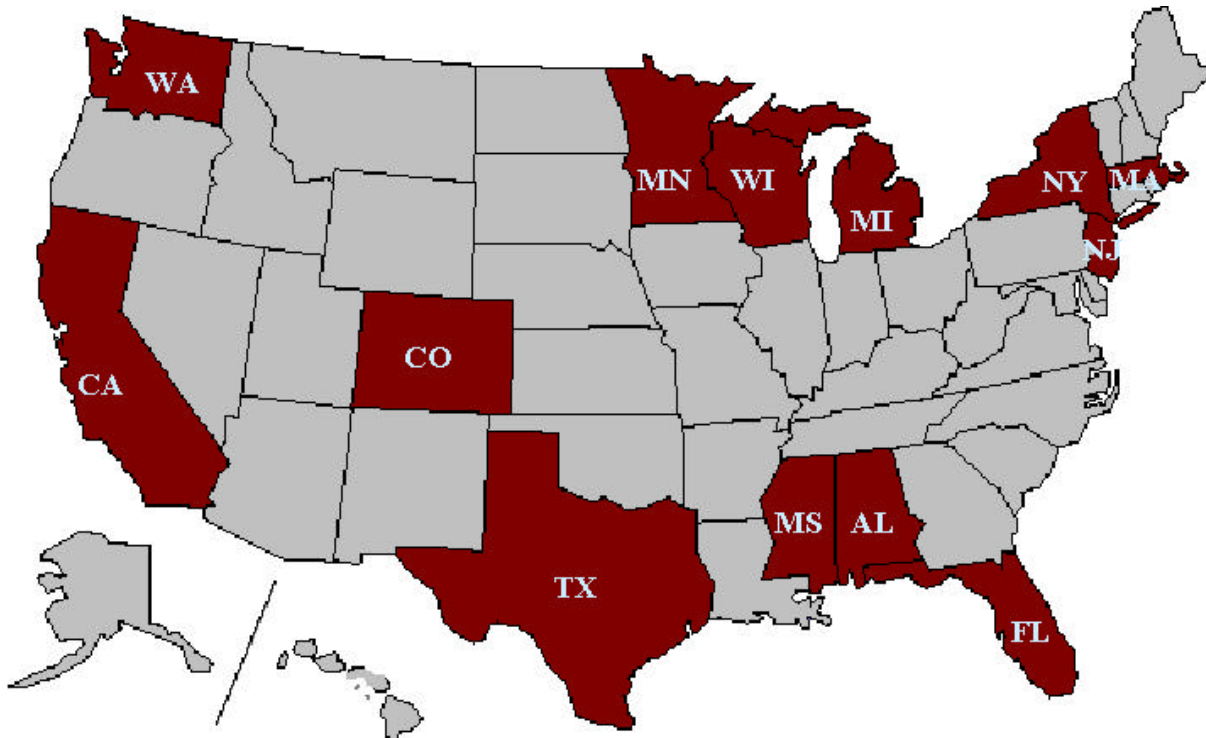
The unfolding New Federalism can be viewed as 51 “natural experiments.” Ideally, the effects of devolution should be examined by conducting intensive case studies and tracking changes in well-being in *all* states, as well as by controlling for substate variation in program implementation. However, this would be prohibitively expensive. Instead, the Urban Institute decided to focus on just 13 states, listed in the following figure:

**Figure 1.1**  
**NSAF Survey States**

Alabama	Massachusetts	New Jersey	Washington
California	Michigan	New York	Wisconsin
Colorado	Minnesota	Texas	Balance of Nation
Florida	Mississippi		

These 13 states, however, collectively accounted for over one half of the country’s population. Furthermore, they varied in terms of geographic location, size, dominant political tradition, and key baseline indicators (figure 1.2).

**Figure 1.2**  
**Targeted States**



Intensive case studies were conducted in these 13 states during 1997 to obtain an in-depth understanding of each state's responses to the New Federalism. Monitoring continues as each

We are relying on the NSAF to provide estimates of the well-being of children and their families in each of those states at two-year intervals, beginning in 1997. We are now using the understanding gained through the 1997 survey to explore the linkages between state policy and child and family well being. The 1999 effort, now under way, will allow us to look at changes over time—with the NSAF used to make comparisons across states at a point in time, within a state over time, and across states over time.

Given these objectives for the ANF project, we identified four key requirements for the design of the survey. These requirements are:

- Large, representative samples of families with children in the intensively studied states and the nation;
- Large, representative samples of low-income families with children in the intensively studied states and the nation;
- Observations at multiple points in time; and
- A broad range of well-being indicators that are uniformly measured across states.

Because of the breadth of its content, which encompasses the economic, health, and social dimensions of well-being, the NSAF permits comprehensive assessments of child and family well-being and program participation, while controlling for important socioeconomic characteristics. This is a central point to be returned to in chapter 3.

### **1.3 Limitations of Existing Surveys**

We determined that the NSAF was necessary after we reviewed existing surveys and found them to be lacking in one or more regards for meeting the survey objectives:

- In 1997, many major national household samples—such as the Survey of Income and Program Participation (SIPP)—were not state representative, which meant that reliable state-specific estimates could not be produced from them. At that time, exceptions were the Current Population Survey (CPS) and the National Health Interview Survey (NHIS). However, as will be described shortly, neither the CPS nor the NHIS met the project's needs because of limitations with respect to content and sample size.
- State-representative surveys either focused on narrow aspects of well-being or did not include variables that relate to the anticipated policy changes. For example, the CPS focuses mainly on employment, and at the time of the 1997 NSAF it did not include

information on health services use or access to care. The NHIS has the needed health questions, but lacks both information on receipt of AFDC and food stamps, and detailed income information. In addition, neither the CPS nor the NHIS contains information on the need for and use of social services or child care.

- Finally, even with state-representative sample frames, the existing surveys' sample sizes in most states were too small (particularly for the low-income population). Without some supplementation, the assessment of changes over time in individual states would be very imprecise.

In summary, with the data sources available in 1997, it was simply not possible (without the NSAF) to make reliable state-specific estimates on a wide range of well-being indicators, either because the samples were not state representative or because the survey content was too narrow. In addition, even if one were willing to narrow the scope of well-being measures to just a few dimensions, the sample sizes available for examining low-income households would make comparisons over time very imprecise for most states.

#### **1.4 The Focus of This Report**

A blend of new and old techniques was developed for carrying out the NSAF. This might be expected, given that the NSAF was a first-ever effort operating on a tight schedule and limited budget. Even so, the sample design described in chapter 2, employed a special dual-frame survey to cover both telephone and nontelephone households. The richness of the NSAF item content is perhaps the survey's most attractive feature. Some details on what is included are given in chapter 3.

Data collection in the NSAF (see chapter 4) also had a novel feature. Cell phones were provided to interviewees so NSAF interviews could be conducted in households without phones of their own. This use of cell phones greatly simplified later processing, as described in chapter 4. The quality assurance and other post-interview processing steps taken as part of NSAF data collection are also summarized in chapter 4.

In chapter 5, the fairly standard estimation or weighting steps taken in the survey are described. As with other household surveys, problems of undercoverage and nonresponse had to be addressed at this stage. These were handled in the usual way, except that substantially more emphasis was put on reducing noninterview nonresponse through respondent incentives than in many other surveys.

The net effect of sampling and nonsampling errors in NSAF is summarized in chapter 6, which also includes the results obtained from a direct attempt to measure noninterview nonresponse bias that was carried out separately from the main NSAF effort. The evidence suggests that the bias arising in the NSAF from the failure to interview all the households selected into the sample is minimal.

Chapter 7 illustrates the comparisons made of the NSAF with related results elsewhere. We have concluded that, on the whole, the NSAF is comparable to other well-run household surveys. Moreover, as noted already, its unique mix of content gives the NSAF major advantages over these other surveys for studying the effects of the New Federalism on child, adult, and family well-being.

Because of the NSAF's importance in providing a broad understanding of the recent changes, the survey is being made public after steps are taken to preserve respondent anonymity. Chapter 8 addresses this topic, describing the public use files and the conditions under which they can be obtained and used.

In chapter 9, we make a few concluding comments. These are mainly to connect this report with the other reports produced so far in the NSAF Methodology Series. It should be recognized that, as this is written, survey results from 1997 are still being released. We are at about the halfway point, in fact. Under the circumstances, any conclusions would be provisional and so we have been brief.

Selected references are listed at the end of the report, along with three appendices. An annotated list of the other reports currently available in the NSAF Methodology Series can be found in appendix A. Also included are tables of the variables included in the Child (appendix B) and Most Knowledgeable Adult or MKA (appendix C) Public Use Files.

For a shorter general treatment of NSAF methodology, see Kenney, Wang, and Scheuren (1999), reprinted in Report No. 16 of the 1997 NSAF Methodology Series.

## 2 NSAF SAMPLE DESIGN

The 1997 National Survey of America's Families is a survey of the economic, health, and social characteristics of children, adults under the age of 65, and their families. Interviews were conducted in over 44,000 households, yielding information on over 100,000 people. The data collection was conducted for the Urban Institute and Child Trends by Westat, a nationally renowned survey research firm.

The NSAF sample is representative of the civilian, noninstitutionalized population under age 65. Data were obtained from February to November 1997. As with virtually all household surveys, some important segments of the population (e.g., the homeless) could not be sampled because of their living arrangements and hence are not included in the survey results.

By design, as already mentioned, large representative samples of households were taken in each of 13 targeted states, and the balance of the nation. These 13 states account for over half of the U.S. population and have a broad array of government programs, fiscal capacity, and levels of child well-being. Wisconsin was targeted for particularly intensive study, with separate large samples for Milwaukee and the balance of the state. Figure 2.1 shows the achieved sample sizes for all households and for households under 200 percent of poverty. Comparisons to the March 1997 Current Population Survey (CPS) are also provided, illustrating why the NSAF was needed. The CPS sample sizes, especially for households under 200 percent of poverty, were for the most part too small to allow for reliable estimates of this group.

**Figure 2.1**  
**Comparison of NSAF and CPS Sample Sizes**

Site	All Households		Households Below 200 Percent of Poverty	
	NSAF	CPS	NSAF	CPS
Alabama	2,553	561	1,276	191
California	2,543	3,904	1,224	1,480
Colorado	3,175	678	1,249	195
Florida	2,368	2,018	1,158	724
Massachusetts	3,238	979	1,114	265
Michigan	2,776	1,392	1,061	362
Minnesota	3,285	573	1,182	134
Mississippi	2,390	518	1,293	229
New Jersey	3,567	1,249	1,193	296
New York	2,632	2,825	1,222	1,008
Texas	2,452	2,350	1,295	913
Washington	3,393	566	1,337	177
Wisconsin	5,355	607	2,111	145
Balance of U.S.	4,716	23,687	2,086	7,428
<b>Total</b>	<b>44,461</b>	<b>41,907</b>	<b>18,801</b>	<b>13,547</b>

## 2.1 Basic Approach

With few exceptions, the survey was limited to children, adults, and families living in regular housing. Figure 2.2 explains the concept of regular housing through examples of specific inclusions and exclusions. Most of these inclusions and exclusions are typical of those made in other household surveys. For example, the CPS has essentially the same rules.

The NSAF had two separate components. One was a random-digit dialing (RDD) survey of households with telephones. The RDD approach was adopted because it is a cost-effective means to collect the desired data. In all, some 179,000 telephone households were contacted this way. After screening, detailed 25- to 40-minute interviews were conducted in 42,973 RDD households.

However, because households without telephones contain a significant proportion of low-income children, a supplementary area sample was conducted in person for those households without telephones. Nationally, Giesbrecht, et al. (1996) estimate that about 20 percent of families in poverty have no telephone and that about 10 percent of families with one child 3 years old or under have no telephone. The area sample provides data for these children and families without current phone service.

In the area sample, households within sampled blocks were screened and all nontelephone households with someone under 65 years of age were interviewed. Because only a small fraction of households do not have a telephone, block groups from the 1990 census that had a very high percentage of telephone households were eliminated from the area sampling frame. A special coverage adjustment was made during the weighting process to account for excluding persons in nontelephone households in these block groups. For this portion of the sample, screening interviews were conducted with 37,000 households. Because only persons without telephones were eligible, extended interviews were conducted after screening in only the 1,488 nontelephone households identified.

$$42,973 \text{ telephone} + 1,488 \text{ nontelephone} = 44,461 \text{ total households}$$

## 2.2 Special Dual-Frame Approach

This special dual-frame approach is very new. The 1997 NSAF represented one of its first uses on a large national survey. As a result of the newness of the procedure, there were no clear guidelines on how to design each component in order to optimize the dual-frame estimates. It seems clear that the dual-frame approach does produce more precise estimates than a pure area-sampling approach of the same cost. Further, the dual-frame approach also produces less biased estimates than a pure RDD approach of the same cost would. However, it is not yet clear which approach strikes the optimal balance between minimizing bias and maximizing precision. Waksberg et al. (1997) describe some of the design considerations early in the process of the survey (see also Waksberg et al. 1998).

## Figure 2.2 Sampling Frame Inclusions and Exclusions

### Inclusions

- Houses, apartments, and mobile homes occupied by individuals, families, multiple families, or extended families where at least one occupant is under the age of 65.
- Houses, apartments, and mobile homes occupied by multiple unrelated persons, provided that the number of unrelated persons is less than nine and at least one occupant is under the age of 65.
- Persons in workers' dormitories and camps.
- Military personnel living on post with their families, as well as military personnel living off post with or without their families.

### Included Persons in Excluded Structures

- Persons temporarily living away from home were enumerated at their usual residences. This group includes college students in dormitories, patients in hospitals, vacationers, business travelers, "snowbirds," and so on. Structures that were expected to primarily include only such persons away from their homes were excluded.

### Exclusions

- The institutionalized population. Examples of institutions include prisons, jails, juvenile detention facilities, psychiatric hospitals and residential treatment programs, and nursing homes for the disabled and aged.
- Noninstitutional group quarters, including communes, monasteries, convents, group homes for the mentally or physically disabled, shelters, halfway houses, dormitories, and dwelling units with nine or more unrelated persons.
- The homeless.
- Persons in transient hotel/motel rooms, tents, recreational vehicles, trailers, and other similar temporary arrangements.
- Military barracks and ships.

In addition to the use of RDD sampling to reduce costs (compared with pure area sampling), costs were further reduced through the use of screener-based subsampling of households contacted in the RDD component. In the RDD screening interview, we screened for the presence of children under the age of 18 in the household. We also asked respondents a single income question: whether their total household income for 1996 was above or below an amount corresponding to the 200 percent of poverty threshold (given the number of persons and children in the household). Those households that reported an absence of children or reported incomes above 200 percent of the poverty threshold were subsampled. More detailed and reliable income questions were asked of those sampled on the basis of the short question. The combination of a new dual-frame sampling approach with screener-based subsampling further complicated an already challenging design task.

Within both the RDD and the area samples, it was decided to subsample household members to reduce the respondent burden. If there were multiple children under age 6, one was randomly selected. The same was done for children 6 to 17 years old. Data were collected about each of these sample children through the most knowledgeable adult (MKA) in the household for that child (almost always a parent of the child). During the MKA interview, additional data about the MKA himself or herself and about his/her spouse/partner (if living in the same household) were also collected. All information about the spouse/partner of the MKA was collected by proxy through the MKA. For the most part, every question that was asked about the MKA was repeated in reference to the spouse/partner. However, some questions on health insurance and health care utilization were asked in reference to only one of the two. The target of these questions was randomly assigned to either the MKA or the spouse/partner in order to reduce the burden on the MKA. There were also some questions that were asked only about the MKA; these were related to feelings, religious activities, and opinions. They were not repeated in reference to the spouse/partner because proxy response did not seem valid and because self-response on these few questions was operationally impractical.

Other adults in households with children were subsampled, as were adults in adult-only households. Self-response was required for sampled adults. During the interview with a sampled adult, additional data was also collected about the spouse/partner if living in the same household. As in the MKA interview, spouse data were always collected by proxy. There was never an attempt to collect data directly from the spouse of a sampled adult. As in the MKA interview, some questions were asked only about the sampled adult; again, these related to feelings, religious activities, and opinions.

For a more in-depth examination of the topics in this chapter, see Report No. 2 in the 1997 NSAF Methodology Series.



### 3 QUESTIONNAIRE CONTENT

As noted before, we placed a premium on broadly measuring the well-being of children and families. Therefore, the NSAF survey instrument touched on many different aspects of family life. We relied on existing instrumentation as much as possible. We also sought out and obtained extensive input and review of the instrument by survey methodologists and subject matter experts. As noted, the NSAF collected information on the economic, health, and social dimensions of the well-being of children, adults under the age of 65 and their families in 13 states and in the balance of the nation. The richness of this data can be seen in figure 3.1, which provides a summary, by topic, of the breadth of well-being measures covered by the 1997 NSAF questionnaire.

Figure 3.1 shows the item or construct being asked about in the survey, as well as for whom the item or construct was asked, although this mapping should not be taken as exhaustive. For a given item, the measure may be meaningfully applied to a person about whom the item is not directly asked. For example, while questions about parent aggravation are asked of primary caregivers (or most knowledgeable adults [MKAs]), one could produce estimates based on the child as the unit of analysis, such as the percentage of children with a primary caregiver who scores high or low on parental aggravation.

We grouped the survey content into five different categories: health, child well-being, economic security, family environment and demographic items like race and ethnicity.

In the health area, we asked 1997 survey respondents about health status, insurance coverage, health care use and access and managed care enrollment, health status, functional limitation, and psychological well-being. In the current round, questions were added to gain a better understanding of why so many uninsured children who are eligible for public health insurance do not participate.

Child well-being measures included educational attainment and school engagement, cognitive stimulation, child-care arrangements, child participation in work, and recreational activities. Also included were questions about social development, behavioral problems, child support and contact with noncustodial parent, health status, functional limitations, health insurance coverage, health services use, and access to care. Child care is included as a child well-being indicator, and we obtained information about the hours in care and the stability and quality of arrangements. Since we were interested in the interplay between childcare and employment, we also collected information about the cost of care and use of subsidies.

In the area of economic security, we obtained information on the following: family income by source (including income cash and noncash assistance programs and child support), employment and earnings, and participation in employment and training programs. We also looked at current and past participation in Aid to Families with Dependent Children (AFDC) or Temporary Assistance for Needy Families (TANF) and food stamps, including whether the benefits have work or other requirements or time limits. Finally, we included measures of food security and economic hardship (e.g., difficulty in making rent payments).

We measured a number of different aspects of the family environment, including family structure and household composition, contact with noncustodial parents, and indicators of psychological

well-being and stress associated with childrearing.

Lastly, we included a number of additional items: both standard items, such as demographic characteristics, and more unusual items, such as attitudes about welfare and raising children and awareness of community services. In addition, the survey contains items on household and family characteristics, including household composition, age, sex, country of origin, citizenship, race, and ethnicity. In contrast to most government household surveys, which only ask about relationships between a single reference person and all other household members, the household roster portion of the questionnaire asks the respondent to identify pairwise relationships between all household members.

The breadth of the content permits analyses of a number of different policy areas, including income support, health care, job training, social services, welfare and food stamp programs, the Children's Health Insurance Program, child care, employment and training, and child support.

The basic 1997 NSAF questionnaire is available in its entirety and can be found at the Urban Institute website: <http://newfederalism.urban.org/pdf/nasfq.pdf>. For a comparison of the 1997 and 1999 NSAF questionnaires, see Report No. 12 in the 1997 NSAF Methodology Series.

**Figure 3.1**  
**Summary of Well-Being Measures in the National Survey of America's Families**

Well-Being Construct/ Items to be Measured	Person/Unit for Whom Measured		
	Child	Parent/ Adult	Family/ Household
<b><i>Economic Security</i></b>			
Poverty/family income			X
Parent/adult employment/earnings/work stability		X	
Health insurance coverage (includes Medicaid)	X	X	
Parent/adult use of education and training		X	X
Child support	X	X	X
Use of public assistance (includes AFDC, SSI)	X	X	X
Use of food assistance (includes food stamps, WIC, school lunch, school breakfast)	X	X	X
Economic hardship			X
Food security			X
Use of housing security			X
Housing adequacy/stability/crowding	X	X	X
<b><i>Health and Health Care</i></b>			
Health status/limitations	X	X	
Hospital stays and physician visits	X	X	
Health care access, use, and satisfaction	X	X	
Health care monitoring (includes dental visits, preventive care)	X	X	
Inability to afford medical/dental care, medicine	X	X	
<b><i>Child's Education/Cognitive Development</i></b>			
Grade for age	X		
Problem doing well in school, with school work	X		
Whether parents read or tell stories to child	X		
Whether parents take child on outings	X		
Child care use (includes amount, type, quality, stability)	X		X
<b><i>Child's Social Development and Positive Development</i></b>			
Employment and participation in training programs	X		
Participation in recreational activities (teams, clubs, scouts, religious groups)	X		
<b><i>Child's Behavior Problems</i></b>			
Behavior problems index	X		
Cut classes/suspended/expelled from school	X		
<b><i>Family Environment</i></b>			
<i>(A) Family Structure</i>			
Whether two-parent family, biological parents present	X	X	
Visitation with noncustodial parent (if applicable)	X		
Stability/turbulence (includes changes in family composition, housing, child care)	X	X	X
<i>(B) Parent/Adult Psychological Well-Being</i>			
Depression		X	
Parent aggravation		X	
Participation in volunteer/religious activities		X	
<i>(C) Family Stress</i>			
Problems in family (includes mental health, family conflict)	X	X	X
<i>(D) Immigration Status</i>			
	X	X	X
<b><i>Community Environment</i></b>			
Knowledge of community services available		X	

## 4 DATA COLLECTION

All interviews were conducted on the telephone by interviewers working in central interviewing facilities, using computer-assisted telephone interviewing (CATI) technology. In-person interviewers used cellular telephones to connect respondents in nontelephone households to the interviewing centers for the CATI interview. All interviews were conducted centrally and in essentially the same way. At least 10 percent of each telephone interviewer's work was silently monitored for quality control purposes.

Longer (40-minute) interviews, about 28,000 in all, were administered to the most knowledgeable adult (MKA) in households with children under 18. As mentioned in chapter 2, in households with children under age 18, up to two children could be selected for in-depth study: one under age 6, and the other between ages 6 and 17. Information about the children and the household was obtained from an adult in the household who knew the most about the health, education, and care of the sampled child or children. It was possible to have separate adult respondents for each child, although it was more common to have a single respondent (usually the mother) for both children.

Shorter (25-minute) interviews, about 20,000 in all, were administered to the sampled (nonelderly) adults as follows:

- In households with children, one or two adults under 65 who did not have any children under 18 living in the sample household were sampled for childless adult interviews
- In households without children, one or two adults were randomly selected for a childless adult interview, depending on the number of adults living in the household.

The longer interviews had questions about both children and their families, while the shorter interviews contained only the questions relevant to adults. The telephone interviewers averaged more than 60 hours of training and practice prior to conducting interviews. The in-person field staff was trained only on listing and prescreening procedures during a two-day session, since their job was restricted to locating households to be interviewed.

### 4.1 RDD Component

The telephone component of the NSAF used a list-assisted method to select the random-digit dialing (RDD) sample of telephone numbers and CATI for screening and interviewing. The sample was selected separately for each of the study sites and for the balance of the nation. Telephone households were subsampled, with the subsampling rates depending on the presence of children in the household and their response to a simple income-screening item. All the households with children that classified as low-income households were sampled, while higher-income households with children and all households without children (but with someone under 65) were subsampled.

From the sample of 483,260 telephone numbers, 179,280 households were screened and detailed extended telephone interviews were conducted with 46,640 persons under age 65. As noted above, there was also an in-person component to the study. In this component, 1,691 extended interviews were conducted, for a total of 48,331 telephone and in-person extended interviews.

The longer interview (40 minutes), referred to as option A, was administered to MKAs with sampled children under age 18, and the shorter interview (25 minutes), called option B, to adults under 65 without children under 18 living in their household. There were 28,163 option A interviews and 20,168 option B interviews. Option A interviews asked questions about both children and their families, while option B interviews contained only the questions from option A that were relevant to adults. The questionnaire was divided into several sections including the following topics: education, health care coverage and access, child care, employment and earnings, family income, welfare participation, housing and economic hardship, social services, problems, race, ethnicity, and nativity.

Information about the child(ren) and the household (the option A interview) was obtained from the MKA. It was possible to have separate MKAs for each focal child, although it was more common to have one MKA for both children. It was also possible to sample adults from households with children. To be eligible for this selection protocol, the adult had to be under 65 years old, not a spouse or partner of the respondent, and not have any children of his or her own under 18 years old living in the sample household. This group became known as the option B stragglers because their interview always followed the interview for the focal children. Other adults under 65 were sampled from households without children. In these households, one or two adults were randomly selected for the option B interview.

The interviews and screener were programmed into Westat's CATI system to facilitate administration and data editing. Before the initial contact, each household for whom we could obtain an address was mailed a prenotification letter. This letter contained information about the survey, along with an endorsement letter from a governor or state agency in some of the states (Florida, Massachusetts, Minnesota, New Jersey, New York, Washington, and Colorado). Refusal conversion letters were also sent at both the screener and extended interview levels.

All interviewing was conducted from one of three central interviewing facilities, two of which were operated by Westat and known as Telephone Research Centers (TRCs) and one of which was operated by a subcontractor. The Westat facilities are located in Frederick and Rockville, Maryland, and the subcontractor's site is located in Lebanon, Virginia. A total of 652 interviewers were trained across the three sites: 234 in Frederick, 210 in Rockville, and 208 in Lebanon.

The screening portion of the telephone component began January 6, 1997, and the extended interviews were conducted from February 15, 1997, to November 2, 1997. The data collection period for the in-person component extended from February 15, 1997, through November 2, 1997. Though the initial plan was to end the survey by June, the field period was lengthened when Colorado was added to the sample. Interviewing for Colorado began June 6, 1997. The addition of a supplementary sample in some of the states on July 21, 1997, and the lengthening of

the period of refusal conversion led to the extension of the field period until November 2, 1997.

## **4.2 In-Person Component**

The in-person component of the NSAF was designed to augment the telephone survey with a sample of households without telephones. During data collection, 1,701 interviews were conducted by in-person interviewers using cellular telephones to connect the respondent to telephone interviewers located in one of the TRCs.

A multistage area probability sample was used to identify households without telephones. The design included:

- The selection of 114 primary sampling units (PSUs), each consisting of metropolitan statistical areas or groups of counties.
- A total of 1,388 area segments within the PSUs consisting of census blocks or groups of blocks. The segments were selected so that the average segment contained 30 occupied dwelling units (DUs).
- For those segments in which census data indicated that the segments would be much larger, an additional stage of sampling was introduced. In general, these segments were divided into two or more smaller “chunks” of approximately equal size, and one chunk was selected for listing.
- Within the sampled segments or chunks, Westat interviewers listed and screened 44,426 DUs, of which 39,872 were occupied. The average segment size turned out to be 32 DUs (29 occupied DUs), with a range of 0 to 97 DUs.
- Within occupied nontelephone DUs identified during screening, persons eligible for the survey were randomly selected for an interview.

The in-person fieldwork was organized into 10 regions each headed by a regional field supervisor responsible for the work in the region. There were 10 traveling senior interviewers and 153 interviewers (163 total). Each interviewer attended a one-and-a-half-day, in-person training session on the use of all procedures, questionnaires, and materials. To enable close monitoring of the fieldwork, an automated field management system (FMS) was developed, operating on laptop computers provided to the regional field supervisors. The FMS captured and reported weekly production and cost data. Quality control of data collection was achieved by observing interviewers new to Westat and validating a portion of the work of every interviewer. Fieldwork was validated by checking each listing against a computerized directory of addresses and by sending a second interviewer back to verify the work of the original fieldworker.

To complete the fieldwork efficiently, interviewers were trained to list a DU, approach the door, and prescreen the household with an adult household member (all in one step). Prescreening consisted of reading a brief statement identifying the interviewer and introducing the study before

asking questions to determine eligibility (e.g., the absence of a telephone and the presence of at least one household member under 65). Once a household was identified as eligible, the interviewer explained that the interview would be conducted from Maryland using the cellular telephone, and that if the household cooperated, it would be paid \$20.

Calls coming into the TRCs from field interviewers were answered by a supervisor. Each such call was then transferred to a telephone interviewer. In-person interviews were conducted in the Frederick and Rockville TRCs. The telephone interviewer administered a brief screening interview to make sure the household did not have a working telephone and that someone in the household was age eligible. Additional screening questions, similar to those on the telephone survey, were asked to select an appropriate person(s) for an extended interview.

### **4.3 Post-Interview Data Processing**

The NSAF, by its very nature, was long and probing, often asking questions never before brought together in the same instrument. Clearly, the length and complexity of the questionnaire contributed to the challenges faced in the data processing conducted after the interviewing (by making the data editing more difficult, for example). On the whole, while there were some painful learning steps because NSAF was a first-time effort, the final data obtained is believed to be of very high quality.

Careful data control procedures were implemented at both Westat and the Urban Institute. These measures involved limiting the number of staff who made updates, using flowcharts to diagram complex questionnaire sections, consulting frequently, carefully checking updates, and conducting computer checks for inconsistencies or illogical patterns.

Misreporting errors also arose, sometimes because of our need to save interview time and sometimes because the survey had new elements being brought together for the first time. For example, we incurred some misreporting for the age question. In particular, there is an evident heaping of ages for NSAF sampled adults (at 30, 40, etc) because, in order to save time, we asked for age directly rather than obtaining date of birth. The problem is considered minor for most researchers, especially as the data have been reweighted to align the survey totals with outside population controls by age.

Another estimation issue involves how we handled item nonresponse. This occurred when an interview was obtained but some specific questionnaire items were missing. For most NSAF questions, item nonresponse rates were very low, often less than 1 percent—no doubt partly because self-reporting was so often the rule in the NSAF.

As is the case with any household survey containing questions about sensitive information such as income and mortgage amounts, the NSAF occasionally encountered significant levels of item nonresponse. For those related to income, the NSAF item nonresponse rates ranged from 20 to 30 percent, consistent with what is found elsewhere (e.g., the March 1997 CPS).

During survey processing, nearly all questions on employment, earnings, and family income were imputed, as were selected items from the sections on health care coverage and health care use and access. The imputation of missing responses was intended to meet two goals. First, it makes the data easier to use. For example, the imputation of missing income responses permits the calculation of family income and poverty measures for all sample families. Second, the imputation helps adjust for biases that could otherwise result, since the characteristics of persons with nonresponses may differ from those of respondents (e.g., see Oh and Scheuren 1980a and 1980b where a study of CPS item nonresponse is examined).

Missing responses have been imputed at the individual level (except for the economic hardship and housing items, which were imputed at the household level). In almost all cases, the method used to make the imputations for missing responses in the NSAF was a standard “hot deck” (Ford 1983). In a hot-deck imputation, the value reported by a respondent for a particular question is given or donated to a “similar” person who failed to respond to that question. The hot-deck approach to imputing missing values is the most common method used to assign values for missing responses in large-scale household surveys (Coder 1999). For example, it is the method used for the March 1997 CPS, the source of the official annual estimates of the poverty population (U.S. Census Bureau, *Current Population Survey*. P-60, no. 198).

For a more in-depth examination of the topics in this chapter, see Reports No. 5, 9, and 10 in the 1997 NSAF Methodology Series.



## 5 WEIGHTING METHODS

This chapter is for readers interested in learning about the general approaches used in NSAF weighting and how the weights are employed to produce national and state estimates.

### 5.1 Basic Ideas

The concept of sample weighting is simple. If units are sampled at a rate of 1 in 100, those selected must be weighted by 100 to represent the entire population. The nonresponse and coverage adjustments are also based on this idea, but the rationale underlying them is less obvious. For this reason, we describe the philosophy used for these adjustments in the next section.

Responses to NSAF items were weighted to provide approximately unbiased aggregate estimates for each study area and for the country as a whole. The weights were applied to all survey items with the goal of trying to:

- Compensate for differential probabilities of selection for households and persons;
- Reduce biases occurring where nonrespondents' characteristics differ from those of respondents;
- Adjust, to the extent possible, for undercoverage in the sampling frames and in the conduct of the survey; and
- Lower the variance of the estimates by using auxiliary information.

The weighting was carried out in the following three stages for both the random-digit dialing (RDD) and in-person components of the NSAF to produce person and family weights:

- The first stage is the computation of the base weight. The base weight is the inverse of the probability of selection, which accounts for the unequal screening rates. The base weight also includes adjustments for the planned exclusion of nontelephone households from the area-sampling frame and for the subsampling of persons in selected households.
- The second stage was an adjustment for unit nonresponse (entire households and persons not responding to the survey). The weights of respondents in particular groups were adjusted to account for the nonrespondents in those groups.
- In the third stage, the nonresponse-adjusted weights were adjusted further for each study area to independent population control totals derived from U.S. Census Bureau sources on the number of persons by age, race/ethnicity, gender, home ownership, and educational attainment (for adults).

These three stages incorporate screener data to create household weights, and extended interview data to create the person and family weights. The weights account for the unequal probability of sampling (at both the household and person levels) and include adjustments for nonresponse and undercoverage. The final result is a series of estimates, consistent with Census Bureau population totals, that reduce biases due to undercoverage and nonresponse. In some cases, the adjustment to Census Bureau population controls may also reduce the sampling error of the estimates. Two sets of Census Bureau population controls were used, both before and after adjusting for the census undercount.

In the NSAF, individual case weights were created and attached to the data records. Separate weights were created for four analysis groups: children, adults 18 to 64 years old (including MKAs), families, and households. Each complete child record basically has a single weight. For adults, multiple weights are needed because of how data were collected in the interview, even though the population of interest for both is all adults ages 18 to 64. One weight was prepared for households and two weights were prepared for families; the two family weights were developed because two definitions of families can be constituted from the NSAF data.

Figure 5.1 shows the weights and adjustments for each of the four analysis groups. The last column of the figure shows that replicate weights were created for each group. These replicate weights were produced to estimate sampling errors. The methods used to develop the replicate weights and how they can be used to estimate sampling errors of the estimate are described in Report No. 4 of this series. We considered having different study areas and national estimation weights, but decided this was impractical. However, all weights were calculated twice, once before and again after adjusting for the census undercount.

**Figure 5.1**  
**Weights and Adjustments for the NSAF**

	<b>Base Weight</b>	<b>Screener Nonresponse Adjustment</b>	<b>Extended Nonresponse Adjustment</b>	<b>Household Undercoverage Adjustment</b>	<b>Control Total Adjustment</b>	<b>Replicate Weights</b>
Household	X	X		X (area only)	X	X
Child	X		X		X	X
Adult (3 sets)	X		X		X	X
Family (2 sets)	X		X			X

## **5.2 Adjusting for Noninterview Nonresponse and Undercoverage**

In an ideal survey, all the units in the inference population are eligible to be selected into the sample and all those selected participate in the survey. In practice, neither of these conditions

occurs. Some units are not eligible for the sample (undercoverage) and some of the sampled units do not respond (nonresponse).

This was true in the NSAF, as in other surveys, even though in the NSAF there was a great emphasis on completeness of response and coverage. While going into details is beyond our scope, the NSAF was characterized by major efforts to understand the coverage of telephone and nontelephone households. Also, there were extensive experiments, continuing into the 1999 survey, on employing financial and other incentives as a way of raising response rates.

If residual undercoverage and nonresponse are not addressed, then the estimates from the survey may be biased. In the 1997 NSAF, the weights of those that are eligible and respond are adjusted to represent the undercovered persons and nonrespondents. An overview of the approaches used to account for these two sources of missing data is given below, beginning with adjusting for nonresponse.

A weighting class adjustment was the type of nonresponse adjustment procedure used in the NSAF (see Brick and Kalton 1996). In this procedure, adjustments are computed and applied separately by cell, where a cell is defined using characteristics known for both nonrespondents and respondents. For example, we can identify from the telephone exchange (area code and first three digits of the number) where the household is located (in a central city, outside a central city but in a metropolitan area, or outside a metropolitan area). Thus, this variable can be used to define cells and weighting adjustments can be computed separately for each of these cells. The adjustment reduces bias if response rates and survey characteristics vary among cells and nonrespondents in the same cell share the characteristics of respondents.

The drawback to nonresponse adjustment is that it increases the variability of the weights and thus increases the sampling variance (Kish 1992). A nonresponse adjustment is beneficial only when the reduction in bias more than compensates for the increase in variance. When the cells contain sufficient cases and the adjustment factors do not become inordinately large, the effect on variances is often modest. Very large adjustment factors usually occur in cells with small numbers of respondents. To avoid this situation, cells with few cases are “collapsed,” or combined, to form a new cell with a larger number of cases.

The guiding principle for nonresponse adjustment in the NSAF was to define adjustment cells for which response rates and important survey characteristics vary considerably and to avoid cells with either a small number of cases or a large adjustment factor. Oh and Scheuren (1983) discuss some of the statistical features associated with making these adjustments.

As noted above, nonresponse adjustment classes can be formed only when data are available for both responding and nonresponding units. Since the nonresponse adjustment is done for each stage of data collection, the data available for forming cells are different for each stage. For screening interviews, the nonresponse unit is a household (or, more properly, a telephone number) and data must be available for all households (telephone numbers). For extended interviews, the nonresponse adjustment is done by type of person (adult or child) or family. At this level, data from the screening interview can be used to define cells.

The approach to adjusting for undercoverage is somewhat different because uncovered units or persons were never eligible to be sampled. To adjust for undercoverage, we used data from external sources (control totals) in a process called poststratification (Holt and Smith 1979). The primary objective of poststratification is to dampen potential biases arising from a combination of response errors, sampling frame undercoverage, and nonresponse. A secondary objective is to reduce sampling errors. This is important because NSAF sample sizes within states are fairly modest for some subclasses. In general, the sample is poststratified to as many independent figures as possible, subject to some constraints. We use the term poststratified loosely here to include raking ratio estimation, a form of multidimensional poststratification (see Oh and Scheuren 1978a and 1978b).

For a more in-depth examination of the topics in this chapter, see Reports No. 3, 7, 8, and 14 in the 1997 NSAF Methodology Series.

## 6 RELIABILITY OF ESTIMATES

As in all surveys, the estimates from the NSAF are subject to both sampling and nonsampling errors. Sampling errors can be directly quantified and are discussed first. Nonsampling errors are the other source of variation in the estimates. Typical sources of nonsampling errors are nonresponse, failure to cover portions of the target population, differences in interpretations of the meaning of the questions, and other measurement problems.

Extensive steps were taken to reduce the effect of sampling and nonsampling errors, both during the survey and later during postsurvey processing. For example, heavy reliance was placed on extensive interviewer training and monitoring procedures, special mailings were used to increase response rates, pretests were conducted to examine the way questions were asked, appropriate weights were developed, and imputations were done for item nonresponse. These and many more actions were designed to reduce or measure the bias and variability due to specific sources of nonsampling errors.

### 6.1 Sampling Error

The sample of households and persons selected for the NSAF is one of many that could have been selected. The resulting variation is called sampling error. The standard error of the estimate is a measure of the variability due to sampling. For example, standard errors of the estimates in the *Snapshots of America's Families* were computed using a jackknife replication procedure specifically developed for complex sample designs like the NSAF (see Report No. 4). The jackknife replication method used in the NSAF captures the sampling error effects due to the clustered sample design, the unequal selection probabilities, and the adjustments for unit nonresponse and to bring the survey into agreement with outside controls.

For estimates based on large sample sizes, the chance that an estimate would differ from a complete census count (which has no sampling error) by more than two standard errors is less than 5 percent. The interval from two standard errors above the estimate, to two standard errors below the estimate, is thus called a 95 percent confidence interval. In common usage, a 95 percent confidence interval can be equated to the interval obtained by taking the estimate plus/minus its "margin of error."

The standard error computed using the jackknife replication method can also be used to test statistical hypotheses as to whether an individual state, for example, was different in some way from the nation as a whole. In themselves, results are flagged as to their statistical significance. Figure 6.1 shows the reliability of the NSAF from a sampling error perspective for selected statistics.

**Figure 6.1**  
**1997 NSAF Sampling Error Estimates for an Estimated Proportion of 50 percent**

Item	Margin of Error (%)	Confidence Limits		NSAF Sample Size
		Upper (%)	Lower (%)	
<b>Children</b>				
National: all	±1.2	48.8	51.2	34,400
National: low-income	±1.7	48.3	51.7	17,300
State: low-income	±2.7	47.3	52.7	2,200
<b>Adults</b>				
National: all	±1.0	49.0	51.0	74,100
National: low-income	±1.4	48.6	51.4	29,200
State: all	±2.4	47.6	52.4	4,700
State: low-income	±3.6	46.4	53.6	1,900

*Source:* Based on the approach described in Report No. 4 of the NSAF Methodology Series. The state sample sizes are averages over the states. The margin of error was calculated by averaging over a number of different statistics.

Figure 6.1 provides, for selected groups, the margin of error for an estimated proportion equal to 50 percent, the 95 percent confidence interval limits, and the NSAF sample size. The margins of error and sample sizes reported in the figure are averages that vary both across states and across statistics. It is worth noting the small margins of error (or, equivalently, the narrowness of the confidence intervals). This is one of the main achievements of the NSAF design, especially for state-level estimates of low-income children and adults.

For a more in-depth examination of the topics in this subchapter, see Report No. 4 in the 1997 NSAF Methodology Series.

## 6.2 Coverage Rates

Coverage problems can arise in all surveys. In particular, coverage problems can arise when part of the population being sampled is inaccessible for some reason and some of whose members, therefore, are not available for selection.

The NSAF suffers, as do all household surveys, from a net shortfall or undercoverage relative to independent Census Bureau figures. In making this comparison, we used independent totals based on the 1990 decennial census counts, carried forward by the Census Bureau to 1997, using birth and death records plus information on net migration.

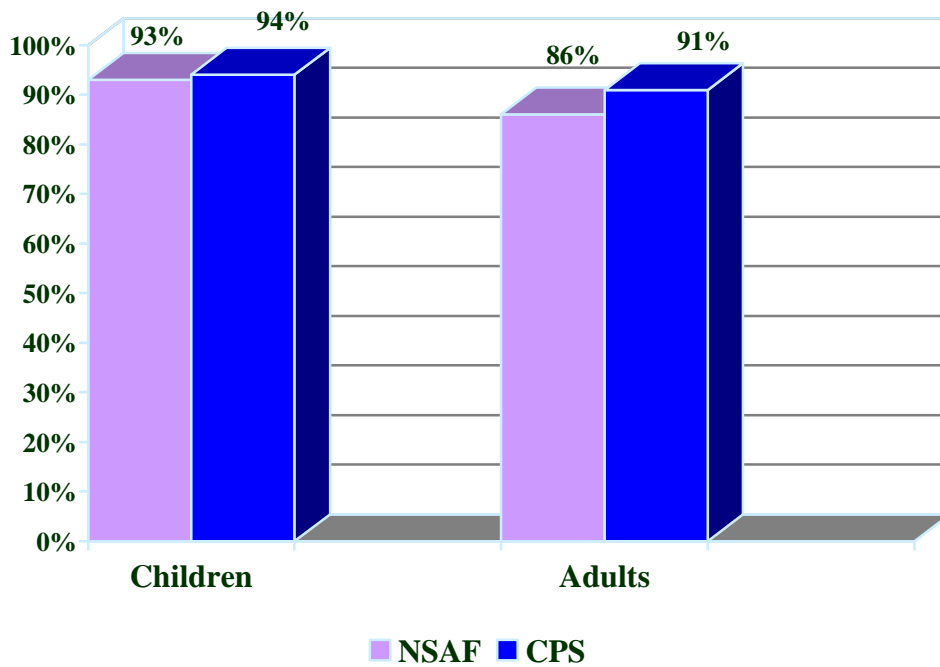
The census undercount is perhaps the most well known example of a coverage difficulty. No matter how hard the Census Bureau tries, it still fails to locate everyone. About 5 million people were missed in 1990, for example. The NSAF might have had a serious coverage problem, especially of the low-income population, if it had not included a separate sample of nontelephone households.

To assess NSAF coverage we need to compare survey estimates of different population groups to what the Census Bureau believes to be the right total (after adjusting for the undercount). Therefore, a coverage ratio will be our quality measure.

On this basis, our coverage of children (persons under 18) was excellent overall, at 93 percent. We also did reasonably well for adults 18 to 64, with a coverage ratio of about 86 percent.

Even long-established surveys like the Current Population Survey (CPS) or the National Health Interview Survey (NHIS) suffer from coverage problems, so a comparative statement may be worth making. To do this, we have shown CPS coverage ratios comparable to those just shown for the NSAF (see figure 6.2).

**Figure 6.2**  
**Coverage Ratios, 1997 NSAF and CPS Compared (in percent)**



Notice that the CPS coverage ratio for children, at 95 percent, is somewhat better than that of the NSAF, although the two are very close. The same pattern also occurs for adults 18 to 64, with CPS coverage, at 91 percent, being better than but still reasonably close to that of the NSAF.

Coverage biases are usually small in surveys with high coverage ratios, as was true with the NSAF. This is because most major surveys, the NSAF included, are adjusted to come up to the independent Census Bureau population totals, so there is no net shortfall. Still, there can be residual biases.

We believe we have resolved any coverage issues for nontelephone households. We might add that our supporting argument has some subtlety, as is brought out in Report No. 14 of the 1997

NSAF Methodology Series.

We are mildly concerned about missing more persons who are near age 65 than does the CPS. Arguably, one of the factors here may be how we screened out those over 65. Gary Shapiro's paper, "Coverage in Screening Surveys at Westat," given at the 1999 Joint Statistical Meetings may be worth consulting, since it contrasts results from several surveys, including the NSAF.

We are more concerned with the coverage achieved for blacks, but this problem is common to most large household surveys, whether administered in person or by phone. Hence, neither the concern nor the problems of residual bias are unique to the NSAF.

Two sets of controls have been used in the NSAF. For the *Snapshots* report, the control totals were *not* adjusted for the 1990 decennial (net) census undercount. Since then we have reweighted the NSAF, adjusting to undercount corrected controls, as is the practice in the CPS and NHIS. In addition to these two sets of population controls, other Census Bureau population estimates employed were (1) the percentage of persons by home ownership, used in the derivation of the weights for children and adults, and (2) education level, used in the derivation of the weights for adults.

For a more in-depth examination of these topics, see Report No. 14 of the 1997 NSAF Methodology Series.

### **6.3 Response Rates in General**

Coverage problems arise when we cannot locate the case at all—for whatever reason. Nonresponse problems, on the other hand, may occur when we know about and can select a case into our sample, but are unable to contact it or to gain cooperation. Telephone surveys are increasingly subject to nonresponse problems, and the NSAF was no exception.

Response rates are used to assess various aspects of the quality of a survey (Madow et al. 1983). One purpose of reporting response rates is to provide a measure of the success of the survey in representing the population sampled. To accomplish this goal, response rates are weighted so that they indicate the proportion of the population that responded. For example, since the balance of the United States includes nearly half of the total population, the response rates are weighted so the balance of the United States accounts for about 50 percent of the overall response rate.

Unit nonresponse has two main effects. It increases the costs of getting the same number of completed interviews, and it raises concerns about possible biasing of results because respondents and nonrespondents may be systematically different from one another for key survey measures. In the NSAF, as discussed below, a great deal was done to address the problem of lower-than-desired response rates and the possible bias concerns that such rates raise.



## 6.4 Response Rates Obtained

On a basis comparable to other surveys, the overall response rate in the 1997 NSAF was about 70 percent. For operational reasons, a different response rate has been used. Report No. 8 describes the operational response rates and the methods used to compute them. Tables of response rates for important subgroups, such as telephone and nontelephone households are included. See also Report No. 16 for more discussion of the differences between the operational and comparable NSAF response rates (McCullough-Harlin, Scheuren, and Wang 1999)

The report reviews approaches used to increase the response rates and concludes that the response rates for the 1997 NSAF were higher than those typical of this type of survey. Initially, however, this was not the case and a great deal of attention was given to obtaining responses. Three approaches were taken:

- First, procedural changes were instituted very early in the fielding of the NSAF—all leading to greater emphasis on response issues by the interviewers.
- Second, respondent incentive experiments, similar to those the Office of Management and Budget has authorized in other surveys (Kirkendall 1999), were used in an attempt to raise cooperation rates. Different ways of wording the incentives were tried. Various dollar amounts and delivery mechanisms were examined (we learned that it was better to follow up by express mail than by first-class mail, for example). Experimentation continues in the 1999 NSAF.
- Third, the field period was extended to allow more time to convert cases that refused. That is, the NSAF elected to pay in time and money—but not in data quality—for its response difficulties.

As a result of these actions, the response rates achieved in the NSAF were quite respectable, especially given the consensus that survey response rates have been falling in recent years. What are these rates?

There are two rates to consider: the “screening rate,” where we determined whether the household was eligible for the survey, and the “extended rate,” which measures how successful we were at actually obtaining a complete interview, given that the household was eligible.

As set out in Report No. 8, the overall response rate for children in the NSAF was 65.4 percent nationally (77.8 percent for the screening interview, multiplied by 84.1 percent for the extended interview). The extended interview completion rate varied by study area from 78.1 percent to 89.3 percent. For adults, as set out in Report No. 8, the corresponding overall response rate was 61.7 percent nationally. The overall adult screener completion rate was 76.6 percent. The extended completion rate was 79.9 percent nationally, ranging from 73.5 percent to 85.7 percent. The overall response rate, calculated on this basis, was about 63 percent.

## 6.5 Response Rate Comparisons

How do NSAF response rates compare with other household surveys with similar content? For perhaps the best known of these, the Current Population Survey, household response rates are considerably better, at around 93 percent. Why is this?

One important reason for the difference is that the CPS allows any responsible adult to answer questions for the household. In the NSAF, designated respondents were required for the bulk of the survey's content. The different respondent rules have the effect of trading off two kinds of errors: lower response rates (in the NSAF) against potentially larger measurement errors (in the CPS). Incidentally, this effect is probably not small, perhaps upwards of 10 percent (National Household Education Survey, July 1997, NCES 97-948).

The CPS starts out as a face-to-face survey and calculates its response rates differently. The NSAF area component is the closest parallel, and for this part of the NSAF, we achieved response rates (at about 80 percent) nearly as high as those in the CPS; after adjusting for differences in how the NSAF rates were calculated, they were even closer.

In the RDD portion of the NSAF, also unlike the CPS, an adjustment has to be made for telephone numbers that are never answered—so-called “ring-no-answers.” When making the ring-no-answer adjustments for operational use (as in Report No. 8), we used a somewhat dated study to make this determination. More recent evidence suggests we were conservative and overstated the fraction of households that were missed. This is not a small matter, since adjusting the overstatement brings the NSAF response rates up by 2 to 3 percent.

We believe two other adjustments to our operational NSAF rates are needed to make them more nearly comparable to those of the CPS. First, we calculated operational NSAF rates on a household basis (which we had not done previously) and, second, we revisited the definition of what degree of completeness would be acceptable to call a case an interview and followed CPS practice more closely. Both of these seemingly small changes raised the calculated response rate. The household response rate achieved in the NSAF at the screening stage was over 80 percent for the RDD component and nearly 85 percent for the in-person component.

For the extended interview, after making the changes just described, the household response rate was about 87 percent. This means that the combined rate—(screener) times (extended)—was about 70 percent overall. It was actually somewhat better for families with children, who were the main focus in the NSAF.

## 6.6 Response Bias

The rationale for using weights in computing the response rate is that the bias of an estimate,  $\bar{y}$ , is a function of the response rate. Suppose the population can be partitioned into two strata: respondents and nonrespondents. Suppose further that the estimate from the survey is computed by observing the sample from the respondent stratum (without any modification of the inverse of

the selection probability weights). The bias of a survey estimate of a mean is

$$bias(\bar{y}) = (1 - r)(\bar{Y}_R - \bar{Y}_{NR}),$$

where  $r$  is the appropriately weighted response rate and the quantity on the right is the difference in the means between the respondent and nonrespondent strata (Lessler and Kalsbeek 1992).

This formulation clearly shows that the bias increases as the response rate decreases if the difference in characteristics between respondents and nonrespondents remains constant. If the response rates are not weighted, this relationship does not hold. Returning to the example, if the balance of the U.S. response rate is not weighted to account for 50 percent of the population, the response rate cannot be used in the bias equation.

It is important to note that a low response rate is not in itself a direct indicator of the magnitude of nonresponse bias. Estimates will be unbiased when there are no differences between respondents and nonrespondents on survey items of interest. Typically, survey methodologists focus on response rates as an indicator of the presence of nonresponse bias because there is usually little information about nonrespondents that can be used to judge the magnitude of the differences between respondents and nonrespondents.

Because of nonresponse bias concerns in the NSAF, a special follow-up study was undertaken to examine differences between NSAF respondents and nonrespondents in order to evaluate the effects of nonresponse among households with children. The approach we took was to field a completely separate 5- to 10-minute survey for NSAF nonrespondents. This effort yielded an average response rate of over 50 percent among the covered population and produced a total of 1,899 interviews, including 976 for households with children.

The characteristics of the 1,899 respondents obtained were compared with those interviewed as part of the basic NSAF. We also analyzed whether the characteristics of the respondents who were easily interviewed differed systematically from those who were more difficult to interview (i.e., those who required many calls before contact was made or who had initially refused to complete the interview). Finally, this special study contrasted telephone households in the CPS to those in the NSAF. Taken together, these analyses showed no evidence of large or systematic nonresponse errors in the NSAF statistics examined.

For a more in-depth examination of the topics in this chapter, see Report No. 7 in the 1997 NSAF Methodology Series.

## **6.7 Other Errors**

While the path through the evidence is different, we believe that the problems of data editing and item nonresponse are similar in their effect to the household response rate impacts discussed above. Data errors and omissions in the NSAF created extra work, but the NSAF is not unique in its concerns about measurement. Indeed, in many respects, the NSAF is similar to other large-scale household surveys and arguably, better off than most.

In reaching this conclusion, we relied on both internal evidence and an extensive external validation of the survey (as described in chapter 7). What was the internal evidence?

For most items the “missingness” rates were small. Typically, the item nonresponse was at or under 1 percent. While outlier detection should always be built into any NSAF analyses done, the extensive edit checking during NSAF processing was such that any remaining anomalies are expected to be rare.

The survey data imputation should greatly ease the analysis burden of researchers. For most imputations, the variable effects of the hot deck imputations used are quite modest and lengthen standard confidence intervals only slightly. There is even some evidence that the imputations may have at least partially reduced nonresponse bias. In a few cases—earnings is the most important example—the variance impact of imputation can be relatively large. Researchers concerned about bias or variance effects may consider redoing the NSAF imputations. Every effort has been made to facilitate this on the public use files.

For a more in-depth examination of the topics in this chapter, see Report No. 10 in the 1997 NSAF Methodology Series.

## 7 EXTERNAL VALIDATION

In this chapter, we provide two examples of the extensive validation work that has been taken to confirm the quality of the 1997 NSAF Results. This material is intended to be an illustrative of the other validation results that are or will be found in the Methodology Series (e.g., Reports No. 6 and 15).

### 7.1 Child Well-Being and Family Function

The 1997 NSAF monitored important aspects of child well-being and family function. The survey was particularly concerned with measuring both positive and negative changes in the quality of family life that may occur as a result of welfare reform.

In general, we designed the survey to use questions, scales, and indices that have been used in the past by other national surveys. In the child and family field, however, most available measures are relatively long. With the limited time available for data collection and the constraints of interviewing by telephone, many of the measures we ended up employing were shortened versions of existing scales. At the time of the 1997 NSAF they had yet to be used extensively in other surveys.

Measures of well-being assessed through the NSAF include child school engagement, parent mental health, children's behavioral and emotional problems, parent aggravation, cognitive stimulation of children, and children's participation in activities, among others. Although used in studies of child development and family functioning, many of these measures are novel in the indicators field. Researchers will want to be assured of the reliability and validity of the measures before using them for analytic purposes or replicating them in other surveys. We have therefore assessed each measure from three perspectives to establish confidence in the measure's use in future analytic work.

Overall, the measures appear to be working quite well. Missing data are minimal. The means for the measures fall within expected ranges, the spread around the mean is sufficient, and the standard deviations suggest that the estimates can be used with certainty. Estimates also follow expected patterns when data for children in worse socioeconomic circumstances are compared with data for children in better situations (see figure 7.1 and appendix D). Benchmark comparisons with other large national samples were attempted for all the measures but were not useful for many of the measures because of differences between samples or discrepancies in question wording. However, for each comparison, sociodemographic subgroup patterns in the NSAF are similar to those in the comparison sample, suggesting that the measures are reliable and working as intended.

For a more in-depth examination of the topics in this chapter, see Report No. 6 in the 1997 NSAF Methodology Series.

**Figure 7.1 Selected Indicators of Child Well-Being from the NSAF**

Construct	1997 NSAF Items	Surveys with Similar Measures	Cronbach's Alpha
Child School Engagement	<p>For each of the following statements, please tell me if you think it describes CHILD all of the time, most of the time, some of the time or none of the time:</p> <p>Cares about doing well in school?            Only works on schoolwork when forced to?            Does just enough schoolwork to get by?            Always does homework?</p>	<p>Survey of Program Dynamics</p> <p>NEWWS/JOBS Child Outcomes Study</p>	.76
Parent Mental Health	<p>How much of the time during the past month have you:</p> <p>Been a very nervous person?            Felt calm and peaceful?            Felt downhearted and blue?            Been a happy person?            Felt so down in the dumps that nothing could cheer you up?</p>	Medical Outcomes Study	.81
Child Behavioral and Emotional Problems	<p>For each item, please tell me if has been often true, sometimes true, or never true for CHILD during the past month. (Items 1–3 asked about all children ages 6–17; items 4–6 also asked of those 6–11; items 7–9 asked about those 12–17.)</p> <p>Doesn't get along with other kids?            Can't concentrate or pay attention for long?            Has been unhappy, sad or depressed?            Feels worthless or inferior?            Has been nervous, high-strung or tense?            Acts too young for his/her age?            Has trouble sleeping?            Lies or cheats?            Does poorly at schoolwork?</p>	<p>Survey of Program Dynamics</p> <p>National Longitudinal Survey of Youth — 1979 Child Supplement (1990, 1992, 1994)</p> <p>National Health Interview Survey</p>	<p>.73 for children ages 6-11</p> <p>.75 for children ages 12-17</p>
Parent Aggravation	<p>How much of the time during the past month have you:</p> <p>Felt your child/children are much harder to care for than most?            Felt your child/children do things that really bother you a lot?            Felt you are giving up more of your life to meet your child's/children's needs than you ever expected?            Felt angry with your child/children?</p>	NEWWS/JOBS Child Outcomes Study	.63

Source: Report No. 6, *1997 NSAF Benchmarking Child and Family Well-Being Measures*. Cronbach's alpha is a measure of correlation, with complete similarity achieved for alpha equal to one. A useful reference here is: Paul E. Spector 1992.

## 7.2 Other Measures of External Validation

Despite all the efforts made in the NSAF (only a few of which have been described in detail), nonsampling errors could only be controlled, not eliminated. The ability to internally quantify the effect of these errors within the NSAF is limited. For this reason, external validations of NSAF results become very important. In section 7.1 above, this approach was taken for a whole series of measures of child well-being. Here we provide two more examples from the ongoing research on this topic. The specific illustrations chosen look at differences between the NSAF and the CPS on income (subsection 7.2.1) and household size (subsection 7.2.2).

### 7.2.1 Income Comparisons between the CPS and the NSAF

Figure 7.2 compares the personal income distribution estimated for nonelderly adults (persons 18 to 64 years of age) in the 1997 NSAF and the CPS. This is displayed by seven selected size classes. The biggest difference is in the \$35,000 to \$49,999 class, but even there the two distributions differ by only 1 percent. On the whole, the NSAF and the CPS show a remarkable degree of closeness, given that both surveys have sampling and nonsampling errors.

**Figure 7.2**  
**1996 Earnings from Employment Distributions for Adults 18–64 Years Old,**  
**1997 NSAF and CPS Compared (in percent)**

Personal Income	NSAF	CPS	Difference (NSAF – CPS)
Total	100.00	100.00	—
Under \$10,000	35.04	36.77	-1.38
\$10,000–14,999	10.44	9.63	0.26
\$15,000–24,999	17.36	17.73	-0.22
\$25,000–34,999	13.70	13.33	0.54
\$35,000–49,999	12.44	11.51	1.11
\$50,000–74,999	7.44	7.14	-0.32
\$75,000+	3.58	3.89	-0.61

*Sources:* Current Population Survey (CPS), and National Survey of America's Families (NSAF) information from special Urban Institute tabulations.

### 7.2.2 Household Size Comparisons between the CPS and the NSAF

Figure 7.8 displays the household size distribution estimated from the 1997 NSAF and the CPS samples. Again, we see considerable closeness and no differences of substantive significance. There is a slight tendency for the NSAF to underestimate the smallest (1 person) and largest (7+ person) households. Such an effect is typical in telephone surveys, relative to those done face-to-face, however, the effects are very minor.

**Figure 7.8**  
**Distribution of Persons under 65 Years Old, By Size of Household,**  
**1997 NSAF and CPS Compared (in percent)**

Household Size	NSAF	CPS	Difference (NSAF – CPS)
Total	100.00	100.00	—
1 person	6.25	6.59	–0.34
2 person	21.21	21.25	–0.04
3 person	21.77	21.21	0.56
4 person	26.41	26.19	0.22
5 person	14.66	14.40	0.26
6 person	5.79	5.89	–0.10
7+ person	3.91	4.47	–0.56

*Sources:* Current Population Survey (CPS), and National Survey of America's Families (NSAF) information from special Urban Institute tabulations.

In summary, in these and other comparisons not shown (family composition, work experience, earnings, income, and poverty by key demographic characteristics), the NSAF estimates are very close in value to the CPS estimates and are, for the most part, well within sampling error.

For a more in-depth examination of the topics in this chapter, see Report No. 15 in the 1997 NSAF Methodology Series.



## 8 DISSEMINATION OF NSAF RESULTS

Research publications based on the 1997 survey data are now being issued on a regular basis. The first of these was *Snapshots of America's Families*, provided in January 1999.

As described in section 8.1, NSAF computer files are now available in an anonymous form for public use, at <http://newfederalism.urban.org/nsaf/cpuf/index.htm>. Preserving the anonymity of NSAF responding households remains a top priority. The approach we are taking relating to this matter is discussed in section 8.2. In section 8.3, we explain how to contact us for further information on current and future NSAF files. Section 8.4 provides a summary of the early experience we have had with NSAF users.

### 8.1 Planned NSAF Public File Releases

Multiple public use files from the 1997 NSAF are planned. The first of these was released in March 1999; the second will be released in July 1999, a third in October 1999, and the final file in early 2000.

Eventually, nearly all the items from the survey will be released. The main exceptions relate to items that might be at odds with the pledge of confidentiality given to respondents. Full geographic detail would be an obvious example. The content of the files will be as follows:

- **Child File.** The first file released contained records for 33,703 sampled children, along with a limited amount of information about their living arrangements. See appendix B for a detailed list of the variables currently included.
- **Most Knowledgeable Adult (MKA) File.** The second file contains the records for all 27,599 MKAs in the survey. Like the first file, it will be rectangular, but can be matched to the child file and embedded in a hierarchical structure. See appendix C for a detailed list of the variables to be included.
- **Childless Adult File.** The third release will contain records for the remaining sampled adults, notably from households without children, but also including spouse/partners of MKAs. This file may be incomplete in that some variables may not be ready.
- **Final File.** The fourth file will supply most of the detailed information on households and families. It will be our final planned public use file release from the 1997 NSAF.

Updates of these four public releases are expected to be of two kinds. We will be:

- Adding variables as these become available. These new variables will be concatenated at the end of the records already released. For example, we are already planning to re-release the child file, adding variables on child care arrangements and supplying a second weight that has been undercount adjusted. This new release will occur in August 1999.

- Simplifying the data structures so that less-experienced users may find a way to get direct access without knowing SAS or some other general statistical package. A new “tabulator” program will enable users to produce easy cross-tabulations of data. These tabulator versions of the planned files will be released four to six months after each of the basic releases is made available.

The documentation for the basic public-use files assumes a degree of experience that not all potential users may have. To partially address this, even in the absence of the tabulator versions, the codebooks prepared for each release will give guidelines on how to use the data. They will also include some information on other publicly available files that have similar structures.

The first two public use files are in compressed ASCII format (roughly 9 MB) in a self-extracting program, and must be downloaded and uncompressed. To download the file and save it to disk, go to the NSAF website and click on the file name. A window will appear asking where to save the file. Enter the location and choose “Save.” To unzip the file, go to the file manager or Windows Explorer and double-click the downloaded file. The extraction program will unzip the ASCII file into the same directory (to create a 35 MB data set). To convert the ASCII file back to an SAS data set, download the *sample read-in data step* and change the infile statement to point to the downloaded, uncompressed file.

## **8.2 Confidentiality Protections for Public Files**

When the NSAF data were obtained, a pledge of confidentiality was given to respondents. All researchers who use NSAF data are asked to keep that pledge by agreeing to make no attempt to identify any respondent and to employ the data for research purposes only.

To control access to the file, we further request that researchers not redistribute the file but refer all potential users back to us so we can be sure they understand the obligations they incur in becoming users. If you obtain the 1997 NSAF Child or MKA Public Use File, you will be asked to obligate yourself as follows:

*In downloading this public use file, I, [your name and e-mail address], agree that I will make **no** attempt to identify any sampled individual.*

*I, [your name], further agree that I will not disseminate this file to others, but will ask them to register and obtain their own copy directly. That way, all users of the file will be registered and all will have agreed to protect the confidentiality of the information provided them.*

A significant effort has been mounted to prevent inadvertent disclosures. Obvious direct identifiers such as telephone numbers, names, and addresses have been eliminated. As already noted, full geographic detail has been dropped. In fact, only a state identifier has been provided. Even though Milwaukee was oversampled and could be analyzed separately, we have elected to combine it with the rest of Wisconsin. We also subsampled Milwaukee cases with small weights to better protect against the possibility of any reidentification of survey respondents. Other forms

of protection (such as top-coding), standard with general-purpose files (e.g., the CPS), have also been employed in the choice of variables or in their coding.

In preparing the public use files for release, we have carried out two further steps to ensure that the risk of an inadvertent disclosure was minimal:

- We employed the “Checklist on Disclosure Potential of Proposed Data Releases” to be sure that a fully systematic approach to confidentiality protection had been carried out. (See Interagency Confidentiality and Data Access Group 1999.)
- We brought in an outside group of disclosure experts to have them independently evaluate the protection steps we are taking in our NSAF public file releases.

For more information on confidentiality issues in public data sets, see Mulrow and Scheuren (1999). See also the “Special Issue on Disclosure Limitation Methods for Protecting the Confidentiality of Statistical Data,” *Journal of Official Statistics*, Vol. 14, No. 4, 1998.

### **8.3 Contact Information for Public File**

For more information on NSAF Public-Use Files and the NSAF, please contact us as follows:

E-mail is the quickest and most convenient approach. Please send messages to [nsaf@ui.urban.org](mailto:nsaf@ui.urban.org).

Please include your name, complete address, and phone number in any correspondence, so we can better serve you. All e-mail inquiries will be answered within three working days, usually by a return e-mail.

Or you may write to:

*Assessing the New Federalism*  
National Survey of America’s Families  
Urban Institute  
2100 M Street, NW  
Washington, D.C. 20037

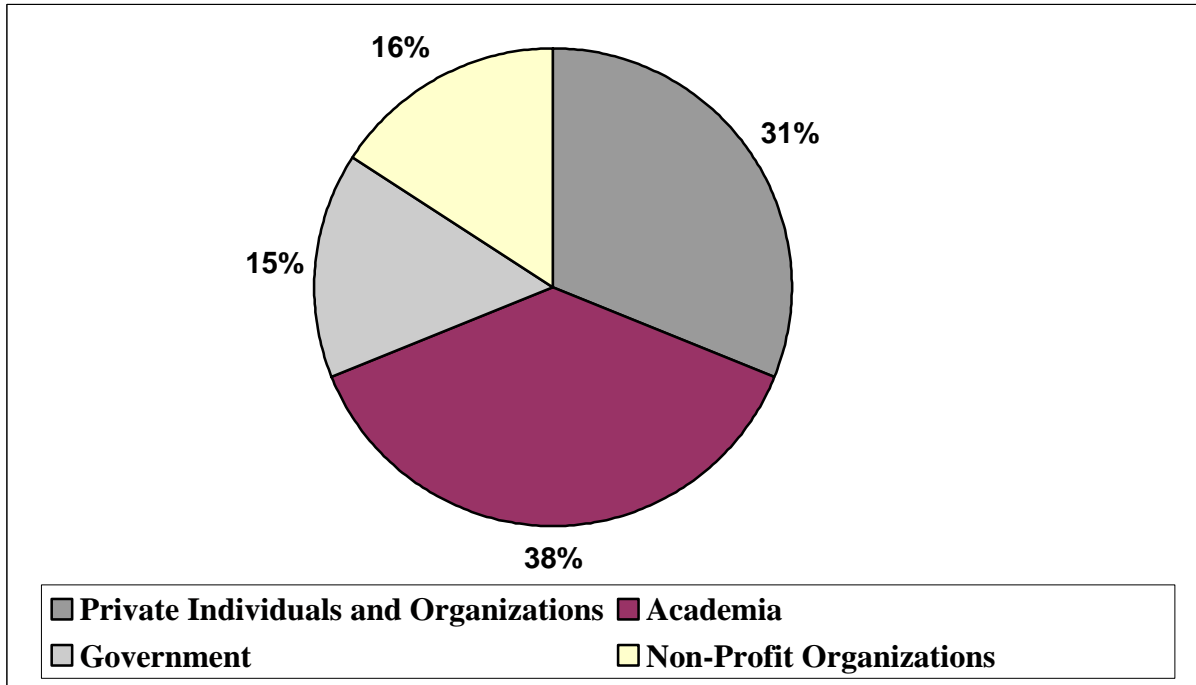
If you use regular mail, please include your name, return postal address, e-mail address, and phone number. Allow a week for us to get your request. All mail inquiries will be returned within three working days after receipt, if we can reply by e-mail. If regular mail is required, add another week. We have asked for telephone numbers in case we need to clarify your question or request.

For a more in-depth examination of the topics in this chapter, see Reports No. 11 and 13 in the 1997 NSAF Methodology Series.

### **8.4 Profile of Early Users of NSAF Public Use Files**

At this early point in the release of public files of NSAF data, we have an estimated user group of almost 400 researchers outside the Urban Institute and Child Trends. The composition of the NSAF user community outside the Urban Institute can be divided into four groups, as shown in figure 8.1 below. With the addition of other files and with related dissemination efforts, we expect this number to grow considerably over time.

**Figure 8.1**  
**Early Users of the NSAF Child Public Use File**



## 9 CONCLUDING COMMENTS

This report has offered a brief overview of the survey process for the 1997 National Survey of America's Families. Our goal has been mainly to begin to familiarize potential NSAF users with the survey's content and the methods used to create it.

Particular emphasis has been placed on aspects that might aid researchers in their use of the rich data set that has resulted. The methods used to minimize errors and compensate for those that are unavoidable in data collection have been described. We have also discussed the survey's reliability, in terms of both sampling and nonsampling errors. We are particularly encouraged by how comparable CPS and NSAF estimates appear to be.

In summary, the 1997 NSAF can serve as a sound tool in monitoring the effects of the New Federalism. The second round of the NSAF, started in February 1999, is now in the field. When the 1999 results become available next year, researchers will be able to measure national and selected state-by-state changes over time and further explore the links among health coverage, welfare reform, and other government policies affecting family life in the United States. The third round, planned for 2001, will continue to measure the changes that are taking place, notably in health insurance coverage arrangements.

More complete information on the 1997 NSAF's design, data collection procedures, and measures of quality can be found in the methodological reports referenced throughout, which are listed together as appendix A. In addition, these reports can be obtained as PDF (portable document format) files from the Urban Institute. To check on their availability, consult the NSAF web page at <http://newfederalism.urban.org/NSAF/methodology.htm>. Collectively, we believe that the documentation being prepared, which we have introduced here, will offer a quality profile (Jabine 1994) of the NSAF that researchers will find attractive and useful in their work.. Please feel free to contact us at [nsaf@ui.urban.org](mailto:nsaf@ui.urban.org) if more help is needed.

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**APPENDIX A:  
1997 NSAF METHODOLOGY SERIES  
EARLY REPORTS**

<b>Number and Title</b>	<b>Description</b>
<p><b><i>No. 1: 1997 NSAF Survey Methods and Data Reliability: An Overview, July 1999</i></b></p>	<p>This first report in the Methodology Series provides readers with an introduction to the National Survey of America’s Families, its sample design and data collection techniques, and estimation methods.</p> <p>An overview is provided of how households both with and without telephones were sampled, the format of interviews, and types of questions asked. In addition, the methods used to minimize errors and compensate for those that are unavoidable in data collection are described. Finally, the report presents information on the survey’s resulting reliability in terms of both sampling and nonsampling errors.</p> <p>Dean Brick, P., Kenney, G., McCullough-Harlin, R., Rajan, S., Scheuren, F., Wang, K., Brick, M.J., and Cunningham, P.</p>
<p><b><i>No. 2: 1997 NSAF Sample Design Report, March 1999</i></b></p>	<p>Report No. 2 provides a detailed description of the 1997 NSAF sample design for both telephone and in-person interviews. Particular emphasis is given to the difficulties that arose because of the dual-frame nature of the survey. In addition, methods used to subsample low-income families are described, as are techniques used to sample children and adults within households.</p> <p>Judkins, D., Shapiro, G., Brick, J.M., Flores-Cervantes, I., Ferraro, D., Strickler, T., and Waksberg, J.</p>
<p><b><i>No. 3: 1997 NSAF Snapshot Survey Weights, March 1999</i></b></p>	<p>Report No. 3 focuses on the methods employed to produce estimation weights and the procedures for using these weights to make state and national estimates from the survey data. These weights were used to produce estimates in <i>Snapshots of America’s Families</i>, the first reports released from the NSAF.</p> <p>Brick, J.M., Shapiro, G., Flores-Cervantes, I., Ferraro, D., and Strickler, T.</p>

<p><b>No. 4:</b> <b>1997 NSAF</b> <b>Variance</b> <b>Estimation,</b> March 1999</p>	<p>Report No. 4 describes the methods and results of computing sampling errors for the 1997 NSAF. First, an overview of the sample design and summaries of the precision of the survey estimates for both children and adults are presented. The second chapter presents a general review of the two main methods of computing sampling errors or variances of estimates from surveys with complex survey designs like the NSAF. The third chapter discusses why the replication method of variance estimation was chosen as the main method for the NSAF and describes procedures for computing replicate estimates of variance from the data. The fourth chapter describes how software available for computing sampling errors can be used with the data.</p> <p>Flores-Cervantes, I., Brick, J.M., and DiGaetano, R.</p>
<p><b>No. 5:</b> <b>1997 NSAF</b> <b>In-Person Survey</b> <b>Methods,</b> March 1999</p>	<p>Report No. 5 describes processes used to complete the in-person component of the NSAF. The in-person component was designed to augment the telephone survey with a sample of households without telephones. The report outlines the pilot study; procedures and materials used to conduct the interviews; the component's management structure, field organization, recruiting, and training; response rates; and special issues/problems that arose in the field during data collection.</p> <p>Cunningham, P., Shapiro, G., and Brick, J.M.</p>
<p><b>No. 6:</b> <b>1997 NSAF</b> <b>Benchmarking</b> <b>Child and Family</b> <b>Well-Being</b> <b>Measures,</b> March 1999</p>	<p>Report No. 6 assesses several measures of child and family well-being used in the NSAF: parent mental health; child school engagement; behavioral and emotional problems in children parent aggravation, reading to children, and taking children on outings; and child participation in sports, clubs, and lessons. Each measure is considered in terms of its relevance to research on welfare reform, its psychometric properties (including quality of the data, internal reliability, and construct validity), and how estimates using the measure compare with data from other large samples using the same or similar measures.</p> <p>Ehrle, J., and Moore, K.</p>

<p><b>No. 7:</b> <b>1997 NSAF</b> <b>Early</b> <b>Nonresponse</b> <b>Studies,</b> March 1999</p>	<p>Report No. 7 describes studies that were conducted to gain some insight into the characteristics of nonrespondents to the 1997 NSAF and to assess the impacts of missing data from unit nonresponse on NSAF statistics. These studies included comparison of key NSAF statistics to similar measures computed from the Current Population Survey; comparison of NSAF results among respondents requiring different levels of effort to obtain an interview; comparison of NSAF respondents with respondents to a second phase survey of NSAF nonrespondents; and alternative statistical models producing overall population estimates incorporating different assumptions about nonresponse.</p> <p>A key finding of these studies was that there are very few estimates of nonresponse error in the NSAF that exceed magnitudes expected from sampling variability alone.</p> <p>Groves, R., and Wissoker, D.</p>
<p><b>No. 8:</b> <b>1997 NSAF</b> <b>Response Rates</b> <b>and Methods</b> <b>Evaluation,</b> March 1999</p>	<p>Report No. 8 provides information on the response rates obtained for the 1997 NSAF (taking the estimation weights into account) and explains the methods used to compute these rates. Tables are included of response rates for important subgroups, such as telephone and nontelephone households. The report reviews approaches used to increase the response rates, and concludes that the response rates for the 1997 NSAF were higher than those typical of this type of survey.</p> <p>Brick, J.M., Flores-Cervantes, I., and Cantor, D.</p>
<p><b>No. 9:</b> <b>1997 NSAF</b> <b>Telephone Survey</b> <b>Methods,</b> April 1999</p>	<p>Report No. 9 describes methods employed to complete the telephone component of the 1997 NSAF, including a list-assisted method to select the random digit dialing (RDD) sample of telephone numbers and computer-assisted telephone interviewing (CATI) for screening and interviewing. Subsampling of telephone households is described, as is how respondents were selected, information on the topics covered during the interview, and data quality control methods used.</p> <p>The report concludes that there were few difficulties with the telephone interviewing component of the NSAF. Those that did exist were primarily related to within household coverage issues and family definition problems.</p> <p>Vaden-Kiernan, N., Cunningham, P., Dipko, S., Molloy, K., and Warren, P.</p>

<p><b><i>No. 10: 1997 NSAF Data Editing and Imputation, April 1999</i></b></p>	<p>Report No. 10 focuses on data editing techniques, including data processing, how data errors were dealt with, how edits were made, coding guidelines, and how data were “filled in” when values were missing. Some discussion of the relative size of sampling variance to mean square error is also provided.</p> <p>Dipko, S., Skinner, M., Vaden-Kiernan, N., Coder, J., Engstrom, E., Rajan, S., and Scheuren, F.</p>
<p><b><i>No. 11: 1997 NSAF Child Public Use File Codebook, March 1999</i></b></p>	<p>Report No. 11 provides documentation for the Child Public Use File, which includes data on 33,703 sampled children under 18 years of age from the 1997 NSAF and is available at <a href="http://newfederalism.urban.org">http://newfederalism.urban.org</a>. Also included on the file is some limited related information on the adults who care for the sampled children and the family settings in which they live.</p> <p>The Child Public Use File is a compressed ASCII file contained in a self-extracting program that must be downloaded and unzipped. The report contains an overview of the file, including how to access and download it. Detailed information on each variable is then presented, including where it comes from on the NSAF questionnaire, how it was created, what records are missing or inapplicable entries, and (usually) why. Weighted and unweighted distributions and the question wording for each variable are also included. Two cross-reference lists are provided to assist the reader in locating variables.</p> <p>Russell, B., Leonard, M., and Scheuren, F.</p>
<p><b><i>No. 12 1997 NSAF Qualitative Comparison of the 1997 and 1999 Questionnaires</i></b></p>	<p>Report No. 12 details differences between the 1997 and 1999 NSAF questionnaires. In addition to describing these differences and providing a comparison between the two rounds, the report also contains the text of the 1997 survey, the text of the 1999 survey, and a codebook that matches the 1997 questionnaire to variable names in the 1997 NSAF data.</p> <p>Wang, K., and Higgins, S.</p>

<p><b>No. 13:</b> <b>1997 NSAF MKA</b> <b>Public Use File</b> <b>Codebook</b></p>	<p>Report No. 13 documents the 1997 NSAF Most Knowledgeable Adult (MKA) Public Use File. Chapter 1 contains an overview and chapters 2 through 8 look at the variables one at a time, commenting on where on the questionnaire they originate, how they were created, and what records have missing or inapplicable entries and (usually) why. Chapter 9 presents weighted and unweighted distributions and the abbreviated question wording for each variable.</p> <p>Two cross-reference lists are provided in the table of contents: alphabetically and by position. The alphabetical listing is by SAS variable name, accompanied by a short description and then the page numbers where information on the variable is to be found. The alphabetical listing can be found under chapter 9 in the table of contents. The variables in chapters 2 through 8 in the table of contents are listed by location and show the SAS variable name along with the page locations where further information on the variable can be found in this codebook.</p> <p>Russell, B., Converse, N., and Scheuren, F.</p>
<p><b>No. 14:</b> <b>1997 NSAF</b> <b>Undercount-</b> <b>Adjusted Weights</b></p>	<p>Report No. 14 describes how the census undercount was incorporated into portions of the NSAF. The report focuses on methods employed to produce undercount-adjusted weights and how these weights are used on the survey data. A summary of the differences the undercount-adjusted weights had on the <i>Snapshots of America's Families</i> will be provided. The summary will include three key areas: editing, census-level versus undercount-adjusted, and implications. Ultimately this report will allow NSAF users to distinguish which weights, census-level or undercount-adjusted, are most appropriate for each analysis.</p> <p>Petron, M., and Scheuren, F.</p>
<p><b>No. 15:</b> <b>1997 NSAF</b> <b>National</b> <b>Benchmarking</b> <b>Measures</b></p>	<p>Report No. 15 consists of a wide array of cross survey comparisons. These are made between NSAF and CPS plus NSAF and NHIS—among others. In some cases, comparisons are also made between surveys other than the NSAF to set the proper context for what might be characterized as the house effect, which will separate surveys more than sampling error alone would assume. The extensive set of comparisons made at the national and state levels are only illustrated in the report. Ways for researchers to do their own comparisons are also described, since this will be possible with later public use files.</p> <p>Brick, P.D., and Scheuren F.</p>

**APPENDIX B:**  
**VARIABLES CONTAINED IN REPORT NO. 11,**  
**1997 NSAF CHILD PUBLIC USE FILE**

**Basic Child and Family Variables**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
AGE	Age	UFAMSTR	Family structure—from Snapshots
HHID	Household identification number	UFC2P	Focal child has two parents in household
PERSID	Person identification number	UFCSM	Focal child has single mother in household
RESPID	Respondent identification number	UFCSP	Focal child has single parent in household
SEX	Gender at screener	UINCRPOV	Income as % of poverty level – (CPS) family
SITE	Site code	UREGION	Census region indicator
UBETH	Hispanic/Non-Hispanic	WGCHD0-	Replicate weights
UBIOPAR	Lives with biological mother or father	WGCHD60	
UBRACE.	Race, 3 category	XAGE	Imputation flag for AGE
UEMFLAG	Emancipate minor flag	XSEX	Imputation flag for SEX
XSPECRAC	Imputation flag for UBETH and UBRACE	XSPECRAC	Imputation flag for UBETH and UBRACE

**Child Health Variables**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
BDISBL	Health condition that limits activity	NCPROBC	Has been sad or depressed
BHLTHN	Current health status	UBPIA	Age 6–11 behavioral problems index score
BHLTHP	Current health status compared to last year	UBPIANEG	Negative behavior 6–11 years
N4CPROBA	Feels worthless or inferior	UBPIAPOS	Positive behavior 6–11 years
N4CPROBB	Has been nervous or tense	UBPIB	Age 12–17 behavioral problems
N4CPROBC	Acts too young for his age	UBPIBNEG	Negative behavior 12–17 years
N5CPROBA	Has trouble sleeping	UBPIBPOS	Positive behavior 12–17 years
N5CPROBB	Lies or cheats	XDISBL	Imputation flag for BDISBL
N5CPROBC	Does poorly at schoolwork	XHLTHN	Imputation flag for BHLTHN
NCPROBA	Doesn't get along with other kids	XHLTHP	Imputation flag for BHLTHP
NCPROBB	Can't concentrate for long		

### Child Education and Activity Variables

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
CAGRAD	Current grade	NREAD	Days past week child1 was read to
CATLYR	Grade at the end of 1996/97 school year	NRELIG	How often attended religious service
CGETBY	Does schoolwork just to get by	NSPORTS	Child2 on sports team last year
CHMWK	Always does homework	NVOLUNT	How often volunteered in past year
CINTSC	Cares to do well in school	UACT	Extent of child's extracurricular activities
CSKIPSC	Skipped school	UACTNEG	Child is not involved in any activities
CSUSEXP	Suspended or expelled	UACTPOS	Child is involved in at least one activity
CWRKSC	Only does schoolwork when forced	UENG	Child's engagement in school scale
NCLUBA	Child2 ages 6–11 in clubs last year	UENGNEG	Negative school engagement
NCLUBB	Child2 ages 12–17 in clubs last year	UENGPOS	Positive school engagement
NLESSONS	Child2 took lessons after school last year	UOUTNEG	Negative outings for child
NOACT	Child2 in organized activities past year	UOUTPOS	Positive outings for child
NOUTING	Times in past month took child1 out	UREADNEG	Child is read to two or fewer days per week
		UREADPOS	Child is read to six or more days per week

### Basic Respondent (MKA) Characteristics

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
MOWNRENT	Owens or rents this home	PSINGPAR	Single mother as effective as married couple
NDEPRESA	Very nervous in past month	PWANTKID	If want children, ought to marry
NDEPRESB	Felt calm and peaceful last month	PWORKIMP	Working for pay is important
NDEPRESC	Felt downhearted last month	PWORKMOM	Working mothers as secure as nonworking
NDEPRESD	Was a happy person last month	PWRKLESS	Welfare makes people work less
NDEPRESE	Could not be cheered up last month	UAGG	Parent aggravation scale
NPCINTA	Child much harder to care for than most	UAGGNEG	Negative parent aggravation
NPCINTB	Child really bothers MKA a lot	UAGGPOS	Positive parent aggravation
NPCINTC	MKA gives up more for child's needs	UCNGHL	Fair/poor health status
NPCINTD	Feels angry with child	UCONMED	Confidence in getting medical care
PBABIES	Welfare encourages babies before marriage	UHICOV	Current health insurance, 3 level hierarchy
PNOTWORK	Mothers of young child should not work	UMEDULEV	Highest level of education
PONFEET	Welfare helps people get on their feet	UMH2	100 point mental health scale

**Basic Respondent (MKA) Characteristics (Continued)**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
UMH2NEG	Negative (poorer) mental health	UMKAGEND	Gender
UMHIGDEG	Highest educational degree	UMKARACE	Race
UMHSGRAD	High school graduate	UMKASPOS	Has spouse
UMKAAGE	Age	USRC_NO	ER or no usual source of care
UMKAETH	Ethnicity	XOWNRENT	Imputation flag for MOWNRENT

*Note:* Later versions of this public use file will contain a second set of weights that bring the survey estimates up to census undercount adjusted levels. Additional survey items to be added will include child care variables and more information on family circumstances.



**APPENDIX C:  
VARIABLES CONTAINED IN REPORT NO. 13,  
1997 NSAF MOST KNOWLEDGEABLE ADULT (MKA) PUBLIC USE FILE**

**Basic Family Variables**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
HHID	Household identification number	RESPID	Respondent identification number
MINSTATE	In-state or out-of-state move	SITE	Site code
MLESSRNT	Government pays rent	U_AFDC96	Social family received AFDC in 1996
MLIVETM	Time lived at this home	U_AFDCNW	Social family currently receives AFDC
MLIVEUN	Time lived at this home—unit	U_FS96	Social family received food stamps in 1996
MMORRENT	Monthly mortgage or rent	U_FSNOW	Social family currently receives food stamps
MMOVEIN	Anyone taken in during last 12 months	U_SOCPOV	Social family income as percent of poverty
MMOVEOUT	Move in with other people last 12 months	UFAMID	Social family ID
MNBEDRMS	Number of bedrooms in the home	UINCRPOV	Income as % of poverty level – (CPS) family
MOWNRENT	Owns or rents this home	UREGION	Census region indicator
PERSID	Person identification number	WGPR0-60	Replicate weights

**Health Variables**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
BSATMED	Satisfied with quality of medical care	FPAP	Had Pap smear last year
FBREST	Had breast physical exam last year	UCNGHL	Health status
FDENT	Dental visits last year	UCPSID	Legal family ID
FDISBL	Has health condition that limits work	UCURCVG2	Current coverage
FEMER	Number of emergency room visits last year	UCURRMO	Months of current insurance coverage
FHLTHP	Current health compared to 12 months ago	UDRHPYN	Saw doctor/nurse/PA past 12 months
FHLTHS	Current health status	UNINSMO	Months of insurance
FHOSP	In hospital overnight last year	UNMETND	Postponement of care in past 12 months
FMENT	Number of mental health visits last year	UNOCON	Not confident in access to care

**Health Variables (Continued)**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
USOURCE	Usual source of care	WGHLTH0-60	Weights for health variables
UVISIT	Number health care visits in past 12 months		

**Education and Work Variables**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
LAFDC	Unpaid job for AFDC	NVOLUNT	How often volunteered in past year
LFDSTMP	Unpaid job for food stamps	U_EARN	Total earnings last year
LGENASS	Unpaid job for general assistance	U_FTFYLY	Full-time, full-year last year
LJBCLAS	Received help looking for work in 1996	U_FTPT	Full-time or part-time worker this year
LUNPJB	Participate in unpaid job	U_FTPTLY	Full-time or part-time worker last year
LUNPREQ	Had unpaid job for welfare	U_HRSLY	Hours worked per week last year
LUSVCHR	Used voucher	U_LFSR	Labor force status recode
LWHCRDT	Took college courses	U_MAIN	Total earnings from main job last year
LWHHSCL	Took GED classes	U_OTHJOB	Other earnings last year
LWHJBCL	Received help looking for work	U_USHRS	Hours worked per week this year
LWHTRN	Took job training course	U_WKSLY	Weeks worked last year
LWHUNP	Participated in unpaid job	UBCPSED	Education level, CPS
LWHVCHR	Given vouchers for education	XBCPSED	Imputation flag for UBCPSED
NRELIG	How often attended religious service		

**Respondent Characteristics**

<b>Variable</b>	<b>Description</b>	<b>Variable</b>	<b>Description</b>
AGE	Age	MFDWORRY	Worried whether food would run out
MCUTMEAL	Cut/skip meals for lack of money	MPAYHELP	Try to get help when unable to pay bills
MCUTOFT	Cut/skip meals for lack of money frequently	MPAYRENT	Unable to pay rent in the last year
MFDLACK	Food bought didn't last	NARGHLP	Got help because argue a lot

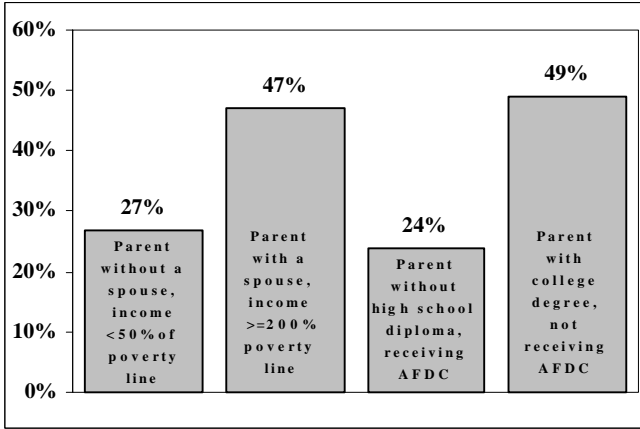
## Respondent Characteristics

Variable	Description	Variable	Description
NARGUE	MKA and children argue a lot	PBABIES	Welfare encourages babies before marriage
NDEPRESA	Very nervous in past month	PNOTWORK	Mothers of young child should not work
NDEPRESB	Felt calm and peaceful last month	PONFEET	Welfare helps people get on their feet
NDEPRESC	Felt downhearted last month	PSINGPAR	Single mother as effective as married couple
NDEPRESD	Was a happy person last month	PWANTKID	If want children, ought to marry
NDEPRESE	Could not be cheered up last month	PWORKIMP	Working for pay is important
NPCINTA	Child much harder to care for than most	PWORKMOM	Working mothers as secure as nonworking
NPCINTB	Child really bothers MKA a lot	PWRKLESS	Welfare makes people work less
NPCINTC	MKA gives up more for child's needs	SEX	Gender at screener
NPCINTD	Feels angry with child	UAGG	Parent aggravation scale
NSERVA	Know place to help stay away from crime	UAGGNEG	Negative parent aggravation
NSERVB	Know where family can get housing/food	UAGGPOS	Positive parent aggravation
NSERVC	Know place where family can go if fighting	UBETH	Hispanic/Non-Hispanic
NSERVD	Know place if children are not cared for	UBRACE.	Race, 3 category
NSERVE	Know place if family member violent	UHICOV	Current health insurance, 3 level hierarchy
NSERVF	Know place to get help for drugs/alcohol	USRC_NO	ER or no usual source of care
NWORRYA	Worry about keeping out of trouble	XAGE	Imputation flag for AGE
NWORRYB	Tried to get help to keep out of trouble	XSEX	Imputation flag for SEX
NWORRYCA	Help source for staying out of trouble	XSPECRAC	Imputation flag for UBETH and UBRACE

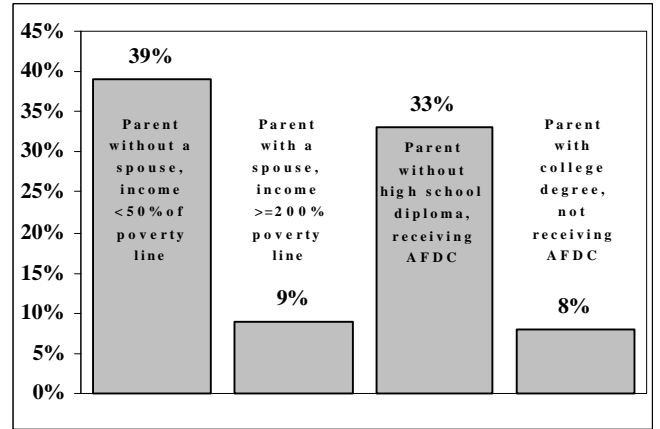
*Note:* Later versions of this public use file will contain a second set of weights which bring the survey estimates up to census undercount adjusted levels. Additional survey items that will be added include occupation, industry, and more information on family circumstances.

**APPENDIX D:**

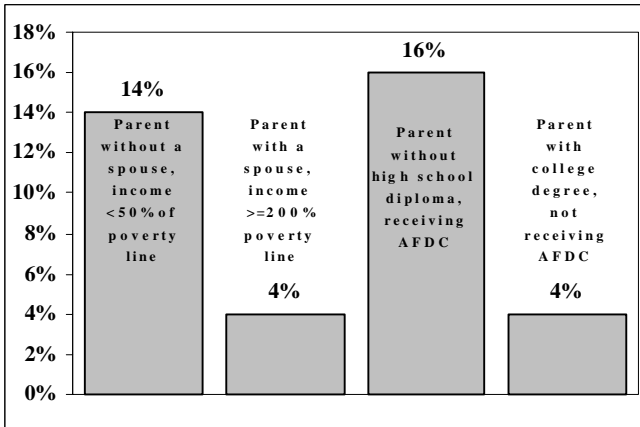
**Children Highly Engaged in School, Ages 6 to 17, by Selected Characteristics**



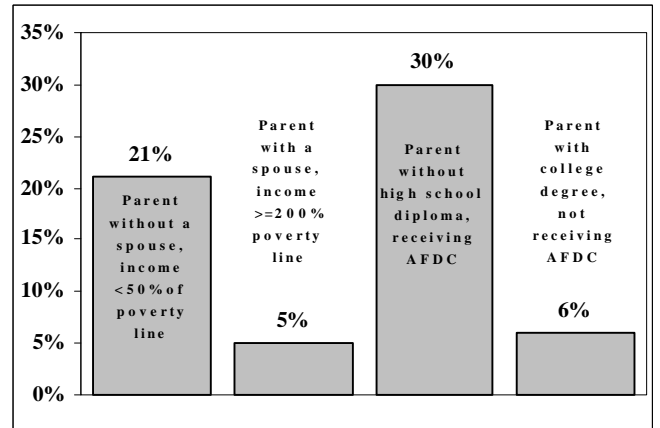
**Children Living with a Parent Whose Symptoms Suggested Poor Mental Health, by Selected Characteristics, Ages 0 to 17**



**Children with High Levels of Behavioral and Emotional Problems, Ages 12 to 17, by Selected Characteristics**



**Children with High Levels of Behavioral and Emotional Problems, Ages 2 to 17, by Selected Characteristics**



**Children Living with a Parent Who Felt Highly Aggravated, by Selected Characteristics, Ages 0 to 17**

