

RAND

*Non-Response in the Los
Angeles Family and
Neighborhood Survey*

*Narayan Sastry
Anne R. Pebley*

DRU-2400/7-LAFANS

February 2003

***Labor and Population Program
Working Paper Series 03-01***

The RAND unrestricted draft series is intended to transmit preliminary results of RAND research. Unrestricted drafts have not been formally reviewed or edited. The views and conclusions expressed are tentative. A draft should not be cited or quoted without permission of the author, unless the preface grants such permission.

Non-Response in the Los Angeles Family and Neighborhood Survey

February 2003

Narayan Sastry
RAND
1700 Main Street, P.O. Box 2138
Santa Monica, CA 90407-2138
sastry@rand.org

and

Anne R. Pebley
School of Public Health and Department of Sociology
University of California, Los Angeles
Los Angeles, CA
pebley@ucla.edu

The Los Angeles Family and Neighborhood Survey was funded by NICHD grant R01HD35944. Additional funding was provided by the Office of the Assistant Secretary for Planning and Evaluation (OASPE) of the U.S. Department of Health and Human Services, Los Angeles County, the National Institutes of Health Office of Behavioral and Social Science Research (OBSSR), and the Russell Sage Foundation. We thank our colleagues at UCLA and RAND for comments and suggestions.

Abstract

There is little consistency in the way that survey response rates are calculated and reported, despite the efforts of professional, trade, and academic organizations to encourage the adoption of a standard system for survey response rate reporting. In addition, investigators and survey research organizations have differing incentives to report the most favorable response rates possible. This situation makes it difficult to compare response rates across surveys. It may also result in researchers underestimating the extent of selection bias in the survey data sets that they analyze. In this paper, we provide a case study of calculating and analyzing non-response rates in a complex survey that was recently conducted in Los Angeles County, using in-home interviews. We systematically examine rates and sources of non-response at each stage of the fieldwork, from the list of dwellings initially sent to the field through to the completion of all interviews in each household. We then analyze the effects of tract, housing, and individual characteristics on non-response.

The Los Angeles Family and Neighborhood Survey (L.A.FANS) was based on a multistage sample design involving selection of tracts, households, and individuals in Los Angeles County. Because of design team concerns about documenting respondent selectivity, L.A.FANS interviewers recorded information at the screening stage (whether or not a household answered the screening questions) on observable characteristics of the dwelling unit. As a neighborhood-based survey, L.A.FANS also assembled extensive information on the tracts in which sampled households are located. These data allow us to examine potential biases created by differential non-response.

By design, the majority of households sampled included children age 17 and younger. In most of these households, multiple household members were selected for interview—in some cases, as many as two adults and two children. Respondents often were required to complete multiple questionnaire modules. For example, a primary caregiver (PCG) with two children under age 17 may have been asked to complete five modules (including the household roster) plus an assessment of reading comprehension. This design provides a wide range of options for calculating non-response rates within households, from rates reflecting whether any information was collected from any sampled respondent to rates reflecting whether all required information was collected from all sampled respondents.

Two levels of non-response are distinguished: non-response at the household level and non-response of sampled individuals within households. The results show that screeners were completed in 98 percent of the inhabited dwellings in which residents spoke one of the L.A.FANS languages (English and Spanish). Among screened and eligible English- or Spanish-speaking households, interviewers were unable to contact 8 percent of respondents; refusal rates totaled 16 percent. Among households that completed the roster, response rates for sampled and eligible respondents were 85 percent for RSAs, 89 percent for PCGs, 87 percent for RSCs, and 86 percent for Child respondents. These response rates match up favorably to other major surveys, such as the NLSY-97 (comparably-defined response rate of 92 percent), the 1994-95 baseline wave of ADDHealth (79 percent), the 1997 PSID Child Supplement (88 percent), and the 1999 baseline wave of the Welfare, Children and Families Study (74 percent). The analysis of differential response rates by tract, housing, and individual characteristics identified a small number of variables that were related to non-response, which researchers can control for in analyses of the L.A.FANS data in order to obtain unbiased results. In addition, sample weights that adjust for non-response are available for the calculation of summary statistics.

1. Introduction

In this paper, we describe patterns of non-response in the Los Angeles Family and Neighborhood Survey (L.A.FANS). L.A.FANS is a longitudinal study of families in Los Angeles County and of the neighborhoods in which they live. It was designed to answer research and policy questions in three areas: the effects of neighborhoods and families on children's development; the effects of welfare reform at the neighborhood level; and the process of residential mobility and neighborhood change. Fieldwork for the baseline wave of L.A.FANS began in April 2000 and was completed in January 2002. It is the non-response results of this first wave of L.A.FANS that we present in this paper.

L.A.FANS focuses on the County of Los Angeles, California. Los Angeles County is the largest county in the United States, with a population in 2000 of 9.5 million. It is also tremendously diverse in terms of race and ethnic composition. In 2000, the population was 45 percent Latino, 31 percent white, 13 percent Asian-Pacific Islander, and 10 percent African American. Southern California is a major destination for immigrants to the U.S. According to the 2000 Census, about 30 percent of the population in Los Angeles County was foreign born.

Documentation and analysis of non-response rates in social science surveys is generally uneven. Although there are clear guidelines available for classifying the final disposition of cases and for calculating outcome rates (AAPOR, 2000), many surveys do not follow these guidelines (Smith, 2002). Surveys often report cooperation rates (number interviewed / number contacted), but sometimes refer to them—and interpret them—as response rates (number interviewed / number eligible).¹ Cooperation rates do not reflect the effects of non-response at the initial contact, screening, and respondent selection stages, which can be quite large and may not be random.

There are two main aims of this paper. The first is to provide a comprehensive documentation of non-response rates at each stage of the fieldwork for L.A.FANS. Complete information is provided on the disposition of all cases so that readers can in fact calculate response rates using different definitions and assumptions. The second aim is to investigate whether there were systematic differences in non-response according to respondent characteristics, including tract-, household-, and individual-level variables. This assessment of selective non-response is likely to be of interest to researchers analyzing the L.A.FANS data or reading analyses of the L.A.FANS data done by others.

The rest of the paper is organized into five sections. In the following section, we describe the design of L.A.FANS, including the sampling plan, the selection of respondents, and the questionnaires that each type of respondent was administered. In Section 3, we provide an overview of the fieldwork results for the survey. We present non-response rates for each phase of the screening, selection, and interview process for the entire sample, examining both household-level non-response associated with completion of the screener and roster, and individual-level non-response once specific people were selected for the sample. In Section 4, we describe tract-level variation in non-response and examine patterns of non-response in

¹ There are several different ways to calculate cooperation rates and response rates. The most optimistic cooperation rates include partial and full completes in the numerator and add to this only refusal cases for the denominator. Response rates are based on an estimate of the total number of eligible cases for the denominator. The total eligible cases should include a count of all cases of unknown eligibility and an estimate of the proportion of these cases that are actually eligible. Response rates are misleadingly high when this proportion is simply assumed to be zero, without any basis.

L.A.FANS according to tract-level population and housing characteristics. We also estimate random effects logistic regression models of non-response as a function of tract-level characteristics. In Section 5, we describe variation in non-response according to household- and individual-level characteristics and estimate random effects logistic regression models of non-response as a function of these characteristics. In the final section, we provide a summary of our results and some conclusions. We also compare non-response rates for L.A.FANS with rates from similar surveys.

2. L.A.FANS Design

L.A.FANS was designed as a multilevel survey, first sampling neighborhoods, then selecting families within these neighborhoods, and finally sampling adults and children within these families (for details, see Sastry et al., 2000). For sampling purposes, neighborhoods were defined as census tracts. Stratified sampling was used to select 65 census tracts from among the 1,652 tracts in Los Angeles County. The sampling strata comprised of tracts that were very poor (those in the top 10 percent of the poverty distribution), poor (tracts in the 60-89th percentiles), and non-poor (tracts in the bottom 60 percent of the distribution). Twenty tracts were selected at random from both the very poor and poor stratum and 25 from the non-poor stratum. Tracts were sampled within each stratum with probability proportional to population size.

In the next stage, a sample of households was selected in each tract. Interviewers visited each household in order to administer a screener that asks whether any children under 18 years of age resided in the dwelling. All households with children were selected for the sample together with a sample of households without children. The goal was to complete 40-50 interviews in each tract, with households having children comprising 70 percent of the final sample (compared to an average of 35 percent for all households in Los Angeles County) and households without children comprising the remaining 30 percent. Households that were unable to complete the screener or interview in one of the two survey languages—English and Spanish—were excluded from the sample. Households selected for the sample were first asked to complete a roster. The roster was administered to an adult resident and collected information about all household members, including how they were related to each other as well as the basic demographic and social characteristics for each person.

In the final sampling stage, which was based on information collected in the roster, individual respondents were selected from among all full-time household residents. One adult respondent was sampled at random in each selected household (designated the RSA or randomly sampled adult). In households with children, one child respondent was also selected at random and designated the RSC (randomly sampled child). In households with children, the mother of the randomly selected child was selected as a respondent and termed the Primary Caregiver (PCG). If the RSC's mother did not live in the household or was unable to answer questions about the child, the child's actual primary caregiver was selected as the respondent to provide information on the selected child. Note that in many cases the RSA and the PCG were the same person, since the RSA was chosen at random from among all the adults in the household. If the RSC had one or more siblings under 18 years of age who shared the same biological or adoptive mother and the same PCG, we randomly selected one of them for interview (and designated this child as the SIB). Once selected, Child respondents (i.e., RSCs and SIBs) completed questionnaire modules based on only their age.

Interviews were conducted in person using computer-assisted personal interviewing (CAPI) and computer-assisted self-administered interviewing (CASI), in English and Spanish.

Separate questionnaire modules were developed for each subject area/respondent combination. There were five modules: (1) the Adult questionnaire, (2) the Parent-Child questionnaire, (3) the Primary Caregiver questionnaire, (4) the Child questionnaire, and (5) cognitive assessments.

The Adult module was administered to all RSAs and PCGs. It collected information about the respondent and his/her spouse/partner (if the spouse/partner was not interviewed), including family background, educational history, fertility history, cohabitation and marriage history, social ties, residential history, employment, welfare, and health status. The Parent-Child questionnaire collected information about the RSC and SIB from the PCG. Topics included: living arrangements, residential history, place of birth and immigrant status, child support, paternity, contact with absent parent(s), school, child care, before/after school care, Head Start, child behavior checklist, child's friends, modified HOME scale, health, and health care utilization. The PCG questionnaire collected information from the PCG about herself. Topics include a depression screener, a self-efficacy scale, and information on family dynamics, social support, and relationship with her spouse/partner. The Child questionnaire collected information from children age 9 and older. Topics for children 9 to 11 included neighborhood definition and characteristics, school and school quality, friends and social life, smoking, knowledge of gang members, family relationships, enjoyment of reading and use of library, and educational expectations. Children ages 12 to 17 were also asked about homework, use of alcohol and drugs, guns and gang membership, relationships and sex, contraceptive use, pregnancy, experience of violence, arrest and incarceration, weight and height, and employment. Finally, L.A.FANS used several assessments from the Woodcock-Johnson Test of Achievement (see Woodcock and Johnson, 1989) that measure math and reading ability. Children ages 3 and older completed the Letter-Word Identification and Applied Problems assessments. Children ages 6 to 17 also completed the Passage Comprehension assessment. Primary caregivers completed the Passage Comprehension assessment.

3. Overview of Non-Response in L.A.FANS

There are two major components of non-response in social surveys. The first is household-level non-response, which is the proportion failing to complete the screener and, among screened households selected for the sample, the proportion failing to complete roster. The second component is individual-level non-response for specific individuals selected as respondents once the roster was completed. This component includes a consideration of the completion status of individual modules (and combinations of modules) for respondents in the sample. We discuss the L.A.FANS experience for each of these components in the following two subsections. In the third subsection, we present non-response rates for individual respondents based on the standard definitions developed by the American Association for Public Opinion Research.

Household Non-Response in L.A.FANS

A total of 9,378 addresses was selected for the L.A.FANS sample and released to the field. These addresses were chosen at random from the listing files that were constructed for this project. The listing files contained a record of each dwelling unit that was located in the areas sampled for the survey through a systematic on-the-ground listing operation. The total number of addresses that was selected and released to the field was based on an estimate of the total number of completed interviews that these cases would yield. The projected yield of completed interviews was calculated using estimated rates of non-response, household vacancies, and

ineligibility from the 1990 Census, various rounds of the Current Population Survey, and other sources.

Figure 1 provides a summary of the final disposition of all cases released to the field. The top part of the figure begins with the 9,378 cases released to the field and ends with the selection of 4,110 households for the sample. The bottom part shows how 4,110 selected cases resulted in 3,085 completed rosters. Greater detail regarding the final screener status codes is provided in Table 1, while Table 2 provides detailed information on the final roster status codes.

Of the 9,378 cases that were released to the field, Figure 1 shows that 4 percent (366 cases) were ineligible for screening. Table 1 shows that the majority of these cases were not dwelling units. In many cases, these addresses were businesses or shops; a significant number were former dwellings that had been demolished during the time between the listing and screening operations. Of the resulting 9,012 eligible dwellings, 5 percent (492 cases) were vacant. This vacancy rate corresponds closely to estimates based on the 2000 Census for tracts sampled for L.A.FANS. Of the 8,520 dwellings that were occupied, interviewers were never able to contact the residents in 6 percent of cases. The most common reason was that the dwelling was located in an apartment complex or gated community and interviewers were denied access despite repeated attempts; however, in many cases the residents were simply never available at home. Interviewers contacted a resident in 8,017 dwellings but were unable to communicate with 2 percent of them (141 cases), principally because the respondents were not able to communicate in one of the two survey languages—English and Spanish. In most cases, the residents spoke an Asian language.

Of the 7,876 dwellings in which an interviewer attempted to administer a screener, it was completed in 98 percent of cases. Only 2 percent of respondents (193 cases) refused to complete the screener. Among the 7,683 screened households, children were present in 2,950 households—all of which were selected for the L.A.FANS sample. Among the 4,733 households without children, a random sample of 1,160 households (25 percent of the total) was selected for the survey. Thus, a total of 4,110 households were selected for the L.A.FANS sample, of which 72 percent were households with children and 28 percent were households without children.

Of the 4,110 households selected for the L.A.FANS sample, 8 were ineligible for interview for various reasons. Interviewers were unable to recontact a resident to administer the roster in 302 cases or 7 percent of the 4,102 eligible households. Among the reasons for not being able to contact a respondent (see Table 2), the most common was that the person was unavailable; in a large number of cases physical access to the dwelling was not possible or no one was ever home despite repeated attempts at contact. Of the 3,800 households in which interviewers contacted the household to administer the roster, they were unable to communicate with 2 percent of the respondents (90 cases). The most common reason was that no one in the household spoke English or Spanish well enough to complete the roster (although they were able to complete the screener in one of these two languages). Among the 3,710 households in which the roster was attempted, respondents refused to participate in 17 percent (622 cases). Rosters were completed fully in 3,085 households.

Individual Non-Response in L.A.FANS

We next describe the completion status of individual respondents that were selected for L.A.FANS. Figure 2 summarizes the overall results, showing the number of respondents, by type, that were selected for the survey and that completed the interview, either in full or in part.

Table 3 provides more detail about completion status of each respondent type in L.A.FANS.

Of the 3,085 households with a completed roster, 25 percent (777 cases) were households without children. In each of these households, one adult was selected at random as the RSA respondent. Interviews were completed with 90 percent of selected RSAs in adult-only households (696 cases). In the 2,308 households without children that completed the roster, one child and one adult were selected at random (the RSC and RSA, respectively). Interviews were completed with 87 percent of RSCs (2,001 cases). Certain RSAs in households with children were also selected as PCG respondents. A total of 1,119 RSAs in households with children were not selected as PCGs and interviews were completed with 78 percent (869 cases) of these respondents. There were 1,189 respondents who were selected as both RSAs and PCGs. Completion rates were 91 percent for the PCG components (1,081 cases) and 89 percent for the RSA components (1,055 cases). There were 1,117 PCG respondents who were not RSAs. Of these, 86 percent (963 cases) completed the survey. In total, 2,306 PCGs were selected for the survey and 89 percent of them (2,044 cases) completed the interview. There was a total of 3,085 RSA respondents selected for the sample of whom 85 percent completed the interview. Finally, there were 1,379 siblings selected as SIB respondents, of whom 84 percent (1,164 cases) completed the survey.

Table 3 provides additional detail on the completion status for each type of selected L.A.FANS respondents. In particular, the table shows the numbers of refusals, the number of partial and full completes, and the percent of cases that were partial completes and refusals. Overall, the refusal rate for RSAs was 15 percent and 97 percent of completed cases were full completes. The highest refusal rate was for RSA-only respondents in households with children. The lowest refusal rate was for RSA-only respondents in households without children. The refusal rate for PCG respondents was 11 percent, and 93 percent of PCG respondents completed all parts of the interview. There was a higher refusal rate among PCG-only respondents (14 percent) compared to RSA-PCG respondents (9 percent). Refusal rates were similar for RSCs (13 percent) and SIBs (16 percent). Of the RSCs and SIBs classified as completes, over 96 percent fully completed all parts of the interview.

The summary figures presented above are useful for providing users of the L.A.FANS data with rough estimates of the sample sizes they are likely to have to work with. However, many users will need information from specific modules or combinations of several modules. Hence, we present a series of tables with information on completion rates by single module and also across multiple modules for several key combinations of modules (within and across respondents). We provide this information for all respondents except the RSA, for whom only a single module is administered (thus Table 3 shows all relevant information on the completion status for RSAs).

We begin by presenting in Table 4 the individual module completion status for PCG respondents. PCGs were administered up to five separate modules: Adult, PCG, WJ assessments, and separate PCH modules for RSC and SIB. Refusal rates for individual modules ranged between 14 and 19 percent. The highest refusal rate was for the WJ assessments. There was a very small percentage of partial completes for all of the modules.

Table 5 shows the completion status for PCGs across the multiple modules. It presents this information for several combinations of modules that are likely to be of particular interest to L.A.FANS data users. For instance, the first column shows that for 79 percent of the cases, all modules are either complete or non-applicable (i.e., the respondent was not eligible to complete this module). For data users interested in exploiting information on both RSCs and SIBs to

examine family effects, Column 2 shows that there are a total of 1,085 PCG cases for which all modules were completed, representing 79 percent of the possible maximum. Across the different scenarios, completion rates ranged between 79 percent and 86 percent. The maximum number of cases was either 2,306 (if information on the PCG and/or RSC was required) or 1,374 (if information on the SIB was also needed).

We present the module-specific completion information for RSCs and SIBs separately and together in Table 6. Completion rates for the two modules—the child questionnaire and the WJ assessments—were very similar for RSCs and SIBs. Across the two groups, 83 percent completed the child module and 79 percent completed the WJ assessments. There were no partial completes.

Table 7 shows the completion status for RSCs across multiple modules, covering several combinations of modules that are likely to be of interest to researchers using or planning to use the L.A.FANS data. For example, the first column shows that 646 RSC respondents had all applicable modules completed by themselves, their PCG, and their SIB (if selected and age-eligible). This represents 76 percent of the maximum possible, which was 845 RSCs. The number of completed cases and maximum possible cases varies substantially across scenarios because of the effects of age eligibility requirements for the different child modules. For instance, if information from the Child questionnaire is needed for both RSC and SIB, this is potentially available for a maximum of 410 RSC-SIB pairs of whom 82 percent had complete data (see Column 4 in Table 8). If an analyst requires assessment data from RSCs, SIBs, and PCGs, this information was complete for 757 RSC-SIB pairs, representing 74 percent of the 1,020 maximum. Overall, the completion rates ranged from 74 percent to 82 percent across the seven different scenarios considered in Table 8.

Finally, Table 9 shows the completion status for child respondents (either RSCs or SIBs) across multiple modules. Column 1 shows that all possible modules (including WJ assessments and the Child module) were completed for 1,348 children, which represents 78 percent of the maximum of 1,737. If all relevant information about children was available from the modules administered to the PCG, the maximum possible cases is 3,680. If assessment data but not Child module data is required the maximum possible cases is 3,063. The completion rates across the different scenarios ranged between 76 percent and 85 percent.

Non-Response Rates Based on Standard Definitions

The American Association for Public Opinion Research (AAPOR) has published guidelines for surveys about how to code the final disposition of all cases and how to calculate non-response and refusal rates (see AAPOR, 2000). Our tabulations of the final disposition of screener, roster, and individual cases are consistent with the codes recommended by AAPOR. In this subsection, we use this information to calculate and present two types of AAPOR-defined non-response rates for sampled respondents in L.A.FANS. The difference between the two non-response rates concerns the treatment of cases whose eligibility is unknown, which includes all cases that could not be contacted or that refused to participate at either the screener or roster stage.

The first type of rate assumes that none of the cases of unknown eligibility are in fact eligible and thus reflects the minimum non-response rate. It is equivalent to the cooperation rate mentioned above. The non-response rates based on the information in Table 3, which are conditional on successfully completing both the screener and the roster, represent these most optimistic of rates. This non-response rate for RSAs is 15 percent, for PCGs is 11 percent, for

RSCs is 13 percent, and for Child respondents (RSCs plus SIBs) is 14 percent. The corresponding response rates are 85 percent for RSAs, 89 percent for PCGs, 87 percent for RSCs, and 86 percent for Child respondents.

The second type of rate is based on an estimate of the proportion of cases of unknown eligibility that are actually eligible. One common approach is to assume that the same rate of eligibility found for cases that were successfully screened and rostered applies to cases whose eligibility is unknown (Lessler and Kalsbeek, 1992; Hidioglou, Drew, and Gray, 1993). We applied this approach and estimate that, in sum, screener and roster cases of unknown eligibility represented 1,243 RSAs, 918 PCGs, 918 RSCs, and 548 SIBs who were eligible for the survey but were not interviewed.² Including these estimates in the count of eligible cases yields “corrected” non-response rates of 39 percent for RSAs, 37 percent for PCGs, 38 percent for RSCs, and 39 percent for Child respondents. The corresponding “corrected” response rates were 61 percent for RSAs, 63 percent for PCGs, 62 percent for RSCs, and 61 percent for Child respondents.

4. Variation in Non-Response by Tract

We now turn to describing tract-level variation in non-response rates for L.A.FANS and examining its relationship with tract characteristics. We present information on non-response separately for completion of the screener, the roster interview, and individual interviews with selected respondents. We begin by providing summary statistics of non-response rates by tract.

Overview of Tract Non-Response Rates

We first examine tract-level variation in the completion of the screener (see Table 9). In addition to the same set of five screener outcomes shown in Figure 1 (ineligible, vacant, no contact, unable to communicate and refused), we also jointly consider in Column 3 all reasons that a screener was not completed in an inhabited dwelling (i.e., no contact, unable to communicate, and refused). The rows in Table 9 show tract-level summary statistics, weighted by the number of cases in each tract. Note that the first two categories of the screener completion status (dwelling was either ineligible or vacant) are of limited interest because they do not reflect non-response behavior on the part of households selected for the sample. Rather, they reflect housing characteristics in the tract. There are, however, two reasons why we examine these completion statuses. First, interviewers may deliberately miscode dwellings as

² A total of 696 screener cases were of unknown eligibility (503 unable-to-contact cases plus 193 refused cases). We first assume that 2 percent of these cases were ineligible based on their inability to communicate at the screener stage (the same rate as found among dwellings that were successfully contacted). This yields 682 eligible cases. If we assume that the percentage of households with children among these cases was the same as in the screened sample (38 percent), 259 of these cases would be households with children and 423 would be households without children. Applying the same one-in-four sampling rate to households without children would yield a total of 106 additional selected cases. We estimate a roster ineligibility rate among these cases of 3 percent, based on 98 ineligible cases that were found among the 3,800 cases in which a roster was attempted. Applying this to our previous totals yield 251 households with children and 103 households without children. This corresponds to 354 RSAs, 251 PCGs, 251 RSCs, and 155 SIBs (given that 60 percent of RSCs had an eligible sibling).

A total of 917 roster cases were of unknown eligibility (295 unable-to-contact cases plus 622 refusal cases). We first assume that 3 percent of these cases were ineligible, leading to a total of 889 cases. If we assume that the percentage of households with children among these cases was the same as in the rostered sample (75 percent), then 667 of these cases would be households with children and 222 would be households without children. This corresponds to 889 RSAs, 667 PCGs, 667 RSCs, and 404 SIBs.

ineligible or vacant. They may do so to appear more productive, to systematically avoid approaching certain households, or simply in error. However, we were able to compare vacancy rates by tract in the survey with those based on the 2000 Census and found close correspondence. Second, high rates of ineligible dwellings may reflect errors from the listing operation (e.g., listing offices or commercial establishments as dwellings) that would be useful to identify for future fieldwork. In a similar vein, unable-to-communicate cases do not represent a household's behavioral response to avoid participating in the survey. Rather, they simply reflect ineligibility for the survey, although either a respondent or an interviewer may falsely claim that the respondent is unable to communicate in English or Spanish in order to avoid being selected for the survey.

Overall, the mean weighted tract rates for each category of non-response are quite low. Screeners were completed in 90 percent of dwellings that were inhabited. Among respondents with whom interviewers made contact and were able to communicate, 97 percent completed a screener.

For all screener non-response categories, the medians were lower than the means, indicating that the distributions are positively skewed. For most completion statuses, this is the result of one or two tracts being large outliers with particularly high non-response rates. In all these cases, however, we had good information about reasons for the high rates. The shape of the distribution of tract ineligibility rates was affected by a single outlier that had an ineligibility rate of 41 percent, which was more than six standard deviations above the mean. This tract, in East Los Angeles, had significant demolition that occurred during the period between the listing and screening operations, and all demolished dwelling units selected for the sample were classified as ineligible. There were no other tracts that were more than two standard deviations away from the mean. A small number of tracts had relatively high vacancy rates, though none of them was an obvious outlier.

A single high-income tract in the sample had a large concentration of high-rise buildings with doormen that restricted access to L.A.FANS interviewers. In this tract, interviewers were unable to contact almost one-third of dwellings that had been selected for the sample. No other tract in the sample had a no-contact rate more than two standard deviations away from the mean. There were no obvious tract outliers for unable-to-communicate rates. The distinguishing aspect of the distribution of this outcome was that in 30 tracts—almost half of the total—there were no cases in which interviewers were unable to communicate with a screener respondent. Finally, for tract screener refusal rates, there were no clear outliers and there were no tracts with refusal rates greater than three standard deviations above the mean. The highest tract screener refusal rate was less than seven percent. Notably, almost one-quarter of the sampled tracts—a total of 15 tracts—had no screener refusals.

In Table 10 we present tract-level data on the roster completion status. Overall, three-quarters of the households selected for the survey completed the roster. Among those that did not, the leading reason was the roster respondent refused to participate in the survey. The refusal rate was 17 percent, with the dominator being the number households in which an interviewer was able to communicate with an adult resident. Interviewers were unable to contact an adult resident in 7 percent of selected cases. For most of these cases, a proxy respondent completed the screener. Interviewers were unable to communicate with an adult resident of the selected household in two percent of contacted cases.

Each of the three main outcomes has its mean and median close together, although there were identifiable outlier tracts in the distributions of unable-to-contact and unable-to-

communicate rates. Again, the tract with a high concentration of high-rise buildings with doormen was the outlier when examining unable-to-contact rates. There was a single tract that had a very high unable-to-communicate rate of 29 percent, over six standard deviations above the mean. This tract had a large Central Asian population, many of whom did not speak either English or Spanish. In 24 tracts (over one-third of the total) there were no selected cases in which interviewers were unable to communicate with respondents.

Finally, in Table 11 we present tract-level summary information on non-response for individuals selected for the survey. A refusal is the only form of non-response that exists for sampled respondents. Mean non-response rates were quite modest—they ranged from 11 percent for PCGs, to 15 percent for RSAs, to 17 percent for RSCs and SIBs. The median non-response rates were similar to the means. Remarkably, there was one tract in which there was not a single refusal for an RSA, PCG, or Child respondent (though there were some screener and roster refusals). At the other end of the distribution, there were tracts with relatively high non-response rates for individual respondents. However, these rates did not exceed 28 percent for RSAs and 22 percent for PCGs, and there are no obvious outliers for either group. For both groups, the tract with the highest non-response rate is approximately two standard deviations above the mean. For RSCs and Child respondents, the situation was different. There were a handful of tracts with high non-response rates, with three tracts having non-response rates more than two standard deviations above the mean (with the highest non-response rate about three standard deviations above the mean). However, small tract-level sample sizes influence these figures. There were 47 RSAs sampled per tract, on average, but only 16 sampled RSC respondents and 26 sampled Child respondents (since we are considering only the children who were asked to complete an interview, which is those who were aged 9-17 years).

Variation in Non-Response Rates by Tract Characteristics

We next examine whether a variety of tract characteristics were associated with non-response rates for the screener, the roster, and individual interviews. We begin by briefly describing the tract characteristics that we considered. We then present summary statistics for tract characteristics according to the non-response status at each phase of the fieldwork.

Tables 12 and 13 show summary statistics for the tract characteristics that we hypothesized were related to non-response rates. All of these variables are based on tract-level data from the 2000 Census with the exception of the poverty status, which is based on data from 1997 that was used to stratify the sample. We considered the three poverty strata (very poor, poor, and non-poor tracts) and five categories for tract race and ethnic composition. The classification of tracts according to race and ethnic composition was based on a cluster analysis that identified five groupings. For all other tract variables, we constructed categorical indicators that distinguished high values from low values, with the median across the 65 tracts in the sample used as the cut-off. These tract variables comprise of four household-based characteristics and three population-based characteristics. The four household characteristics are the percent of households: (1) with children, (2) that are owner-occupied, (3) that are non-family (i.e., in which the residents are not related to each other), and (4) that are in multiple-dwelling structures. The three population characteristics are the percent of people who: (1) are foreign-born, (2) have not moved in the past five years (among respondents over five years of age), and (3) do speak a language other than English or Spanish. Summary statistics for these variables are shown in Table 12.

Table 13 presents information on the five race/ethnic categories that emerged from the

cluster analysis. The first group has a high fraction of Asians and Pacific Islanders (ranging from approximately 30 percent to 42 percent, with a mean of 36 percent). The second group is predominately white, with non-Hispanic whites comprising between 60 and 90 percent of the population. The third group includes virtually all tracts with a large non-Hispanic black population (ranging from 19 percent to 48 percent, with a mean of 34 percent). Remarkably, most tracts with a large non-Hispanic black population also have a large Latino population. In this third group, the Latino population ranges from 42 to 62 percent of the total, with a mean of 54 percent. The fourth group comprises of tracts that are predominately Latino. This group is by far the largest, accounting for 30 of the 65 tracts in the sample. In these tracts, Latinos make up three quarters of the population on average—in no case do they comprise less than half the population, and in some tracts they represent as much as 90 percent of the population. The last group includes whites and others. Non-Hispanic whites make up less than half the population in all these tracts, though in no tract is less than one-quarter of the population non-Hispanic white. The other race and ethnic groups account for varying proportions of the remaining population.

Summary tract characteristics for each screener completion category are presented in Table 14. For each tract variable, the six columns each have a subtotal equal to 100 percent. The total number of observations for each column is shown in the bottom row of the table. The most interesting findings are based on comparisons among columns and, in particular, between the last column (screened cases) and each of the other columns. These comparisons reveal any systematic differences that exist between screened and non-response cases. In particular, if there were no systematic differences in non-response rates according to the tract characteristic in question, then the figures appearing across each row would be roughly constant.

There were few systematic differences in tract characteristics when comparing ineligible or vacant cases with screened cases. Only three findings stand out. First, ineligible dwellings were more concentrated in very poor tracts compared to screened cases (as were vacant dwellings, but to a lesser extent). Second, ineligible dwellings were more likely to be found in tracts whose race/ethnic composition was classified as Latino and black, and less likely to be found in tracts that were high API or white plus other. Vacant tracts were also more concentrated in Latino/black tracts and less concentrated in high API tracts. Third, ineligible dwellings were more prevalent in tracts with a high proportion of the population foreign-born. The absence of more pronounced differences in tract characteristics for vacant dwellings compared to screened dwellings reflects the fact that housing turn-over is to a large extent a random process that occurs in all neighborhoods. The distinct tract characteristics for ineligible dwellings largely reflect the influence of the single tract that experienced considerable demolition.

There were systematic differences in tract characteristics for unable-to-contact cases compared to screened cases. Unable-to-contact cases were more concentrated in tracts that: were in the poor stratum, were predominately white, had a high percentage of households that were owner-occupied, had a high fraction of non-family households, had a high concentration of dwellings in multiple-unit structures, had a high proportion of the population foreign born, and had a high fraction of stable residents (with fewer moves in the past five years). Unable-to-contact cases were less concentrated in tracts that were classified as predominately Latino or white plus other and tracts that had a high fraction of non-English and non-Spanish speakers. These pronounced differences suggest that interviewers' inability to contact a household to administer the screener was not a random event. On the other hand, there were few notable differences in tract characteristics when comparing refusal cases to screened cases. The only

difference in tract characteristics between refusal and screened cases that was significant at the .001 level (a reasonable threshold with a sample this large) is that refusal cases were more concentrated in tracts with a high proportion of owner-occupied housing. These results suggest that a screener refusal represented a more idiosyncratic event. This is possibly because those inclined not to participate in the survey avoided making contact with the interviewers, thereby removing the need to say “no” to them.

Finally, there were a number of differences in tract characteristics between cases in which the respondent was unable to communicate with the interviewer and screened cases. Unable-to-communicate cases were more likely to be found in tracts that were poor, had a high API population, and had a high fraction of non-English/non-Spanish speakers. These cases were less likely to be found in tracts that were classified as predominately white or Latino plus black. It is notable that 38 percent of unable-to-communicate cases were in high API tracts, which was over three times higher than the 12 percent of screened cases that were in high API tracts. This suggests that inability to communicate was higher among Asians, which reflects the design decision not to interview in a language other than English or Spanish.

Table 15 shows summary tract characteristics by roster completion status. Comparing tract characteristics of cases that completed a roster to each of the other groups does not reveal any dramatic results. A few notable findings follow. First, cases in which a roster was not completed for any reason were more likely to be found in tracts classified as predominately Latino—there were no other major differences between these two groups. Second, unable-to-contact cases differed from completed cases only in being more concentrated in poor tracts and less concentrated in non-poor tracts. This finding is very different to the result for unable-to-contact cases at the screener stage—namely, that there were large and systematic differences in tract characteristics between unable-to-contact and successfully screened cases. It suggests that the inability to contact a respondent at the roster stage may be influenced by random events and may be less the result of certain respondent intentionally evading the interviewer. Third, unable-to-communicate cases were more likely to be found in tracts: classified as high API and white plus other, with a high fraction of non-family households, with a large proportion of households in multiple-unit structures, and with a high percentage of non-English/non-Spanish speakers. Unable-to-communicate cases were less likely to be found in tracts classified as predominately Latino or Latino plus black. Overall, this represents a similar profile to the unable-to-communicate cases at the screener stage, again reflecting design decision for the survey. Finally, roster refusals were more prevalent in non-poor tracts, tracts that were classified as predominately white, tracts that had a high proportion of owner-occupied dwellings, and tracts that high proportion of residents who lived in the same house as five years before. Roster refusals were less prevalent in very poor tracts, tracts classified as predominately Latino, tracts that had a high proportion of households with children, and tracts in which a large fraction of the population was foreign-born.

Table 16 shows that there were no noteworthy differences in tract characteristics when comparing complete and refusal cases by respondent type.

Multivariate Logistic Regression Models of Tract Effects on Non-Response

We next turn to a multivariate regression analysis that examines the effects of tract characteristics on screener, roster and interview non-response. The logistic regression models that we estimated were based on individual-level data. We accounted for the correlation among individuals in the same tract by incorporating tract-level random effects. The results, presented

in Tables 17-19, show the exponentiated parameter estimates (which are interpreted as relative risks) and the estimated standard errors, and also indicate the level of statistical significance using asterisks. For each model, we also present the estimated variance of the tract-level random effect, the model chi-squared test statistic (that indicates whether the model fits the data), and the number of observations.

Table 17 shows the results for the models of four screener outcomes: not screened (for any reason), no contact, unable to communicate, and refused. Note that for the first two models, all cases from outlier tracts (discussed above) have been dropped. The structure of the models is based on the organization of the data shown in Figure 1. The dependent variable for the first model indicated whether each case was unscreened ($y=1$) or not ($y=0$) among all occupied dwellings. We also considered no-contact cases among all occupied dwellings, unable-to-communicate cases among all contacted dwellings, and refusal cases among dwellings in which interviewers were able to communicate with a respondent. We omitted the models for ineligible and vacant dwellings because few systematic tract differences were found in the descriptive analysis and these cases have no effect on overall non-response rates or on selective non-response.

The first column in Table 17 shows the effects of tract characteristics on whether a case was not screened (for any reason). Only one covariate is statistically significant at the .05 level or better. This covariate indicates that the likelihood of not screening a dwelling in tracts classified as predominately Latino is less than half that for tracts classified as predominately white (the baseline category). Dwellings in tracts classified as white-plus-other had a 44 percent lower non-screening rate than the baseline category, although this effect was of only marginal statistical significance (i.e., significant only at the .10 level). Another marginally significant result was that non-screened cases were 59 percent more likely in tracts in which a high proportion of the population was foreign born.

The second column examines no-contact cases, and a number of statistically significant results emerge. No-contact rates were substantially and significantly lower in tracts classified as predominately Latino and white-plus-other, as well as in tracts with a high percentage of non-English/non-Spanish speakers. Dwellings in tracts classified as predominately Latino had no-contact rates 85 percent lower than dwellings in tracts classified as predominately white. No-contact rates were two-and-a-half times larger in tracts with a high percentage of the foreign-born (compared to tracts with a low percentage). Poor and very poor tracts also had higher no-contact rates, although a joint test reveals that the association between poverty stratum and no-contact rates was not statistically significant.

The results in Column 3 strongly support the notion that the unable-to-contact cases are largely comprised of Asians and other non-English/non-Spanish speakers, some of whom are likely to have been ineligible for the survey based on their inability to complete the English or Spanish questionnaires. High API tracts have unable-to-communicate rates that are four times higher than predominately white tracts, while tracts with a high proportion on non-English/non-Spanish speakers have unable-to-communicate rates over three times higher than tracts with a low proportion.

The final column in Table 17 shows the results for the model of screener refusals. Two results emerge: one is that refusal rates are 60 percent lower in tracts with a high level of residential stability; the other is that refusal rates are 55 percent lower in tracts that had a high percentage of households in multi-unit buildings. A high proportion of households with children was weakly associated with lower screener refusal rates while a high percentage of owner-

occupied dwellings was weakly associated with higher refusal rates.

The tract-level random effects were statistically significant in the models for all screener outcomes except refusals. This suggests that, with the exception of screener refusals, there are systematic differences across tracts that remain after controlling for the tract characteristics included in our models. For screener refusals, on the other hand, no significant remaining variation across tracts remains to be explained.

In Table 18 we present results from a parallel set of models of the roster completion status. In Column 1 is the model for non-completion of the roster, for any reason, among all screened cases. There are two significant findings in this model. First, roster non-completion rates were half as large in predominately Latino tracts compared to predominately white tracts. Second, households in the poor stratum were twice as likely to not complete a roster than tracts in the non-poor stratum.

A more complex set of relationships emerged in the model of unable-to-contact rates, shown in the second column. Households in poor and very poor tracts had unable-to-contact rates over three times higher than households in non-poor tracts. There were substantially lower unable-to-contact rates in Latino + black tracts (compared to predominately white tracts), as well as in tracts with a high percentage of children, a high proportion of owner-occupied housing, a high percentage of dwellings in multi-unit buildings, and a high proportion of the foreign-born. Overall, a relatively large number of tract characteristics are associated with roster contacts. This suggest that, in contrast to conclusion based on the descriptive analysis presented above, there was some systematic variation in roster no-contact rates across tracts.

The most interesting findings in Table 18 are the absence of statistically significant effects of tract characteristics on the likelihood of a household being unable-to-communicate and of a household refusing the roster. Of particular note is that there was not a single tract characteristic that had a statistically significant effect on roster refusals, even at the .10 level. However, the tract random effects were statistically significant (at the .05 level), suggesting that there may be omitted tract characteristics that are related to the likelihood of a roster refusal.

The results in Table 19 show that there were essentially no systematic effects of tract characteristics on refusals for individual respondents selected for the sample. The only pattern to emerge is higher refusals for adult respondents—that is, RSAs or PCGs—in tracts with a high proportion of non-English/non-Spanish speakers. It is notable the models for RSCs and Child respondents fail to pass the low hurdle of having the tract covariates being jointly statistically significant; the model for PCGs is only significant at the .10 level.

5. Variation in Non-Response by Household and Individual Characteristics

In this final part of the analysis, we investigate the relationship between non-response and household and individual characteristics of respondents. We begin by presenting descriptive results and then examine findings from multivariate logistic regression models.

Variation in Non-Response Rates by Tract Characteristics

In this subsection, we examine whether a variety of household and individual characteristics were associated with non-response rates for the roster and the individual interviews. For the roster analysis, two household variables are available: (1) a description of the dwelling type that distinguishes apartments, single family dwellings, and other dwellings and (2) the interviewer's estimate of the monthly rent for the dwelling. In addition, there is information on the screener respondent, including the respondent's age, sex, and race, the language of the

screeners, and whether the household had children or not. With the exception of the last variable, which was based on the screener respondent's report, all others were based on the interviewer's own observations. Finally, for the analysis of individual interview refusals, information from the completed rosters is added to the two household variables from the screener. Roster-based variables include the number of household residents, language of the roster interview (English or Spanish), whether the selected respondent speaks a language other than English or Spanish, his or her age, sex, education, marital status, current receipt of public assistance, and relationship to the household head, and whether he or she has children under 18 and was selected as both a PCG and RSA respondent.

Table 20 shows summary statistics for the available household and respondent characteristics by roster completion status. The first thing to note is that variables are more likely to be missing when the roster was not completed. However, rates of missing do not appear to obscure other patterns in the data. When we combine all reasons for not completing the roster, these patterns include higher non-response rates among households with higher estimated rents and respondents who were older and Asian. Lower rates were for households with lower estimated rents and with children, younger respondents, Latinos, and Spanish-speakers. Similar patterns are apparent for unable-to-contact cases and refusal cases. However, cases in which the roster was not completed because interviewers were unable to communicate with the respondent are different to completed cases in a number of distinct ways. The unable-to-communicate cases were more likely to live in an apartment, to be older (over 55 years of age), to be Asian, and to have completed the screener in English rather than Spanish. They are less likely to be black and to have children. Note that there were very few cases of Latinos or being unable to communicate with the interviewer.

Table 21 compares summary household and individual characteristics for refusal and complete cases by individual respondent type. For RSAs, there are notable differences between complete and refusal cases in the relationship to the household (with higher refusal rates if the RSA was neither the household head nor the head's spouse) and sex (with refusals being disproportionately male); also, there was a higher concentration of Asians among the refusal cases than the complete cases. For PCGs, refusal cases were less likely to reside in an apartment or to be the household head or spouse. For RSCs and Child respondents, there were few distinct differences between refusal and complete cases. Note that several of the RSC/Child variables (such as relationship to the household head) refer to the PCG's status.

Multivariate Logistic Regression Models of Non-Response

We undertook a multivariate analysis of the effects of household and individual characteristics on roster and interview non-response. We used logistic regression models that were estimated using individual-level data. We omitted the tract characteristics and instead controlled for these variables (and correlation among respondents in the same tract) using tract-level random effects. We compared the results from these models to those based on fixed effects models, which also account for the correlation between the unobserved tract effects and the included regressors. However, we found no substantive differences between the random and fixed effects models in the estimated covariate effects. Nor were there statistically significant differences in the parameters, which we assessed using a series of Hausman tests. Hence, we decided to present results from the more efficient random effects models.

The results for roster completion are shown in Table 22. Roster non-response (for any reason) was lower for single-family dwellings than for apartments, for younger respondents, and

for households with children, but higher for more affluent households (as measured by the estimate of monthly rent) and for Asians. Column 2 shows that interviewers had difficulty in contacting households without children and with prime-aged adults between the ages of 35 and 54. Not surprisingly, missing information on respondent characteristics was a problem for unable-to-contact cases. The results for unable-to-communicate cases are dominated by the extremely large effect for Asians. Fewer problems communicating with roster respondents were found for respondents living in single-family dwellings, for households with adults of prime age (25 to 54 years) and with children, and for Spanish-speakers. Note that the effects of estimated rent were jointly insignificant. The last column presents results for the roster refusal model. Missing information is again an issue. The results suggest that refusals were higher for more affluent households, and were lower for households with children and younger respondents (below 35 years of age).

Our final set of results is presented in Table 23. Missing information is only a problem for reports of the respondent's education level. For RSAs, significantly higher refusal rates were found for respondents who spoke a language other than English or Spanish, who were neither the household head nor his or her spouse, and who had a child under age 18. There was weak evidence of higher refusal rates for poorer households and for males, and lower refusal rates for college graduates. The most dramatic differences in refusals for RSA are between household heads and other adults in the household (the head's child, another relative, or a non-relative). For this latter group, refusal rates are nearly three times higher than for household heads.

For PCGs, significantly higher refusal rates were found for both poor and affluent households and for PCGs who were the child of the household head. Significantly lower refusal rates were found for PCGs who lived in an apartment, were interviewed in Spanish, were white, were college graduates, and were on public assistance.

Both for RSCs and for all child respondents, being the grandchild of the household head was associated with substantially higher refusal rates, as was being no relation to the household head for RSCs. Significantly higher refusal rates were also found for household with the lowest estimated rents. However, children whose PCGs were receiving public assistance were less likely to refuse, as were those whose PCGs were white, were college graduates, or were interviewed in Spanish, and those who lived in an apartment.

6. Summary and Conclusions

In this paper, we have documented the final disposition of all cases and calculated a full set of non-response rates for the Los Angeles Family and Neighborhood Survey. We examined non-response rates over the entire survey operation, beginning from the release of cases into the field and ending with finalized individual interviews that required both a screener and a roster to have been completed. We also investigated the relationship between tract, household, and individual characteristics and non-response. In this final section, we address two questions: first, to what extent was non-response in L.A.FANS selective and what were the main tract, household, and individual characteristics that were associated with non-response? Second, how do the response rates in L.A.FANS compare to other social surveys?

Our results suggest that selective non-response is not a major problem in L.A.FANS. Moreover, because of the survey's design, we know a lot about the factors that are associated with non-response. This information is helpful for researchers analyzing the data because they can incorporate covariates that are associated with non-response into their analyses and hence limit its effects on results and conclusions. In addition, sample weights that adjust for non-

response are available for the calculation of summary statistics.

At the screener and roster stages, two factors were related to the variation in the overall level of individual non-response. The first is the presence of two outlier tracts. One was a high-income tract that had a large concentration of high-rise buildings with doormen, who prevented L.A.FANS interviewers from completing the screeners and rosters. The other was a tract with a large Central Asian population who spoke limited English or Spanish and had a very high non-response rate for the roster. For many residents of this tract, their language skills were sufficient for the screener interview, but not for the roster (or subsequent individual modules).

The second factor related to the overall screener and roster non-response rates was the effect of respondent characteristics, as represented by tract, housing, and individual variables. Based on the random effects logistic models of overall screener and roster non-response, the only tract variables that had a statistically significant effect were residence in a predominately Latino tract (for both screener and roster non-response) and residence in a tract in the poor stratum (for roster non-response only). Several individual covariates were related to roster non-response. In particular, younger adult respondents and households with children had lower roster non-response, while Asians had higher roster non-response.

At the individual interview stage, a few characteristics were related to non-response. An indicator of speaking a language other than English or Spanish (at the tract or individual level) was associated with higher non-response, but only for adult respondents. Response rates were highest for the household head and his or her spouse and non-adult children who were selected for the sample. For RSAs, response rates were also higher if the person had children under age 18. For PCGs and Child respondents, there is some evidence that housing type and rent were related to response rates. Finally, PCGs who are white, college graduates, and receive public assistance had lower non-response rates, as did their sampled children.

Among households that completed the roster, response rates for sampled and eligible respondents were 85 percent for RSAs, 89 percent for PCGs, 87 percent for RSCs, and 86 percent for Child respondents. These response rates match up favorably with other major social surveys, such as the NLSY-97 (comparably-defined response rate of 92 percent), the 1994-95 baseline wave of AddHealth (79 percent), the 1997 PSID Child Development Supplement (88 percent), and the 1999 baseline wave of the Welfare, Children and Families Study (74 percent).³

³ These response rates were obtained, respectively, from the *NLSY-97 User's Guide* (Bureau of Labor Statistics, 2001), the ADDHealth web site (<http://www.cpc.unc.edu/projects/addhealth/>), the *1997 User's Guide* to the PSID Child Development Supplement (Hofferth et al., 1997), and a policy brief from the Welfare, Children, and Families Study (Angel et al., 2001).

References

- AAPOR (American Association for Public Opinion Research) (2000), *Standard definitions: Final disposition of case codes and outcome rates for surveys*. Ann Arbor: AAPOR.
- Angel, Ronald J., Laura Lein, Jane Henrici, and Emily Leventhal (2001), *Health Insurance Coverage for Children and Their Caregivers in Low-Income Urban Neighborhoods*. Policy Brief 01-02, Welfare, Children, and Families: A Three-City Study.
- Bureau of Labor Statistics (2001). *NLSY97 User's Guide 2001*. Washington, D.C.: Bureau of Labor Statistics.
- Hidiroglou, Michael A., J. Douglas Drew, and Gerald B. Gray (1993), "A framework for measuring and reducing nonresponse in surveys," *Survey Methodology* 19: 81-94.
- Hofferth, Sandra, Pamela E. Davis-Kean, Jean Davis, and Jonathan Finkelstein (1997), *The Child Development Supplement to the Panel Study Of Income Dynamics: 1997 User Guide*. Survey Research Center, Institute for Social Research, University of Michigan
- Lessler, Judith, and William D. Kalsbeek (1992), *Nonsampling error in surveys*. New York: John Wiley and Sons.
- Sastry, Narayan, Bonnie Ghosh-Dastidar, John Adams and Anne Pebley (2000), "The Design of Multilevel Longitudinal Survey of Children, Families, and Communities: The Los Angeles Family and Neighborhood Survey," RAND L&P Working Paper 00-18. DRU-2400/1-L.A.FANS.
- Smith, Tom W. (2002), "Developing nonresponse standards," in Robert M. Groves, Don A. Dillman, and John L. Eltinge, and Roderick J.A. Little (eds.), *Survey nonresponse*. New York: John Wiley.
- Woodcock, R.W., and M.B. Johnson (1989), *Woodcock-Johnson Test of Achievement-Revised*. Chicago: Riverside Publishing Co.

Figure 1. Disposition of L.A.FANS cases released to the field

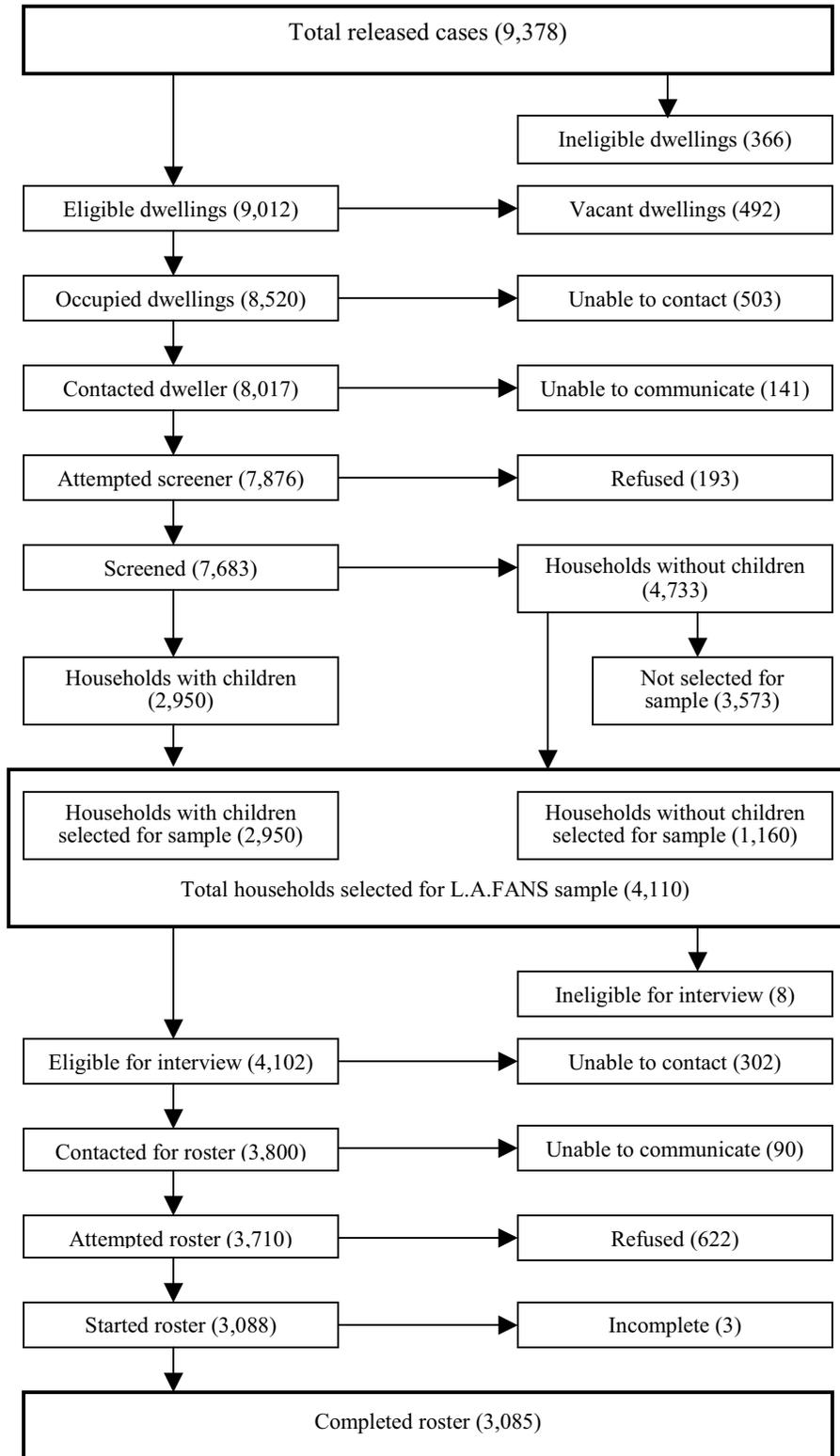


Table 1. Final screener codes for all released L.A.FANS cases

Code	Description	Cases
Ineligible dwellings		
241	Group dwelling	9
244	Not a dwelling unit	337
280	Unlocatable	4
289	Other ineligible	16
	Total ineligible dwellings	366
Vacant dwellings		
240	Vacant	492
Unable to contact		
219	Access denied	311
220	No one home after repeated attempts	81
222	Never available	111
	Total unable to contact	503
Unable to communicate		
271	Non-English/Spanish speaker	133
275	Physically/mentally incapable	8
	Total unable to communicate	141
Refused		
260	Refused	193
Screened		
290	Households without children not selected	3,573
291	Households with children	2,950
292	Households without children selected	1,160
	Total screened	7,683
	Total cases released	9,378

Table 2. Final roster codes for all cases selected for L.A.FANS

Code	Description	Cases
Ineligible for interview		
458	Ineligible	6
459	Respondent deceased	2
	Total ineligible for interview	8
Unable to contact		
419	Access denied	43
420	No one ever home	37
422	Respondent unavailable	199
480	Respondent unlocatable	10
481	Respondent left sample area	7
489	Other	6
	Total unable to contact	302
Unable to communicate		
471	Language barrier, other	74
475	Physical/mental problem	16
	Total unable to communicate	90
Refused		
460	Refused	622
Completed roster		
491-499	Roster full complete	3,085
	Roster partial complete	3
	Total completed roster	3,088
	Total cases selected	4,110

Figure 2. Selection of respondents in households with a completed roster

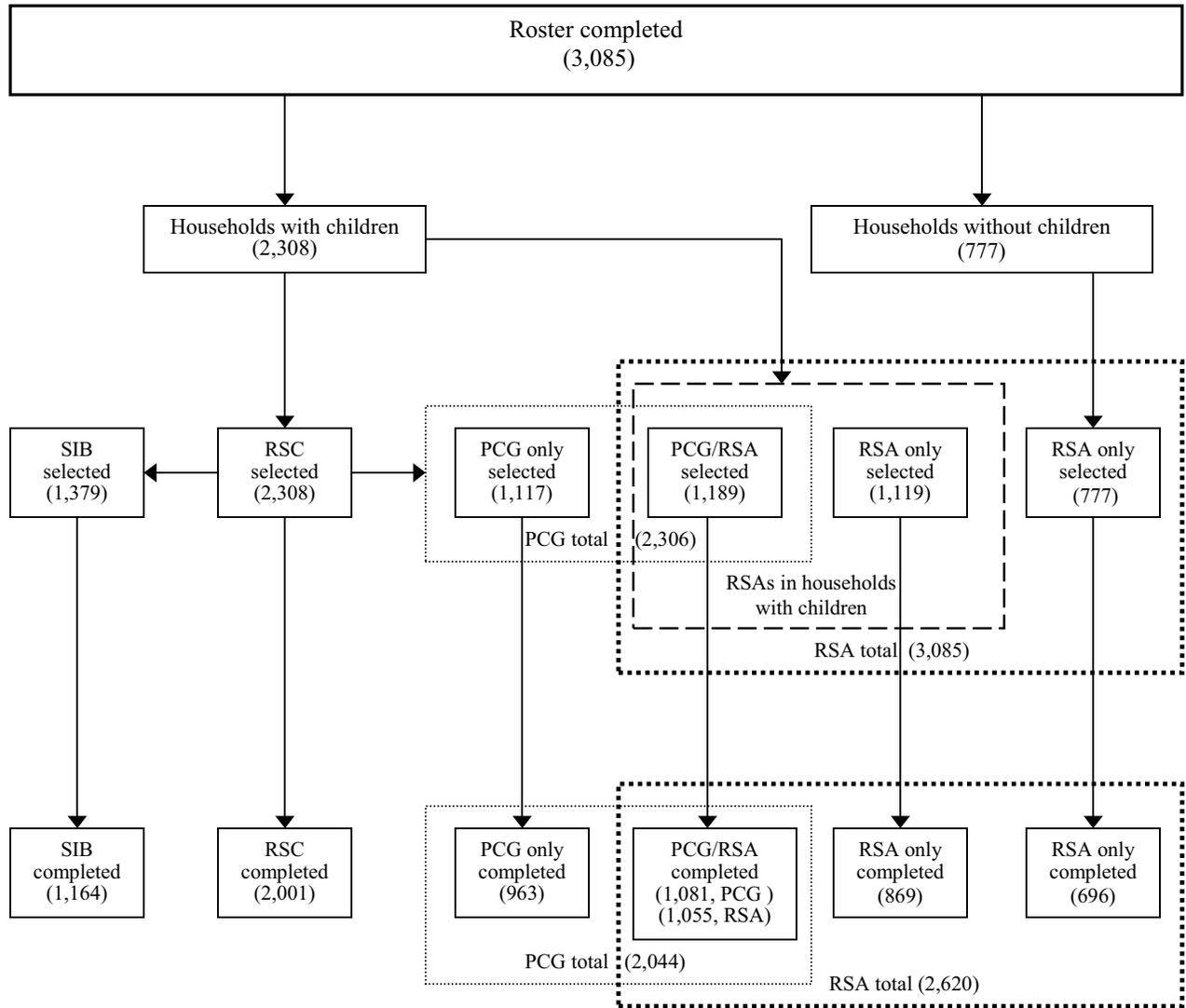


Table 3. Summary of completion status for individual respondents in L.A.FANS

	RSA					PCG			RSC	SIB
	RSA only		Total	RSA & PCG	Total	PCG only	RSA & PCG	Total	Total	Total
	Households with children	Households no children								
Selected	1,119	777	1,896	1,189	3,085	1,117	1,189	2,306	2,308	1,379
Refused	250	81	331	134	465	154	108	262	307	215
Completed	869	696	1,565	1,055	2,620	963	1,081	2,044	2,001	1,164
Partial complete	34	18	52	25	77	81	63	144	77	30
Full complete	835	678	1,513	1,030	2,543	882	1,018	1,900	1,924	1,134
Pct. refused	22%	10%	17%	11%	15%	14%	9%	11%	13%	16%
Pct. of completes partial	4%	3%	3%	2%	3%	8%	6%	7%	4%	3%

Note: RSA=Randomly Selected Adult; PCG=Primary Care Giver; RSC=Randomly Selected Child; and SIB=Sibling.

Table 4. PCG completion status for individual modules

	PCG Module				
	Adult	PCG	WJ	PCH/RSC	PCH/SIB
Total	2,306	2,306	2,306	2,306	1,374
Refused	326	350	449	326	226
Completed	1,980	1,956	1,857	1,980	1,148
Partial Complete	41	8	-	13	2
Full Complete	1,939	1,948	1,857	1,967	1,146
Pct. Refused	14%	15%	19%	14%	16%
Pct. of completes partial	2%	0%	0%	1%	0%

Note: Partial complete WJ module counted as refused.

Table 5. PCG completion status across individual modules

Module	All applicable modules (1)	All modules for PCG, RSC, and SIB (2)	All applicable modules except assessments (3)	All modules for PCG, RSC, and SIB except assessments (4)	Adult and PCG modules (5)	Parent module for RSC and SIB if applicable (6)	Parent module for RSC and SIB (7)	Parent module for at least one child (8)
Adult	Y	Y	Y	Y	Y	-	-	-
PCG	Y	Y	Y	Y	Y	-	-	-
WJ assessments	Y	Y	-	-	-	-	-	-
Parent								
RSC	Y	Y	Y	Y	-	Y	Y	-
SIB	Y or N/A	Y	Y or N/A	Y	-	Y or N/A	Y	-
RSC or SIB	-	-	-	-	-	-	-	Y
Completed cases	1,831	1,083	1,908	1,127	1,925	1,952	1,145	1,983
Max. possible cases	2,306	1,374	2,306	1,374	2,306	2,306	1,374	2,306
Pct. of max. completed	79%	79%	83%	82%	83%	85%	83%	86%

Notes: Y = Full or partial complete (WJ assessments must be full complete); N/A = Not applicable because no SIB selected.

Table 6. RSC and SIB completion status for individual modules

	RSC		SIB		Child (RSC+SIB)	
	Child module	WJ assessments	Child module	WJ assessments	Child module	WJ assessments
Total	2,308	2,308	1,374	1,374	3,682	3,682
Ineligible	1,217	415	726	202	1,943	617
Eligible	1,091	1,893	648	1,172	1,739	3,065
Refused	182	386	106	245	288	631
Completed	909	1,507	542	927	1,451	2,434
Partial Complete	0	-	0	-	0	-
Full Complete	909	1,507	542	927	1,451	2,434
Lost	-	9	-	4	-	13
Pct. Refused	17%	20%	16%	21%	17%	21%

Note: Child module only administered to children aged 9 years or older; WJ assessments only administered to children aged 3 years or older. Partial complete WJ module counted as refused.

Table 7. RSC completion status across modules

Module	All applicable modules (1)	All modules for RSC, PCG and SIB (2)	All applicable modules except assessments (3)	All modules for RSC, PCG and SIB except assessments (4)	Assessments for RSC, SIB, and PCG (5)	Assessments for RSC, PCG and SIB (if applicable) (6)	Assessments for RSC and all for PCG (7)
RSC							
WJ assessments	Y	Y	-	-	Y	Y	Y
Child	Y	Y	Y	Y	-	-	-
PCG							
Adult	Y	Y	Y	Y	Y	Y	Y
PCG	Y	Y	Y	Y	-	-	Y
WJ assessments	Y	Y	-	-	Y	Y	Y
Parent/RSC	Y	Y	Y	Y	Y	Y	Y
Parent/SIB	Y or N/A	Y	Y or N/A	Y	Y	Y or N/A	
SIB							
WJ assessments	Y or N/A	Y	-	-	Y	Y or N/A	-
Child	Y or N/A	Y	Y or N/A	Y	-	-	-
Completed cases	646	316	679	336	757	1,294	1,443
Max. possible cases	845	410	845	410	1,020	1,722	1,891
Pct. of max. completed	76%	77%	80%	82%	74%	75%	76%

Notes: Y = Full or partial complete (WJ assessments must be full complete); N/A = Not applicable because no SIB selected.

Table 8. Child (RSC or SIB) completion status across modules

Module	All modules (1)	All modules except assessments (2)	Child module (3)	All PCG modules except WJ (4)	PCG Adult and Parent modules (5)	PCG Parent module (6)	Assessments for child and PCG (7)	Assessments for child (8)
Child								
WJ assessments	Y	-	-	-	-	-	Y	Y
Child	Y	Y	Y	-	-	-	-	-
PCG								
Adult	Y	Y	-	Y	Y	-	Y	Y
PCG	Y	Y	-	Y	-	-	-	-
WJ	Y	-	-	-	-	-	Y	-
Parent (for child)	Y	Y	-	Y	Y	Y	Y	Y
Completed cases	1,348	1,409	1,451	3,039	3,061	3,128	2,334	2,381
Max. possible cases	1,737	1,737	1,739	3,680	3,680	3,680	3,063	3,063
Pct. of max. completed	78%	81%	83%	83%	83%	85%	76%	78%

Note: Y = Full or partial complete (WJ assessments must be full complete).

Table 9. Weighted summary statistics for screener completion status by tract for L.A.FANS

	Ineligible dwellings among all released cases (1)	Vacant dwellings among eligible dwellings (2)	Screener not completed among inhabited dwellings (3)	No contact among inhabited dwellings (4)	Unable to communicate among contacted dwellings (5)	Screener refusal among screener attempts (6)
Mean	4%	6%	10%	6%	2%	3%
Std. dev.	6%	4%	9%	9%	3%	2%
Minimum	0%	0%	0%	0%	0%	0%
First quartile	1%	3%	5%	1%	0%	1%
Median	2%	5%	7%	3%	1%	2%
Third quartile	5%	7%	11%	5%	2%	4%
Maximum	41%	24%	37%	33%	12%	7%
No. of dwellings	9,378	9,012	8,520	8,520	8,017	7,876

Table 10. Weighted summary statistics for roster completion status by tract for L.A.FANS

	Roster not completed among sampled cases	Unable to contact among eligible cases	Unable to communicate among contacted cases	Roster refusal among attempted cases
Mean	25%	7%	2%	17%
Std. dev.	10%	6%	4%	8%
Minimum	8%	0%	0%	2%
First quartile	17%	4%	0%	9%
Median	23%	6%	2%	16%
Third quartile	33%	9%	2%	22%
Maximum	48%	31%	29%	32%
No. of dwellings	4,110	4,102	3,800	3,710

Table 11. Weighted summary statistics for interview completion status by tract for L.A.FANS

	RSA interview not completed	PCG interview not completed	RSC interview not completed	Child interview not completed
Mean	15%	11%	17%	17%
Std. Dev.	6%	6%	10%	11%
Minimum	0%	0%	0%	0%
First quartile	11%	7%	10%	10%
Median	15%	11%	14%	15%
Third quartile	19%	15%	24%	21%
Maximum	28%	22%	50%	50%
No. of cases	3,085	2,306	1,069	1,700

Table 12. Description of tract-level variables

	Number of tracts	Mean	Std. dev.
Percent in poverty			
Very poor (>41%)	20	48%	5%
Poor (20% – 41%)	20	30%	7%
Non-poor (< 20%)	25	10%	4%
Percent of households with children			
Low (<46%)	33	33%	10%
High (>46%)	32	55%	6%
Percent of households owner-occupied			
Low (<40%)	33	22%	12%
High (>40%)	32	66%	16%
Percent of households non-family			
Low (<21%)	33	16%	3%
High (>21%)	32	36%	13%
Percent of households in multi-unit dwellings			
Low (<33.5%)	33	16%	11%
High (>33.5%)	32	63%	17%
Percent of population foreign-born			
Low (<40%)	33	28%	9%
High (>40%)	32	53%	9%
Percent of population 5-year non-movers			
Low (<52%)	33	43%	8%
High (>52%)	32	58%	4%
Percent of population non-English/Spanish speakers			
Low (<2%)	33	1%	1%
High (>2%)	32	6%	5%

Source: 2000 U.S. Census except for 1997 poverty estimates which are based on 1990 U.S. Census data and 1990-1997 administrative data sources.

Table 13. Classification of tracts by mean race and ethnic composition

Race/ethnic comp.	Number of tracts	Tract race/ethnic composition							
		White		Black		Latino		API	
High API	7	26%	(12%)	6%	(3%)	26%	(13%)	36%	(4%)
Predominately white	9	76%	(10%)	3%	(1%)	8%	(6%)	9%	(8%)
Latino + black	8	5%	(7%)	34%	(9%)	54%	(9%)	3%	(5%)
Predominately Latino	30	8%	(6%)	5%	(4%)	75%	(10%)	6%	(6%)
White + other	11	40%	(9%)	11%	(7%)	30%	(12%)	13%	(7%)
Total	65								

Note: Standard deviations in parentheses.

Table 14. Summary statistics for tract covariates by screener completion status

	Ineligible	Vacant	Unable to contact	Unable to communicate	Refused	Screened
Tract percent in poverty						
Very poor (>41%)	44%	30%	13%	14%	12%	18%
Poor (20% – 41%)	25	23	61	46	25	31
Non-poor (< 20%)	31	47	26	40	63	51
Tract race/ethnic composition						
High API	5%	7%	10%	38%	15%	12%
Predominately white	32	30	61	15	33	29
Latino + black	26	17	7	1	6	7
Predominately Latino	30	27	15	28	24	30
White + other	7	19	7	18	22	22
Pct. of HH with children in tract						
Low (<46%)	74%	60%	81%	66%	74%	69%
High (>46%)	26	40	19	34	26	31
Pct. of HH owner-occupied in tract						
Low (<40%)	54%	46%	32%	59%	32%	46%
High (>40%)	46	54	68	41	68	54
Pct. of HH non-family in tract						
Low (<21%)	29%	41%	16%	28%	42%	36%
High (>21%)	71	59	84	72	58	64
Pct. of HH in multi-unit dwellings in tract						
Low (<33%)	41%	59%	30%	43%	67%	56%
High (>33%)	59	41	70	57	33	44
Pct. of population foreign born in tract						
Low (<40%)	38%	58%	30%	46%	69%	62%
High (>40%)	62	42	70	54	31	38
Pct. of pop. 5-year non-movers in tract						
Low (<52%)	59%	60%	79%	66%	52%	55%
High (>52%)	41	40	21	34	48	45
Pct. Non-Eng./Span. Speakers in tract						
Low (<2%)	86%	86%	89%	39%	75%	78%
High (>2%)	14	14	11	61	25	22
No. of dwellings	366	492	503	141	193	7,683

Table 15. Summary statistics for tract covariates by roster completion status

	Roster not completed			Total	Roster completed
	Unable to contact	Unable to communicate	Refused		
Tract percent in poverty					
Very poor (>41%)	25%	19%	20%	22%	30%
Poor (20% – 41%)	46	43	31	36	31
Non-poor (< 20%)	29	38	49	42	39
Tract race/ethnic composition					
High API	11%	22%	14%	14%	11%
Predominately white	18	13	17	17	12
Latino + black	9	3	14	11	12
Predominately Latino	46	28	35	38	47
White + other	16	34	20	20	18
Pct. of HH with children in tract					
Low (<46%)	55%	58%	59%	57%	51%
High (>46%)	45	42	41	43	49
Pct. of HH owner-occupied in tract					
Low (<40%)	50%	66%	39%	45%	51%
High (>40%)	50	34	61	55	49
Pct. of HH non-family in tract					
Low (<21%)	50%	27%	53%	50%	51%
High (>21%)	50	73	47	50	49
Pct. of HH in multi-unit dwellings in tract					
Low (<33%)	60%	41%	70%	64%	64%
High (>33%)	40	59	30	36	36
Pct. of population foreign born in tract					
Low (<40%)	46%	42%	65%	57%	51%
High (>40%)	54	58	35	43	49
Pct. of pop. 5-year non-movers in tract					
Low (<52%)	53%	63%	43%	48%	51%
High (>52%)	47	37	57	52	49
Pct. Non-Eng./Span. Speakers in tract					
Low (<2%)	75%	46%	77%	74%	79%
High (>2%)	25	54	23	26	21
No. of dwellings	302	90	622	1,025	3,085

Table 16. Summary statistics for tract covariates by interview completion status for sampled respondents

	RSA		PCG		RSC		Child	
	Refusal	Complete	Refusal	Complete	Refusal	Complete	Refusal	Complete
Tract percent in poverty								
Very poor (>41%)	29%	30%	27%	31%	23%	27%	26%	29%
Poor (20% – 41%)	34	31	36	32	37	31	35	32
Non-poor (< 20%)	37	39	37	37	40	42	39	39
Tract race/ethnic composition								
High API	14%	10%	12%	10%	14%	12%	14%	11%
Predominately white	8	14	10	12	10	13	10	12
Latino + black	12	12	12	12	9	12	9	12
Predominately Latino	49	46	51	48	49	44	50	46
White + other	17	18	15	18	18	19	17	19
Pct. of HH with children in tract								
Low (<46%)	49%	51%	48%	50%	46%	52%	45%	49%
High (>46%)	51	49	52	50	54	48	55	51
Pct. of HH owner-occupied in tract								
Low (<40%)	50%	51%	49%	52%	43%	47%	46%	49%
High (>40%)	50	49	51	48	57	53	54	51
Pct. of HH non-family in tract								
Low (<21%)	56%	50%	56%	51%	62%	51%	61%	53%
High (>21%)	44	50	44	49	38	49	39	47
Pct. of HH in multi-unit dwellings in tract								
Low (<33%)	68%	63%	70%	63%	73%	64%	72%	66%
High (>33%)	32	37	30	37	27	34	28	34
Pct. of population foreign born in tract								
Low (<40%)	50%	51%	49%	50%	56%	54%	51%	52%
High (>40%)	50	49	51	50	44	46	49	48
Pct. of pop. 5-year non-movers in tract								
Low (<52%)	49%	52%	51%	51%	45%	49%	50%	49%
High (>52%)	51	48	49	49	55	51	50	51
Pct. non-Eng./Span. speakers in tract								
Low (<2%)	73%	80%	72%	79%	74%	78%	77%	78%
High (>2%)	27	20	28	21	26	22	23	22
No. of cases	465	2,620	261	2,045	180	889	282	1,418

Table 17. Random effects logistic regression models of screener completion status with tract covariates

	Not screened ^[a]		No contact ^[a]		Unable to communicate		Refused	
Tract percent in poverty								
Very poor (>41%)	1.31	(0.52)	2.75*	(1.69)	4.83	(4.77)	0.77	(0.41)
Poor (20% - 41%)	1.19	(0.36)	2.30*	(1.04)	3.56*	(2.44)	0.74	(0.29)
Non-poor (< 20%) ^[b]	.	.	.	.	.	.	.	.
Tract race/ethnic composition								
High API	1.49	(0.38)	1.22	(0.49)	4.03***	(2.15)	1.14	(0.36)
Predominately white ^[b]	.	.	.	.	.	.	.	.
Latino + black	0.62	(0.25)	0.34*	(0.20)	0.13*	(0.15)	1.09	(0.57)
Predominately Latino	0.45**	(0.15)	0.15***	(0.08)	0.47	(0.30)	1.27	(0.48)
White + other	0.66*	(0.17)	0.38***	(0.14)	0.85	(0.48)	1.06	(0.28)
Pct. of HH with children in tract								
Low (<46%) ^[b]	.	.	.	.	.	.	.	.
High (>46%)	1.19	(0.27)	1.33	(0.47)	1.69	(0.79)	0.53*	(0.17)
Pct. of HH owner-occupied in tract								
Low (<40%) ^[b]	.	.	.	.	.	.	.	.
High (>40%)	1.18	(0.31)	1.58	(0.63)	1.22	(0.63)	1.73*	(0.52)
Pct. of HH non-family in tract								
Low (<21%) ^[b]	.	.	.	.	.	.	.	.
High (>21%)	1.04	(0.20)	1.05	(0.31)	1.11	(0.49)	0.70	(0.17)
Pct. of HH in multi-unit dwellings in tract								
Low (<33%) ^[b]	.	.	.	.	.	.	.	.
High (>33%)	0.72	(0.20)	0.97	(0.40)	1.41	(0.86)	0.45**	(0.16)
Pct. of population foreign born in tract								
Low (<40%) ^[b]	.	.	.	.	.	.	.	.
High (>40%)	1.59*	(0.41)	2.56**	(0.99)	0.83	(0.52)	1.15	(0.41)
Pct. of pop. 5-year non-movers in tract								
Low (<52%) ^[b]	.	.	.	.	.	.	.	.
High (>52%)	0.71	(0.15)	0.80	(0.26)	0.95	(0.50)	0.39***	(0.11)
Pct. Non-Eng./Span. Speakers in tract								
Low (<2%) ^[b]	.	.	.	.	.	.	.	.
High (>2%)	1.23	(0.23)	0.45**	(0.15)	3.36***	(1.27)	1.18	(0.28)
Variance of tract random eff.	0.12***	(0.05)	0.36***	(0.15)	0.64**	(0.38)	0.08	(0.07)
Model chi-2 (df)	37.31***	(13)	44.49***	(13)	93.94***	(13)	25.99**	(13)
No. of cases	7,825		7,825		8,017		7,876	

* $p < .10$; ** $p < .05$; *** $p < .01$; standard errors in parentheses; the z-test for the variance of the random effects is equivalent to a one-sided test with critical values of 1.282 for $p < .10$, 1.645 for $p < .05$, and 2.326 for $p < .01$.

Notes: [a] Model excluded outlier tract.

[b] Reference category.

Table 18. Random effects logistic regression models of roster completion status with tract covariates

	Roster not completed	Unable to contact^[a]	Unable to communicate^[a]	Roster refusal
Tract percent in poverty				
Very poor (>41%)	1.45 (0.46)	3.30*** (1.27)	2.44 (1.86)	0.69 (0.25)
Poor (20% - 41%)	1.98*** (0.48)	3.30*** (0.94)	1.69 (0.96)	1.04 (0.29)
Non-poor (< 20%) ^[b]	.	.	.	.
Race/ethnic composition				
High API	0.92 (0.21)	1.10 (0.32)	1.70 (0.75)	1.00 (0.26)
Predominately white ^[b]	.	.	.	.
Latino + black	0.60 (0.19)	0.40** (0.17)	0.21* (0.18)	1.31 (0.47)
Predominately Latino	0.51*** (0.13)	0.90 (0.32)	0.57 (0.35)	0.79 (0.23)
White + other	0.89 (0.18)	1.16 (0.32)	0.76 (0.35)	0.89 (0.20)
Pct. of HH with children in tract				
Low (<46%) ^[b]	.	.	.	.
High (>46%)	0.81 (0.15)	0.65** (0.14)	0.44 (0.23)	0.85 (0.18)
Pct. of HH owner-occupied in tract				
Low (<40%) ^[b]	.	.	.	.
High (>40%)	1.03 (0.20)	0.45*** (0.12)	0.55 (0.29)	1.16 (0.26)
Pct. of HH non-family in tract				
Low (<21%) ^[b]	.	.	.	.
High (>21%)	0.81 (0.13)	0.95 (0.20)	1.16 (0.43)	0.76 (0.14)
Pct. of HH in multi-unit dwellings in tract				
Low (<50%) ^[b]	.	.	.	.
High (>50%)	1.04 (0.23)	0.52** (0.14)	0.66 (0.37)	1.17 (0.30)
Pct. of population foreign born in tract				
Low (<40%) ^[b]	.	.	.	.
High (>40%)	0.87 (0.18)	0.41*** (0.10)	0.85 (0.46)	0.85 (0.20)
Pct. of pop. 5-year non-movers in tract				
Low (<52%) ^[b]	.	.	.	.
High (>52%)	1.15 (0.20)	1.03 (0.23)	1.03 (0.47)	1.10 (0.23)
Pct. non-Eng./Span. speakers in tract				
Low (<5%) ^[b]	.	.	.	.
High (>5%)	1.18 (0.18)	1.37* (0.24)	1.37 (0.45)	1.01 (0.18)
Variance of tract random eff.	0.10*** (0.03)	0.02 (0.05)	0.00 (0.00)	0.11** (0.05)
Model chi-2 (df)	31.17*** (13)	42.82*** (13)	30.54*** (13)	32.98*** (13)
No. of cases	4,110	3,956	3,724	3,710

* $p < .10$; ** $p < .05$; *** $p < .01$; standard errors in parentheses; the z-test for the variance of the random effects is equivalent to a one-sided test with critical values of 1.282 for $p < .10$, 1.645 for $p < .05$, and 2.326 for $p < .01$.

Notes: [a] Model excluded outlier tracts.

[b] Reference category.

Table 19. Random effects logistic regression models of interview completion status with tract covariates

	RSA refused		PCG refused		RSC refused		Child (RSC + SIB) refused	
Tract percent in poverty								
Very poor (>41%)	1.26	(0.38)	0.85	(0.34)	1.30	(0.66)	1.29	(0.62)
Poor (20% – 41%)	1.31	(0.31)	0.97	(0.31)	1.60	(0.62)	1.45	(0.55)
Non-poor (< 20%) ^[a]	.	.	.	.	.	.	.	.
Tract race/ethnic composition								
High API	1.50*	(0.34)	0.97	(0.29)	1.30	(0.48)	1.64	(0.59)
Predominately white ^[a]	.	.	.	.	.	.	.	.
Latino + black	1.15	(0.36)	1.31	(0.53)	0.88	(0.47)	0.77	(0.38)
Predominately Latino	1.29	(0.32)	1.37	(0.44)	1.35	(0.56)	1.23	(0.49)
White + other	1.34	(0.28)	0.90	(0.25)	1.15	(0.39)	1.05	(0.34)
Pct. of HH with children in tract								
Low (<46%) ^[a]	.	.	.	.	.	.	.	.
High (>46%)	0.87	(0.15)	0.94	(0.21)	0.94	(0.26)	0.87	(0.24)
Pct. of HH owner-occupied in tract								
Low (<40%) ^[a]	.	.	.	.	.	.	.	.
High (>40%)	1.00	(0.19)	1.26	(0.32)	1.06	(0.34)	1.29	(0.38)
Pct. of HH non-family in tract								
Low (<21%) ^[a]	.	.	.	.	.	.	.	.
High (>21%)	0.80	(0.12)	0.94	(0.19)	0.69	(0.18)	0.71	(0.17)
Pct. of HH in multi-unit dwellings in tract								
Low (<33%) ^[a]	.	.	.	.	.	.	.	.
High (>33%)	0.76	(0.16)	0.61*	(0.16)	0.82	(0.27)	0.73	(0.23)
Pct. of population foreign born in tract								
Low (<40%) ^[a]	.	.	.	.	.	.	.	.
High (>40%)	0.98	(0.19)	1.05	(0.28)	0.70	(0.22)	0.84	(0.26)
Pct. of pop. 5-year non-movers in tract								
Low (<52%) ^[a]	.	.	.	.	.	.	.	.
High (>52%)	0.98	(0.16)	0.70	(0.15)	0.84	(0.23)	0.58**	(0.15)
Pct. non-Eng./Span. speakers in tract								
Low (<2%) ^[a]	.	.	.	.	.	.	.	.
High (>2%)	1.51***	(0.21)	1.71***	(0.32)	1.34	(0.32)	1.07	(0.25)
Variance of tract random eff.	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.12*	(0.08)
Model chi-2 (df)	27.99***	(13)	21.30*	(13)	14.56	(13)	14.81	(13)
No. of cases	3,085		2,306		1,069		1,700	

* $p < .10$; ** $p < .05$; *** $p < .01$; standard errors in parentheses; the z-test for the variance of the random effects is equivalent to a one-sided test with critical values of 1.282 for $p < .10$, 1.645 for $p < .05$, and 2.326 for $p < .01$.

Note: [a] Reference category.

Table 20. Summary statistics for household covariates by roster completion status

	Roster not completed			Total	Roster completed
	Unable to contact	Unable to communicate	Refused		
Housing type					
Apartment	53%	66%	36%	43%	46%
Single family dwelling	42	29	56	49	51
Other	2	1	1	2	2
Missing	3	4	7	6	1
Estimate of rent					
< \$500	15%	10%	10%	11%	15%
\$500 - \$999	48	47	41	43	51
\$1000 - \$1999	20	32	27	25	23
\$2000 - \$2999	7	3	7	7	5
\$3000+	7	4	8	8	5
Missing	3	4	7	6	1
Age of screener respondent					
18-24	8%	9%	6%	6%	8%
25-34	26	10	19	20	32
35-54	48	36	47	48	45
55-69	9	19	13	12	9
70+	1	10	6	5	3
Missing	8	16	9	9	3
Sex of screener respondent					
Male	41%	38%	36%	38%	36%
Female	54	52	56	55	62
Missing	5	10	8	7	2
Race of screener respondent					
Latino	50%	1%	33%	35%	51%
White	26	31	33	30	25
Black	8	3	8	8	9
Asian	8	47	8	12	7
Pacific Islander	1	1	1	1	1
Missing	7	17	17	14	7
Screener language					
English	63%	85%	71%	70%	64%
Spanish	33	1	22	23	35
No interview	2	11	1	2	1
Missing	2	3	6	5	0
Household type					
No children	34%	47%	36%	37%	23%
With children	65	49	60	60	77
Missing	1	4	4	3	0
No. of dwellings	302	90	622	1,025	3,085

Table 21. Summary statistics for household and individual covariates by interview completion status for sampled respondents

	RSA		PCG		RSC		Child	
	Refusal	Complete	Refusal	Complete	Refusal	Complete	Refusal	Complete
Housing type								
Apartment	42%	47	40	48	36	44	36	44
Other	58	53%	60%	52%	64%	56%	64%	56%
Estimate of rent								
< \$500	16%	15%	16%	14%	12%	11%	13%	11%
\$500 - \$999	49	51	49	53	48	50	50	51
\$1000 - \$1999	24	23	23	23	27	27	25	26
\$2000 - \$2999	5	5	6	5	7	6	6	6
\$3000+	5	5	6	4	5	5	5	5
Missing	1	1	0	1	1	1	1	1
Total household residents	4.69 (1.83)	4.10 (1.94)	5.05 (1.74)	4.76 (1.69)	4.84 (1.62)	4.76 (1.69)	5.01 (1.58)	4.98 (1.65)
Interviewed in Spanish								
Yes	42%	39%	41%	43%	32%	34%	35%	37%
No	58	61	59	57	68	66	65	63
Speaks language other than English/Spanish								
Yes	16%	11%	15%	11%	11%	13%	10%	12%
No	84	89	85	89	89	87	90	88
Relationship to HH head								
HH head	57%	70%	40%	51%	53%	55%	52%	55%
Spouse/partner	17	16	45	40	39	39	40	40
Child	10	7	8	4	4	2	4	1
Other relative	12	5	5	4	2	3	3	3
No relation	4	2	2	1	2	1	1	1
Age (years)	40.00 (14.73)	39.68(14.49)	36.37 (8.27)	36.30 (9.24)	12.95 (2.61)	12.84 (2.63)	12.70 (2.60)	12.70 (2.62)
Sex								
Female	45%	59%	97%	98%	49%	49%	50%	49%
Male	55	41	3	2	51	51	50	51
Race/ethnicity								
Latino	59%	55%	64%	61%	57%	50%	59%	55%
White	20	27	16	22	21	28	20	25
Black	8	10	7	9	12	12	11	11
Asian	12	7	12	7	9	9	9	8
Other	1	1	1	1	1	1	1	1

(Continued)

Table 21. Summary statistics for household and individual covariates by interview completion status for sampled respondents, *continued*

	RSA		PCG		RSC		Child	
	Refusal	Complete	Refusal	Complete	Refusal	Complete	Refusal	Complete
Education								
Not high school graduate	35%	35%	38%	40%	36%	37%	38%	40%
High school graduate	24	20	21	18	24	19	22	18
Some college	19	24	23	24	23	24	24	23
College graduate	15	19	13	17	12	19	12	18
Missing	7	2	5	1	5	1	4	1
Married or cohabiting								
No	32%	38%	20%	25%	24%	28%	24%	25%
Yes	68	62	80	75	76	72	76	75
On public assistance								
Yes	7%	11%	9%	16%	8%	15%	11%	15%
No	93	89	91	84	92	85	89	85
PCG and RSA respondent								
Yes	29%	40%	41%	53%				
No	71	60	59	47				
Has children under 18								
Yes	64%	63%						
No	36	37						
Child respondent								
SIB							36	37
RSC							64%	63%
No. of cases	465	2,620	261	2,045	180	889	282	1,418

Note: For RSCs and SIBs, age, sex and race/ethnicity reflect the child's own characteristics while education, marital status, public assistance, language, and relationship to the household head refer to the characteristics of the child's PCG.

Table 22. Random effects logistic regression models of roster completion status with household and individual covariates

	Roster not completed		Unable to contact ^[a]		Unable to communicate ^[a]		Roster refusal	
Housing type								
Apartment ^[b]	.	.	.	.	.	.	.	.
Single family	0.81**	(0.08)	0.95	(0.16)	0.35***	(0.12)	0.98	(0.12)
Other	0.62	(0.19)	1.00	(0.51)	0.37	(0.42)	0.55	(0.22)
Missing	3.40*	(2.44)	0.98	(1.02)	5.05	(9.56)	4.09*	(3.37)
Estimate of rent								
<\$500	0.97	(0.13)	0.95	(0.19)	1.98	(1.01)	0.94	(0.16)
\$500-999 ^[b]	.	.	.	.	.	.	.	.
\$1000-1999	1.24**	(0.14)	0.90	(0.17)	2.25**	(0.85)	1.27*	(0.17)
\$2000-2999	1.44*	(0.28)	0.93	(0.34)	0.95	(0.71)	1.48*	(0.33)
\$3000+	1.27	(0.28)	0.44	(0.24)	1.66	(1.04)	1.41	(0.35)
Missing	0.89	(0.62)	1.88	(1.88)	0.43	(0.78)	1.19	(0.95)
Age of screener respondent								
18-24	0.72**	(0.11)	0.84	(0.21)	2.21*	(1.04)	0.63**	(0.13)
25-34	0.63***	(0.06)	0.70**	(0.12)	0.36*	(0.19)	0.60***	(0.07)
35-54 ^[b]	.	.	.	.	.	.	.	.
55-69	0.93	(0.12)	0.63*	(0.16)	1.96	(0.85)	0.91	(0.14)
70+	1.14	(0.23)	0.24**	(0.14)	3.23**	(1.90)	1.29	(0.30)
Missing	1.25	(0.36)	3.31***	(1.40)	11.63***	(8.47)	0.45*	(0.19)
Sex of screener respondent								
Male	1.07	(0.09)	1.11	(0.16)	0.85	(0.26)	0.97	(0.10)
Female ^[b]	.	.	.	.	.	.	.	.
Missing	0.92	(0.32)	0.85	(0.46)	0.51	(0.43)	1.23	(0.54)
Race of screener respondent								
Latino ^[b]	.	.	.	.	.	.	.	.
White	1.21	(0.15)	0.74	(0.16)	1.58	(0.86)	1.31*	(0.20)
Black	0.94	(0.15)	0.90	(0.24)	1.53	(1.15)	0.90	(0.18)
Asian	1.92***	(0.29)	0.88	(0.24)	34.68***	(17.27)	1.37	(0.27)
Other	1.33	(0.51)	0.70	(0.53)	1.80	(1.98)	1.82	(0.78)
Missing	1.33*	(0.22)	0.30***	(0.11)	1.90	(1.31)	1.91***	(0.36)
Screener language								
English ^[b]	.	.	.	.	.	.	.	.
Spanish	0.85	(0.10)	1.03	(0.19)	0.10**	(0.11)	0.80	(0.12)
No interview	1.73	(0.58)	1.29	(0.71)	6.40***	(3.74)	0.76	(0.40)
Missing	2.29	(1.16)	0.47	(0.42)	0.05**	(0.08)	2.88*	(1.62)
Household type								
No children ^[b]	.	.	.	.	.	.	.	.
With children	0.56***	(0.05)	0.51***	(0.08)	0.43**	(0.14)	0.58***	(0.07)
Missing	3.32*	(2.04)	1.20	(0.97)	7.51*	(8.71)	3.14*	(2.07)
Variance of tract random eff.	0.13***	(0.04)	0.21***	(0.09)	0.06	(0.25)	0.13***	(0.05)
Model chi-2 (df)	213.78***	(25)	54.13***	(25)	153.43***	(25)	180.03***	(25)
No. of cases	4,110		3,956		3,724		3,710	

* $p < .10$; ** $p < .05$; *** $p < .01$; standard errors in parentheses; the z-test for the variance of the random effects is equivalent to a one-sided test with critical values of 1.282 for $p < .10$, 1.645 for $p < .05$, and 2.326 for $p < .01$.

Notes: [a] Model excluded outlier tracts.

[b] Reference category.

Table 23. Random effects logistic regression models of interview completion status with household and individual covariates

	RSA refused		PCG refused		RSC refused		Child (RSC + SIB) refused	
Housing type								
Apartment	0.81	(0.11)	0.72*	(0.12)	0.65*	(0.14)	0.64**	(0.12)
Other ^[a]	.	.	.	.	.	.	.	.
Estimate of rent								
< \$500	1.35*	(0.22)	1.62**	(0.33)	1.64*	(0.48)	1.58**	(0.36)
\$500 - \$999 ^[a]	.	.	.	.	.	.	.	.
\$1000 - \$1999	0.99	(0.14)	0.96	(0.18)	0.95	(0.21)	0.87	(0.16)
\$2000 - \$2999	0.87	(0.24)	1.36	(0.45)	1.19	(0.47)	0.96	(0.34)
\$3000+	1.18	(0.34)	2.05**	(0.72)	1.73	(0.80)	1.31	(0.53)
Missing	1.54	(0.89)	0.71	(0.74)	0.68	(0.74)	1.08	(0.88)
No. household residents	1.04	(0.03)	1.01	(0.05)	0.92	(0.05)	0.94	(0.05)
Interviewed in Spanish								
Yes	0.89	(0.14)	0.71*	(0.14)	0.66*	(0.16)	0.73*	(0.14)
No ^[a]	.	.	.	.	.	.	.	.
Speaks other language								
Yes	1.72***	(0.35)	1.48	(0.40)	1.00	(0.35)	1.06	(0.30)
No ^[a]	.	.	.	.	.	.	.	.
Relationship to HH head								
HH head ^[a]	.	.	.	.	.	.	.	.
Spouse/partner	1.26	(0.19)	1.14	(0.20)	0.90	(0.18)	0.93	(0.15)
Child	2.41***	(0.57)	1.82**	(0.56)	2.85**	(1.39)	2.47**	(1.06)
Other relative	2.79***	(0.59)	1.38	(0.48)	0.67	(0.43)	1.07	(0.45)
No relation	2.93***	(0.95)	2.11	(1.09)	5.25**	(3.96)	2.87	(1.94)
Age (years)	1.01**	(0.00)	1.00	(0.01)	1.01	(0.03)	1.00	(0.03)
Sex								
Female ^[a]	.	.	.	.	.	.	.	.
Male	1.35*	(0.21)	1.28	(0.55)	0.98	(0.17)	0.97	(0.13)
Race/ethnicity								
Latino ^[a]	.	.	.	.	.	.	.	.
White	0.78	(0.14)	0.62**	(0.15)	0.62*	(0.16)	0.64**	(0.14)
Black	0.91	(0.20)	0.82	(0.24)	0.95	(0.29)	0.83	(0.21)
Asian	1.42	(0.36)	1.28	(0.42)	1.14	(0.44)	0.99	(0.32)
Other	0.58	(0.32)	0.88	(0.58)	0.57	(0.49)	0.43	(0.34)
Education								
Not HS graduate ^[a]	.	.	.	.	.	.	.	.
High school graduate	1.20	(0.18)	1.01	(0.20)	1.05	(0.26)	1.12	(0.23)
Some college	0.84	(0.15)	0.77	(0.17)	0.75	(0.21)	0.97	(0.22)
College graduate	0.67*	(0.14)	0.47***	(0.14)	0.41**	(0.15)	0.59*	(0.17)
Missing	3.14***	(0.84)	4.66***	(1.82)	7.25***	(4.16)	5.19***	(2.35)
Married or cohabiting								
No	0.83	(0.13)	0.92	(0.19)	0.78	(0.19)	0.89	(0.17)
Yes ^[a]	.	.	.	.	.	.	.	.
On public assistance								
Yes	0.74	(0.16)	0.54**	(0.13)	0.49**	(0.16)	0.65*	(0.15)
No ^[a]	.	.	.	.	.	.	.	.
PCG & RSA respondent								
Yes	0.74	(0.14)	0.82	(0.13)				
No ^[a]	.	.	.	.

(Continued)

Table 23. Random effects logistic regression models of interview completion status with household and individual covariates, *continued*

	RSA refused	PCG refused	RSC refused	Child (RSC + SIB) refused
Has children under 18				
Yes	1.81*** (0.31)			
No ^[a]	.	.		
Child respondent				
SIB ^[a]				.
RSC				1.04 (0.15)
Var. of tract random eff.	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.15*** (0.09)
Model chi-2 (df)	160.00*** (27)	73.68*** (26)	48.15*** (25)	45.36*** (26)
No. of cases	3,085	2,306	1,069	1,700

* $p < .10$; ** $p < .05$; *** $p < .01$; standard errors in parentheses; the z-test for the variance of the random effects is equivalent to a one-sided test with critical values of 1.282 for $p < .10$, 1.645 for $p < .05$, and 2.326 for $p < .01$. For RSCs and SIBs, age, sex and race/ethnicity reflect the child's own characteristics while education, marital status, public assistance, language, and relationship to the household head refer to the characteristics of the child's PCG.
Notes: [a] Reference category.