Differing Person Nonresponse Rate by Interview Length and Respondent Characteristics: Results from the 2011 SIPP-EHC Field Test

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This paper evaluates interview-length paradata from the 2011 test of the re-engineered Survey of Income and Program Participation (SIPP-EHC) to explore the incidence of person-level non-response in interviewed households. The results[2] suggest that non-response is influenced by the length of the first interviewed person's interview, with longer first interviews being associated with subsequent person non-response. Logistic regression is used to model the odds of person non-response considering interviewer-level, first-person interview-length, household characteristic, and non-respondent characteristic effects at the household- and person-levels. This analysis suggests that interview length has an influence similar in sign and magnitude on the incidence of person-level response in both household-level and person-level analyses.

Introduction

The Census Bureau is re-engineering the Survey of Income and Program Participation (SIPP). The SIPP is a longitudinal household survey in which data is collected from households three times a year, typically over four years. Beginning in 2014, the re-engineered SIPP (SIPP-EHC) will collect data from households only once a year. It will maintain the current four year panel length and utilize an event history calendar (EHC) to assist respondent recall and maintain data quality.

In 2010 and 2011 the Census Bureau field tested two different versions of the SIPP-EHC instrument. The Bureau is in the process of evaluating and improving the SIPP-EHC instrument. Data collected in these two pilots is being compared to data collected by the current instrument, and the interviewer procedures and software used are also being evaluated. In the process of this evaluation, it was observed that the rate of non-response of individuals within households where at least some members completed the interview was higher in the 2010 field test than in a comparable sample of households interviewed using the current instrument (SIPP-EHC Data Evaluation Workgroup, 2011.) This did not come as a complete surprise to the redesign team. While a single annual interview can seem less burdensome to respondents than thrice-yearly data collection, interviews performed with the annual SIPP-EHC instrument can be longer than the interviews using the current instrument.

This paper combines interview length information from paradata, interviewer characteristics, and respondent-supplied data from the 2011 pilot to analyze the factors associated with person-level non-response. Our hypothesis is that the interview length of the first person interviewed has a strong effect on the odds of later household members' decision to participate, with longer first person interviews being associated with higher odds of observed

[1] Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

[2] The proportions and other statistics in the text and tables of this report describe the samples considered here for the purpose of evaluating the 2011 SIPP-EHC Field Test. The weighting and design effects necessary to interpret the reported statistics as estimates of underlying population parameters have not been incorporated into these results. Apparent differences may not be statistically significant, but all comparative statements in this report have undergone statistical testing and are significant at the 90% confidence level.

non-response in the household. In the process of our analysis, we also consider the effects of interviewer experience, as well as the effects of demographic and social characteristics of the respondents themselves.

Data

The SIPP-EHC pilot conducted in the spring of 2011 had a sample size of 4,051 households, and interviewed individuals using interviewers from all 12 regional offices around the country. The pilot over-sampled households in low-income strata with a sample design otherwise identical to the one used for the current SIPP. The data collected cover a wide range of demographic and socio-economic topics.

The interview begins by asking the first respondent to list, or roster, all of the people who usually live at the housing unit and to give basic demographic data on all household members. This structure allows us to have age, sex, race, ethnicity, and educational attainment about all household members, even if they subsequently decline to participate. The instrument is administered in person by an interviewer, or field representative, on a laptop computer. The software collects data on the time it takes to complete each item in the interview, which we use in this analysis. The time to complete each person's interview is calculated, and the total household interview time is also calculated. In addition, information about interviewers is available, including whether they were a senior interviewer, the number of years of Census interviewing experience they had, and the number of years of SIPP interviewing experience they had.

These demographic data for all respondents and non-respondents, time of interview data, and interviewer data were combined with detailed data from the core section of the SIPP-EHC instrument from respondents to form the data set used in this paper. Since we are interested in the response behavior of adults, the persons in the analysis were restricted to age 15 and above. Since we are interested in the relationship between the length of the first interview and subsequent respondents' behavior, we further restricted our analysis to households with at least two adults. Of course, to examine this relationship, we also need an adult in the household to have completed the interview, or at a minimum, have completed a sufficient partial interview. A sufficient partial interview is achieved when a respondent has rostered the household members and has completed at least the EHC portion of the survey. We restricted ourselves to households that had at least one sufficient partial. With these restrictions in place, we were ready to begin our analysis.

Descriptive Statistics

After applying the restrictions described in the paragraph above, the 4,051 interviewed households were reduced to 1,809 suitable for analysis. These 1,809 households contained a total of 4,528 adults. 517 of these adults were non-respondents, and 287 households contained at least one non-respondent.

If we consider the length of the interview of the first person interviewed, we can look at the household-level column of Table 1, since the household-level data is taken from the first person interviewed. We see that 27% of first person interviews were shorter than 30 minutes, and about three-quarters of first person interviews were shorter than 60 minutes (74.7%). Ninety-seven percent of first-interviewed respondents completed the entire interview. A larger share of these first persons interviewed were 35 or older than the other adult members of the household, whose data is reflected in the column labeled "Potential non-respondents, first person removed." This is not surprising, as children over 15 are included in this analysis, but their parents would be more likely to be the first person interviewed, even if all household members were present. While the adults interviewed were more likely to be female than male (52.6% vs 47.4%) the first interviewed people were even more likely to be female than the overall adult respondents (59.4%). One-quarter of the adults in this analysis were Black, 6% were Asian, and 23% reported some other race, or more than one race. 44% of the adults interviewed were Hispanic. First-interviewed persons had a higher educational attainment (defined as some college or BA or higher) than potential non-respondents, first person removed. However, this is not surprising, as the potential non-respondent group would tend to include adult children who, while 15 or older, may not have finished high school yet, let alone any college.

If we consider Table 2, we see interview-level characteristics. Over one-quarter (27.6%) of interviewed households participated in some social welfare program (SSI, WIC, Food Stamps, TANF, or general assistance). Over one-third of residences (36%) were owner-occupied, and 40% of households were of size four or more. Turning to the column titled "All adults living in households with at least 2 adults" we see that senior field interviewers conducted about 6% of the interviews in the analysis. More than half of all interviews (56.1%) were conducted by field

representatives, or interviewers, with one year of Census interviewing experience or less. About 15% of interviews were conducted by interviewers with 5 years of Census interviewing experience or more. About two-fifths of all interviews were conducted by interviewers with previous SIPP interviewing experience. The interviews were conducted by all twelve regional offices, but Los Angeles accounted for about 27% of all interviews conducted, and Dallas for about 14%. The regional office that contributed the fewest number of interviews to this analysis was Denver, with about 2%.

Household-Level Analysis

For our household-level analysis, the dependent variable was whether at least one person-level non-response was observed in a given household. We were interested in this type of analysis as a way of responding to reviewers' comments about concerns with collinearity in our person-level analysis presented below. Essentially, in that analysis we consider non-first persons as if they are all independent, but of course some of these people are in the same households with others, so interview order and respondent fatigue may affect the relationships we're trying to examine. For the household-level analysis, our dependent variable, "Was any adult in the household a non-respondent?" allows us to examine first person and interviewer-level data and to ignore issues of interview order.

There were 1,809 households, 287 of which had at least one non-respondent, and 1,522 of which did not. If we first specify a model (Model 1, Table 3) of just three measures of the length of the first person's interview, more than 30 minutes but less than 60, more than 60 but less than 90, and over 90 minutes, with interviews of 30 minutes or fewer as our reference group, we find that all three are significant, with longer first person interviews being associated with a higher likelihood of some person non-response at some point in the household roster. It is interesting to note, however, that for interviews of more than 90 minutes the odds of an observed non-response are 260% larger than for interviews shorter than 30 minutes. Households with a first person interview length of either 30 minutes up to 60 minutes, or 60 minutes up to 90 minutes have 70% higher odds of any non-respondent in their household than households with shorter first interviews.

If we specify a similar model, Model 1A (Table 3), but change it to include the "first person completed full interview" variable, we find the coefficients had similar patterns in magnitude and direction, and all remain significant. The completed interview variable is also significant, and has a large magnitude.

Model 2, in Table 4, evaluates the effect of interviewer and regional office attributes and the length of the first person's interview on the likelihood of observing at least one adult non-respondent in a given household. The effects of the length of the first person's interview are largely similar to those in all other analyses, in both sign and magnitude. Senior Field Interviewers exhibit a strong association with avoiding non-response within the household, and years of SIPP experience do as well, although not as strongly. Larger households are associated with observing at least one person non-response, as is a high share of interviews in the household conducted by proxy.

Although at the household-level we can't look at the demographic characteristics of potential non-respondents, we can specify a model that takes into account the characteristics of the first person interviewed in each household. Model 3 in Table 5 evaluates the effect of these first person-level demographic variables and the length of the first person's interview on the likelihood of observing at least one adult non-respondent in a given household. In this model, the effects of first person interview length are virtually unchanged from those in Model 1A, displayed on the left. The odds of a non-response in the household where the first person is male or Black are 31% and 40% lower than for households where the first person is female or White, respectively. Several of the first person characteristics variables are not significant in predicting non-response at some point in the household interview. Owner-occupied housing units have 46% smaller odds of observing any non-response, at the unit level.

Model 4 takes advantage of the previous three models and incorporates statistically significant variables from them to construct a model, as presented in Table 6. Almost all of the parameters are significant with similar signs and magnitudes as in the previous three models.

Person-Level Analysis

In order to further evaluate the effect of the first person's interview on non-response by other household members, we also did a person-level analysis. In order to look at the likelihood of any person responding or choosing not to respond we constructed a dataset in which we appended first-person interview and demographic characteristics to all

household members, and then removed those first person respondents. Since we have required the first person in each household to have responded for entry into our analysis, we can't consider those first people in our non-response analysis. After this restriction, our "no first person" dataset had 2,719 people, 2,202 of whom responded, and 517 of whom did not respond.

Logistic regression was used to model, for each individual, their likelihood of non-response, where non-respondents were assigned a value of 1, and respondents a value of 0. We specified several models, all with this same dependent variable. In our first model, we look only at the effect of the length of the first person's interview as reflected through four dichotomous variables for interview length in minutes. The first of these was for interviews less than thirty minutes, the next for interviews greater than or equal to 30 minutes, but shorter than 60 minutes, a similar one for interviews between 60 and 90 minutes, and finally one for interviews 90 minutes or longer. As in Tables 3-6, we use interviews 30 minutes or shorter as our reference category. We also construct a dummy variable for whether the first person's interview was a complete interview or only a sufficient partial, with the assumption that complete interviews and sufficient partials affect subsequent respondents differently. As shown in Table 7, all coefficients are significant, and the log odds ratios show longer interviews increasing the odds of non-response and having a stronger effect the longer that first interview is.

In our second model, we consider interview-level effects, such as the regional office associated with the interview, the interviewer's years of interviewing experience, whether the interviewer is a senior interviewer, the size of the household, and the length of the first person's interview. We also construct a variable for the share of household members interviewed by proxy. The SIPP-EHC allows respondents to give interviews by proxy for household members who are unable to participate. However, we feel there may be some relationship between non-response and the number of proxied interviews, perhaps as a high number of proxies would indicate a household's lack of enthusiasm for participation. Alternatively, one respondent may be answering for an entire household, giving a self interview followed by several proxy interviews. If this first person becomes unwilling to continue providing responses for the every member of the household, it would result in non-response by other household members that is primarily caused by respondent fatigue, and not by characteristics of the non-interviewed person. When we look at Model 2, also in Table 7, we see that first person interview length remains significant. Household size is significant, and senior field representative status was significant and negative, so that respondents interviewed by an SFR had odds of non-response that were 80% smaller than respondents who interacted with other interviewers. Familiarity with the SIPP instrument was shown to be helpful in reducing non-response, as for every additional year of interviewer experience with the SIPP, respondents' odds of responding to the interview were 55% higher. Larger household sizes were associated with higher odds of non-response, and the share of household members who were proxied for was also positively associated with non-response.

Our third model evaluated the demographic characteristics collected in the household roster section at the beginning of the SIPP-EHC instrument. We thought it would be interesting to try to predict the likelihood of non-response by using the attributes of the potential non-respondents themselves, together with the length of the first person's interview, first person interview complete, and share of household members proxied variables. The results are presented in Table 8, Model 3. The first person's interview length is still significant and behaves the same way as in previous models described. Men had better odds of responding to the survey than women. Respondents who were of a race other than Black, Asian, or White had higher odds of response than the reference group, White respondents. Blacks had odds of responding that were 31% higher than Whites. When compared to high school graduates, those with less than a high school degree were more likely to be non-respondents. Respondents in households where a language other than English was spoken had higher odds of non-response. Participation in a social program (SSI, WIC, Food Stamps, TANF, or general assistance) was strongly associated with non-response. The first person interview complete variable is highly significant, and positive, such that completion of the first interview is highly associated with non-response later in the household. This outcome bears further investigation.

After considering several models, we specify a model that uses significant variables from the earlier models, and includes geographic controls. This results of this model are presented in Table 9. The first person interview length is significant, with longer interviews being associated with a higher likelihood of non-response. The first person complete interview variable also remained significant. The share of household interviews conducted by proxy, number of people in the household, and participation in a social program were all associated with higher odds of non-response, as were educational attainment less than high school and speaking a language other than English at home. Meanwhile, interviews conducted by a senior field representative and by interviewers with previous SIPP

experience had lower odds of ending in non-response. Interviews with potential non-respondents who were male or who were of a race other than Black, Asian, or White also had lower odds of ending in non-response when compared to female and White respondents, respectively.

Conclusions/Future Research

The household- and person-level analyses support our hypothesis that non-response can be predicted by the length of the first person's interview. Regional office variations were significant in the odds of non-response, in both the person- and household-level analyses. Over several analyses, most race and education variables did not seem to have a significant effect in predicting non-response. At the household- and person-levels, senior field interviewers had a significant negative effect on the odds of non-response occurring, as did interviewer experience with the SIPP instrument. Larger households had higher odds of observing non-response in the household, compared to smaller households. These results were expected, as senior field interviewers attain that status in part because they are better convincers than average interviewers. Meanwhile, larger households give more opportunities for refusal and for inability to locate respondents for interview, which can be independent of interview length. For similar interview lengths across respondents, the more respondents there are in a household, the longer the aggregate amount time spent, and we can expect this to increase the odds of some non-response.

The results of the household analysis, Model 1, suggest that the effect of first person interview length on non-response is not linear, and that there may be a saturation point before which the odds of observing a non-response in the household is increasing slowly, and after which the odds of observation increase dramatically. In regards to future research, some next steps we plan to undertake involve doing a survival analysis to see if we can identify a saturation point, as well as a look into the effect of proxy interviews and their relationship to non-response.

Although the person-level analyses are interesting, these results should be considered with caution. The dependent nature of the non-response behavior across household members suggests that the correct frame for analysis is a hierarchical model with persons nested in households, so that household- and person-level effects can be quantified. This will be the focus of our work in the spring of 2012.

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Table 1: Characteristics of All Persons and Households in Analysis SIPP-EHC 2011

	All adults living in households with at least 2 adults		Household level* (one record per household)		Potential non-respondents, first person removed	
	Total	Percent	Total	Percent	Total	Percent
N=	4,528	100.0	1,809	100.0	2,719	100.0
Non respondents	517	11.4	287	15.9	517	19.0
First Person's interview length						
up to 30 min	1,113	24.7	487	26.9	652	24.0
30 to up to 60 min	2,127	47.3	864	47.8	1,263	46.5
60 min up to 90 min	853	19.0	308	17.0	545	20.0
90 min or more	409	9.1	150	8.3	259	9.5
First Person completed entire interview	4,385	96.8	1,762	97.4	2,623	96.5
Age distribution						
15-19 yrs. Old	547	12.1	41	2.3	506	18.6
20-24 yrs. Old	592	13.1	200	11.1	392	14.4
25-34 yrs. Old	920	20.3	382	21.1	538	19.8
35-44 yrs. Old	823	18.2	409	22.6	414	15.2
45-54 yrs. Old	728	16.1	340	18.8	388	14.3
55 yrs. and up	918	20.3	437	24.2	481	17.7
Sex						
Men	2,147	47.4	734	40.6	1,413	52.0
Women	2,381	52.6	1,075	59.4	1,306	48.0
Race						
White alone	2,061	45.5	837	46.3	1,224	45.0
Black alone	1,138	25.1	489	27.0	649	23.9
Asian alone	289	6.4	98	5.4	191	7.0
All other races	1,040	23.0	385	21.3	655	24.1
Hispanic	2,001	44.2	748	41.3	1,253	46.1
Language other than English at home	2,124	46.9	834	46.1	1,290	47.4
Married	1,796	39.7	786	43.4	1,010	37.1
Educational attainment						
LT high school graduate	1,787	39.5	580	32.1	1,207	44.4
High school grad	1,239	27.4	493	27.3	746	27.4
Some college	989	21.8	463	25.6	526	19.3
BA degree or higher	513	11.3	273	15.1	240	8.8

* All demographic figures for household are for first person interviewed in household

Note: All individuals in analysis are adults, defined as 15 years or older.
Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 2: Interview-level Characteristics, SIPP-EHC 2011

	All adults living in households with at least 2 adults		Household level* (one record per household)		Potential non-respondents, first person removed	
	Total	Percent	Total	Percent	Total	Percent
N=	4,528	100.0	1,809	100.0	2,719	100.0
Non respondents	517	11.4	287	15.9	517	19.0
Participated in a social welfare program	807	17.8	499	27.6	308	11.3
Own housing unit	1,778	39.3	651	36.0	1,127	41.4
Household size (any ages)						
2	1,265	27.9	675	37.3	590	21.7
3	957	21.1	408	22.6	549	20.2
4 or more	2,306	50.9	726	40.1	1,580	58.1
Interviewed by Senior Field Interviewer	270	6.0	118	6.5	152	5.6
Years of experience interviewing for Census						
none	1,068	23.6	419	23.2	649	23.9
up to one year	1,470	32.5	597	33.0	873	32.1
one year up to 5 years	1,323	29.2	511	28.2	812	29.9
5 years or more	667	14.7	282	15.6	385	14.2
Previous SIPP interviewing experience	1,856	41.0	734	40.6	1,122	41.3
Regional Office						
Atlanta	445	9.8	176	9.8	269	9.9
Boston	287	6.3	121	6.7	166	6.1
Charlotte	144	3.2	66	3.7	78	2.9
Chicago	253	5.6	106	5.9	147	5.4
Dallas	639	14.1	251	14.0	388	14.3
Denver	106	2.3	42	2.3	64	2.4
Detroit	221	4.9	98	5.4	123	4.5
Kansas City	152	3.4	66	3.7	86	3.2
Los Angeles	1,226	27.1	446	24.8	780	28.7
New York	629	13.9	247	13.7	372	13.7
Philadelphia	289	6.4	123	6.8	166	6.1
Seattle	137	3.0	57	3.2	80	2.9

* All demographic figures for household are for first person interviewed in household

Note: All individuals in analysis are adults, defined as 15 years or older.

Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 3: Probability of observing at least one Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

Number of Households (n=1809, 287 with a non-respondent and 1522 without)

	Model 1, first person interview length only				*Model 1A, first person interview length only*			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*	*Odds Ratio*	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter								
Intercept	0.027	**-3.604**	0.426	<.0001	0.028	**-3.561**	0.444	<.0001
First person interview:								
30<= interview < 60 minutes	1.701	**0.531**	0.146	0.000	1.673	**0.515**	0.156	0.001
60<= interview < 90 minutes	1.710	**0.536**	0.196	0.006	1.543	**0.434**	0.205	0.034
interview >= 90 minutes	3.600	**1.281**	0.332	0.000	3.223	**1.170**	0.343	0.001
First person interview complete					63.593	**4.153**	0.529	<.0001

Note: reference group for first person interviews is less than 30 minutes

Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 4: Probability of observing at least one Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

	Number of Households (n=1809, 287 with a non-respondent and 1522 without)							
	Model 1A, first person interview length only				*Model 2, selected interview level characteristics and first person interview length*			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*	*Odds Ratio*	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter								
Intercept	0.028	**-3.561**	0.444	<.0001	0.000	**-22.083**	3.048	<.0001
First person interview:								
30<= interview < 60 minutes	1.673	**0.515**	0.156	0.001	1.979	**0.683**	0.177	0.000
60<= interview < 90 minutes	1.543	**0.434**	0.205	0.034	2.402	**0.876**	0.236	0.000
interview >= 90 minutes	3.223	**1.170**	0.343	0.001	4.846	**1.578**	0.379	<.0001
First person interview complete	63.593	**4.153**	0.529	<.0001	87.427	**4.471**	0.559	<.0001
Senior Field Interviewer					0.260	**-1.348**	0.267	<.0001
Years of experience interviewing for Census					1.008	0.008	0.031	0.790
Previous SIPP experience, Y/N					0.453	**-0.792**	0.223	0.000
Number of people in the household					1.799	**0.587**	0.053	<.0001
Share of hh members that are proxied					48.511	**3.882**	0.432	<.0001
Atlanta					4.546	**1.514**	0.375	<.0001
Boston					2.892	**1.062**	0.386	0.006
Charolotte					3.637	**1.291**	0.494	0.009
Dallas					3.982	**1.382**	0.343	<.0001
Denver					17.547	**2.865**	0.897	0.001
Detroit					1.640	0.495	0.382	0.195
Kansas City					4.513	**1.507**	0.558	0.007
Los Angeles					3.418	**1.229**	0.303	<.0001
New York					2.022	**0.7042**	0.3107	0.0234
Philadelphia					1.935	**0.6601**	0.3663	**0.0715**
Seattle					9.281	**2.228**	0.635	0.0005

Note: omitted city is Chicago, reference group for first person interviews is less than 30 minutes

Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 5: Probability of observing at least one Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

	Number of Households (n=1809, 287 with a non-respondent and 1522 without)							
	Model 1A, first person interview length only				*Model 3, first person characteristics and first person interview length*			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*	*Odds Ratio*	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter								
Intercept	0.028	**-3.561**	0.444	<.0001	0.064	**-2.746**	0.791	0.001
First person interview:								
30<= interview < 60 minutes	1.673	**0.515**	0.156	0.001	1.771	**0.571**	0.162	0.000
60<= interview < 90 minutes	1.543	**0.434**	0.205	0.034	1.689	**0.524**	0.211	0.013
interview >= 90 minutes	3.223	**1.170**	0.343	0.001	3.248	**1.178**	0.350	0.001
First person interview complete	63.593	**4.153**	0.529	<.0001	64.225	**4.162**	0.534	<.0001
First person's age					0.993	-0.007	0.005	0.166
First person- male					0.689	**-0.373**	0.150	0.013
First person- Black					0.602	**-0.508**	0.185	0.006
First person- Asian					0.838	-0.176	0.345	0.610
First person- Some other race					0.572	**-0.559**	0.191	0.003
First Person- Less than HS					1.319	0.277	0.189	0.143
First Person- Some college					1.285	0.251	0.188	0.183
First Person- BA or higher					1.224	0.202	0.222	0.363
First person- Language other than English at home					1.085	0.082	0.176	0.643
First Person Employed					0.945	-0.056	0.158	0.723
First Person Married					1.190	0.174	0.158	0.271
Participated in a social welfare program (household level)					1.347	0.298	0.191	0.119
Housing Unit is Owned (household level)					0.548	**-0.601**	0.160	0.000

Note: reference group is white, hs graduate, reference group for first person interviews is less than 30 minutes

Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 6: Probability of observing at least one Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

	Number of Households (n=1809, 287 with a non-respondent and 1522 without)			
	Model 4, selected interview-level and first-person characteristics, and first person interview length			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter				
Intercept	0.000	**-19.8881**	3.1146	<.0001
First person interview:				
30<= interview < 60 minutes	2.058	**0.722**	0.179	<.0001
60<= interview < 90 minutes	2.513	**0.921**	0.239	0.000
interview >= 90 minutes	4.825	**1.574**	0.377	<.0001
First person interview complete	82.327	**4.411**	0.556	<.0001
First person male	0.777	-0.253	0.157	0.108
First person Black	0.637	**-0.451**	0.189	0.017
First person Some other race	0.633	**-0.457**	0.198	0.021
Housing Unit is Owned (household level)	0.757	**-0.279**	0.163	0.086
Senior Field Interviewer	0.251	**-1.383**	0.261	<.0001
Previous SIPP experience, Y/N	0.496	**-0.700**	0.169	<.0001
Number of people in the household	1.768	**0.570**	0.054	<.0001
Share of hh members that are proxied	43.052	**3.762**	0.445	<.0001
Atlanta	4.279	**1.454**	0.380	0.000
Boston	2.589	**0.951**	0.392	0.015
Charolotte	3.455	**1.240**	0.500	0.013
Dallas	3.719	**1.313**	0.346	0.000
Denver	14.960	**2.705**	0.895	0.003
Detroit	1.466	0.382	0.384	0.320
Kansas City	3.974	**1.380**	0.565	0.015
Los Angeles	3.106	**1.133**	0.314	0.000
New York	1.819	**0.598**	0.320	0.061
Philadelphia	1.893	**0.638**	0.369	0.084
Seattle	7.184	**1.972**	0.648	0.002

Note: omitted city is Chicago, reference group for first person interviews is less than 30 minutes
Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 7: Probability of Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

	Number of persons (n=2719, 517 non-respondents and 2202 respondents)							
	Model 1, first person interview length only				*Model 2, interview-level characteristics and first person interview length*			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*	*Odds Ratio*	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter								
Intercept	0.009	**-4.722**	0.356	<.0001	0.000	**-20.725**	2.377	<.0001
First person interview:								
30<= interview < 60 minutes	2.335	**0.848**	0.120	<.0001	2.585	**0.950**	0.134	<.0001
60<= interview < 90 minutes	2.882	**1.059**	0.159	<.0001	3.992	**1.384**	0.179	<.0001
interview >= 90 minutes	6.635	**1.892**	0.281	<.0001	8.565	**2.148**	0.294	<.0001
First person interview complete	47.059	**3.851**	0.377	<.0001	71.493	**4.270**	0.412	<.0001
Senior Field Interviewer					0.200	**-1.608**	0.216	<.0001
Years of experience interviewing for Census					0.988	-0.012	0.024	0.607
Previous SIPP experience, Y/N					0.455	**-0.787**	0.164	<.0001
Number of people in the household					1.406	**0.340**	0.036	<.0001
Share of hh members that are proxied					7.182	**1.972**	0.357	<.0001
Atlanta					5.294	**1.667**	0.300	<.0001
Boston					2.756	**1.014**	0.301	0.001
Charolotte					3.223	**1.170**	0.395	0.003
Dallas					3.355	**1.211**	0.260	<.0001
Denver					22.590	**3.118**	0.665	<.0001
Detroit					1.736	**0.551**	0.304	0.070
Kansas City					3.523	**1.259**	0.431	0.004
Los Angeles					3.102	**1.132**	0.232	<.0001
New York					2.049	**0.717**	0.240	0.003
Philadelphia					1.876	**0.629**	0.297	0.034
Seattle					14.552	**2.678**	0.523	<.0001

Note: omitted city is Chicago, reference group for first person interviews is less than 30 minutes
Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 8: Probability of Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

Number of persons (n=2719, 517 non-respondents and 2202 respondents)

	Model 1, first person interview length only				*Model 3, characteristics of potential non-respondent and first person interview length*			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*	*Odds Ratio*	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter								
Intercept	0.009	**-4.722**	0.356	<.0001	0.000	**-9.706**	0.861	<.0001
First person interview:								
30<= interview < 60 minutes	2.335	**0.848**	0.120	<.0001	2.683	**0.987**	0.141	<.0001
60<= interview < 90 minutes	2.882	**1.059**	0.159	<.0001	3.080	**1.125**	0.181	<.0001
interview >= 90 minutes	6.635	**1.892**	0.281	<.0001	6.736	**1.908**	0.306	<.0001
First person interview complete	47.059	**3.851**	0.377	<.0001	131.749	**4.881**	0.528	<.0001
Age					1.001	0.001	0.003	0.854
Male					0.671	**-0.400**	0.123	0.001
Black					0.694	**-0.366**	0.160	0.023
Asian					0.731	-0.313	0.251	0.212
Other race					0.654	**-0.425**	0.159	0.007
less than HS					1.464	**0.381**	0.150	0.011
Some college					0.993	-0.007	0.185	0.969
BA or higher					0.846	-0.168	0.253	0.508
Language other than English at home					1.338	**0.291**	0.145	0.044
Participated in a social welfare program					23.016	**3.136**	0.454	<.0001

Note: reference group is white, hs graduate, reference group for first person interviews is less than 30 minutes

Source: SIPP-EHC 2011 Internal File, US Census Bureau

Table 9: Probability of Person-level Non-Response in households with two or more adults, SIPP-EHC 2011

	Number of persons (n=2719, 517 non-respondents and 2202 respondents)			
	Model 4, interview-level characteristics, potential non-respondent characteristics and first person interview length			
	Odds Ratio	*Estimate*	*Standard Error*	*Pr > ChiSq*
Parameter				
Intercept	0.000	**-21.606**	2.886	<.0001
First person interview:				
30<= interview < 60 minutes	3.052	**1.116**	0.158	<.0001
60<= interview < 90 minutes	4.621	**1.531**	0.207	<.0001
interview >= 90 minutes	9.497	**2.251**	0.327	<.0001
First person interview complete	190.071	**5.247**	0.554	<.0001
Age	1.004	0.004	0.003	0.288
Male	0.694	**-0.365**	0.132	0.006
Black	0.867	-0.142	0.178	0.423
Asian	0.690	-0.371	0.271	0.172
Other race	0.689	**-0.373**	0.176	0.034
less than HS	1.537	**0.430**	0.162	0.008
Some college	0.905	-0.100	0.199	0.615
BA or higher	0.673	-0.396	0.275	0.150
Language other than English at home	1.435	**0.361**	0.159	0.023
Participated in a social welfare program	22.945	**3.133**	0.451	<.0001
Share of hh members that are proxied	3.330	**1.203**	0.421	0.004
Senior Field Interviewer	0.193	**-1.647**	0.260	<.0001
Years of experience interviewing for Census	0.972	-0.029	0.027	0.299
Previous SIPP experience, Y/N	0.442	**-0.818**	0.184	<.0001
Number of people in the household	1.382	**0.324**	0.044	<.0001
Atlanta	4.941	**1.598**	0.349	<.0001
Boston	1.632	0.490	0.362	0.176
Charolotte	3.110	**1.135**	0.467	0.015
Dallas	2.088	**0.736**	0.305	0.016
Denver	5.811	**1.760**	0.684	0.010
Detroit	1.654	0.503	0.362	0.164
Kansas City	2.724	**1.002**	0.489	0.040
Los Angeles	2.767	**1.018**	0.277	0.000
New York	1.876	**0.629**	0.286	0.028
Philadelphia	1.465	0.382	0.346	0.269
Seattle	7.629	**2.032**	0.617	0.001

Note: reference group is white, hs graduate, omitted city is Chicago, reference group for first person interviews is less than 30 minutes

Source: SIPP-EHC 2011 Internal File, US Census Bureau