Case Reassignment: When making contact is a two-person job

Rachael Walsh and Julia Coombs
U.S. Census Bureau, 4600 Silver Hill Road, Washington, DC 20233

Abstract

As data collection agencies balance response rates, cost, and data quality, the use of paradata in the form of contact histories benefit response propensity models and have applications with respect to adaptive design. However, when interviewers record information regarding each contact attempt with a sample unit, these data violate most modeling assumptions because they are clustered and not randomly assigned. Focusing on the role of the interviewer, particularly with respect to case reassignment, we use data from seven demographic surveys collected over an eight-month period to examine the effects of interviewers on the response propensity of both responding and nonresponding sample units. Multilevel modeling compensates for both the nesting of the sample units within interviewers and nonrandom case assignment. This research includes case reassignments from one interviewer to another, a phenomenon largely ignored in previous research, and further explores the utility of a new indicator we developed, the scaled evenness of finding attempts, or SEFA. When modeling case reassignment, the characteristics of the interviewer who finished the case should be used. Whenever possible, difficult to contact cases should be reassigned to interviewers with a higher than average SEFA score and with fewer cases in difficult strata.

Keywords: reassignment; multilevel modeling; contact history; paradata; survey cooperation; scaled evenness of finding attempts (SEFA)

1. Introduction

The data collection process consists of two primary steps – first finding the respondent, then gaining respondent cooperation. In an attempt to reduce the cost of the survey, data collection managers seek to minimize the level of effort expended by interviewers to make contact with respondents, though contacting respondents is increasingly difficult for household surveys (de Leeuw and Heer, 2002; Groves, 2006). As interviewers attempt to make contact with sample units and engage respondents, cases are reassigned from one interviewer to another based on workload, or as a way to potentially gain respondent cooperation. Data collection managers use case reassignment to improve the survey response rate, and reassigned cases are typically the most difficult cases to resolve, requiring additional attention.

In most modeling endeavors, reassigned cases are excluded from the analytic sample (Brunton-Smith, Sturgis, and Williams, 2012; Durrant and Steele, 2009), even though doing so results in the underreporting of variance estimates (Durrant, D'Arrigo, and Steele, 2011). When reassigned cases are included in the analytic sample, the case is ascribed the characteristics of the interviewer initially assigned the case, not the interviewer who closed the case (West and Olson, 2010), negating the effort of refusal conversion experts and the role they play in the final case disposition. This research assessed the interviewer effect on the final disposition of a case, with particular attention to the effect of reassigning a case. More specifically, this research addressed the following questions:

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Section on Survey Research Methods

- Does assigning the case the characteristics of the interviewer who started the case versus the characteristics of the interviewer who finished the case affect the outcome of modeling case disposition?
- Can new measures guide case reassignment procedures to improve response rates?

Not only did this research consider case reassignment, but it also included both stages of the data collection process and two new measures. If considering both stages of the data collection process of making contact and gaining respondent cooperation, the final disposition of the case can then be categorized as one of the following: noncontact, contact – refused participation, and contact – completed interview. To gain a better understanding of the level of interviewer effort in locating respondents, we developed a new measure, the Scaled Evenness of Finding Attempts (SEFA), which measures the diversity and evenness of the times of day interviewers attempt to make contact with a respondent (Coombs and Walsh, 2014). In addition to SEFA, this research included the relative difficulty of gaining respondent cooperation in that particular block group. Using contact history paradata in a multinomial, multilevel model parsed out the difference between the stages of data collection and the interviewer effect on case reassignment.

2. Data and Methods

Interviewers at the U.S. Census Bureau record information pertaining to each contact attempt through the Contact History Instrument (CHI). These survey paradata are available for seven demographic surveys fielded by Census Bureau interviewers – American Community Survey (ACS), Current Population Survey (CPS), Consumer Expenditures Diary (CED), Consumer Expenditure Quarterly (CEQ), National Health Interview Survey (NHIS), National Crime Victimization Survey (NCVS), and the Survey of Income and Program Participation (SIPP). Since the Census Bureau functions as a system of surveys where interviewers rarely work on only one survey at any given point in time, we included all of the major demographic surveys in this analysis. Looking at CHI data for these surveys from January 2013 through August 2013 provided over one million contact attempts from which we pulled our analytic sample.[1]

The CHI data structure nests observations within interviewers, requiring a multilevel model to assess the interviewer effect on the multinomial final case disposition as a noncontact, contact – refusal, or contact – completed interview. Collecting data from respondents is a process that includes every attempt to contact the case. These contact attempts formed summary indicators for each case, and the case then served as the first level of our model, not the individual contact attempts. Interviewer characteristics were included in the model; however, these characteristics change from one month to the next. Therefore, the unit of analysis for the second level of the model was interviewer-months, meaning each interviewer had a record for each month worked between January and August 2013. Based on previous research, we restricted our sample to interviewer-months where the interviewer caseload was at least 10 cases (Clarke and Wheaton, 2007).

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[1] These dates were chosen due to the stability of the period – after the realignment of Census Bureau Regional Field offices in 2012, and before the federal government shutdown in October 2013.

Section on Survey Research Methods

2.1 Level 1 – Case Characteristics

Overall, about 15 percent of cases at the Census Bureau are reassigned, with as much as one quarter of the sample being reassigned for some demographic surveys. The primary reason for case reassignment is to increase the survey's overall response rate. Aside from cases that are reassigned due to interviewer workload and scheduling conflicts, case reassignment occurs because of difficulty in contacting a respondent at the sample unit or in gaining respondent cooperation. To identify reassignment, a dichotomous indicator was set to one for the case if more than one interviewer code was ever associated with the case in CHI. In addition to the dichotomous case reassignment flag, we included two relatively new measures – the case's SEFA and the expected difficulty of the case.

To measure how interviewers are attempting to make contact with sample units, we developed a new measure, the Scaled Evenness of Finding Attempts (SEFA). Borrowing the concept of diversity indices from ecology and economics – Simpson's E and the Herfindahl-Hirschmann Index, respectively – we made adjustments to form an equation that scored the evenness of the distribution of a case's contact attempts across the time of day (Coombs and Walsh, 2014; Rafols and Meyer, 2006; Stirling, 2007). To ensure the SEFA accurately represented the interviewer efforts, we considered several caveats to the data collection process. Once interviewers make contact with a sample unit, the respondent may indicate a preference for the timing of return visits. To account for this, we excluded all attempts made after making contact with the respondent from the calculation of SEFA. We also limited the number of time windows for contact attempts. Dividing the day into hourly increments is not feasible for managing interviewers in the field. Instead, we divided the day into four time windows based on current Census Bureau measures – morning (prior to noon), early afternoon (between noon and 3pm), late afternoon (from 3pm to 6pm), and evening (after 6pm).[2] These time windows additionally reflect the peak contact attempt times of late afternoon and early evening identified in previous literature (Lipps 2012; Purdon, Campanelli, and Sturgis 1999; Weeks, et al. 1980).

The maximum number of time windows for a given case is four; however, interviewers may make contact with the respondent in fewer than four attempts. To accommodate these situations, the maximum number of time windows varied from one to four, depending on the number of attempts needed to make contact with the case. The equation for calculating a case's SEFA was then the sum of the squared proportion of contact attempts in each of the four windows. To disassociate interpretation of SEFA from the number of contact attempts, we rescaled the SEFA score so that 0 represents no diversity in the timing of contact attempts and 1 is perfect diversity and evenness. SEFA is calculated as follows, where S is the number of time windows:

$$\frac{\left[\frac{1}{\sum_{t=1}^{S}(Proprotion\ of\ Attempts\ in\ window\ t)_t^2} \times \frac{1}{S}\right] - (Minimum\ SEFA\ for\ the\ case)}{1 - (Minimum\ SEFA\ for\ the\ case)}$$

The second relatively new indicator included in the models was the case's interviewing strata. Relying on block group socio-economic characteristics predictive of the 2010

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[2] The Unified Tracking System (UTS), a Census Bureau dashboard source for data collection managers, uses this time categorization, and interviewing night differential begins after 6pm.

Section on Survey Research Methods

Census mail return rate, the interviewing strata is a three-tiered indicator of difficulty in completing the case based on a national standard of difficulty (Adams et al, 2013; Erdman, Adams, and O'Hare, *forthcoming*). The characteristics used to generate this measure relate to the difficulty associated with both making contact and gaining respondent cooperation (Durrant, D'Arrigo, and Steele, 2011; O'Muircheartaigh and Campanelli, 1998; Steele and Durrant, 2011; West and Olson, 2010). For our purposes, this three-tiered measure was recoded into a dichotomous indicator, flagging cases in medium and difficult strata as difficult to interview.

Scheduling an appointment with a respondent, access barriers to the sample unit, and respondent refusal to participate are all indicators of the level of effort interviewers expend on a case, as well as potential reasons for reassigning a case. We generated dichotomous indicators for each, assigning a value of one if the interviewer recorded this happening at least once for the case at any point during the data collection process. The case was the smallest unit of analysis in this research, so these covariates were case level summaries of all attempts. Survey management differs based on the needs of each survey and the data collection protocols set forth by the survey sponsors. To account for this, we also included an indicator for each of the surveys, using the American Community Survey (ACS) as the reference group. Because we focused on the effects of interviewers on the relationship between case reassignment and case disposition, we excluded cases contacted within the first two contact attempts, which limited the analytic sample to 141,885 cases. Table 1 displays the mean of the case level parameters, or the proportion in the case of dichotomous indicators, along with the standard deviation.

Table 1: Model Parameters – Case Level

Variable	Mean or Proportion	Standard Deviation
Case Outcome		
Noncontact	0.057	0.231
Refusal	0.114	0.317
Complete Interview	0.830	0.376
Case Characteristics		
Reassigned	0.190	0.393
SEFA	0.489	0.265
Difficult Strata	0.433	0.495
Number of Attempts	5.696	3.279
Appointment	0.119	0.323
Refusal	0.143	0.350
Access Barrier	0.069	0.254
Survey Assignment		
ACS	0.418	0.493
CPS	0.390	0.488
CE – Quarterly	0.025	0.156
CE – Diary	0.005	0.067
NHIS	0.029	0.169
NCVS	0.074	0.261
SIPP	0.059	0.236

Source: ADRM Household Surveys Paradata, January 2013 through August 2013
Notes: Based on 17,252 first interviewer months, 9,810 last interviewer months, and 141,885 cases. The following variables are binary indicators: Difficult Strata, Appointment, Refusal,

Section on Survey Research Methods

Access Barrier, Reassigned, ACS, CPS, CE – Quarterly, CE – Diary, NHIS, NCVS, SIPP, and Supervisor.

2.2 Level 2 – Interviewer Characteristics

Given the prevalence of reassignment in demographic surveys and the use of paradata to make data-driven decisions during the data collection process, this research looked at differences found when models use the characteristics of the first versus the last interviewer. Note that the first and the last interviewer for a case may be the same interviewer, particularly for cases that were never reassigned. At the interviewer level, we averaged the SEFA scores for the cases worked by the interviewer that month. The models included the proportion of the interviewer's cases found in a difficult stratum. The interviewer's tenure in months as well as the interviewer's supervisory status can determine success in the field (Groves and Couper, 1998), so indicators for tenure and supervisory status were included. Table 2 shows the parameters of these interviewer level characteristics, along with the number of interviewers represented in the analytic sample, by first and last interviewer.

Table 2. Model Parameters – Interviewer Level

	First Interviewer		Last Interviewer	
	Mean/Proportion	**SE**	**Mean/Proportion**	**SE**
Mean SEFA	0.491	0.120	0.487	0.095
Proportion in Difficult Strata	0.430	0.346	0.420	0.327
Tenure in Months	72.996*	56.303	80.726*	56.227
Supervisor	0.107	0.309	0.112	0.316
N	4,819		2,758	
Interviewer-Months	17,252		9,810	
Avg Months in Sample	3.58		3.56	

Source: ADRM Household Surveys Paradata, January 2013 through August 2013
Notes: Based on 17,252 first FR months, 9,810 last FR months, and 141,885 cases.
* indicates statistically significant difference between means at the $p < 0.05$ level.

The interviewer who closes a case has significantly more experience than the interviewer who begins a case. These interviewer indicators along with the case contact characteristics help explain variance across both cases and interviewers when included in a multilevel model.

2.3 Multilevel Models

A case may have many different outcomes, but we focused on three key outcomes – noncontact with a respondent, contact with refusal, and contact with cooperation to complete the interview. Because we expected that the predictors would influence the probability of each of the three outcomes in different ways, this model was a multilevel multinomial logistic regression model and consisted of two logit functions. The first estimated the logarithm of the probability of never contacting a case divided by the probability of a case refusing, and the second estimated the logarithm of the probability of a case completing the interview divided by the probability of a case refusing. The following shows the general form of the model used:

Section on Survey Research Methods

$$Y_{ij} = ln\left[\frac{\pi_{kij}(x)}{\pi_{1ij}(x)}\right],$$

where $\pi_{kij}(x)$ is the probability that sample unit i conducted by interviewer j has outcome k, given the vector of covariates x. k is the outcome; $k = 1$ is the reference category representing contact with refusal, $k = 2$ is a noncontact, and $k = 3$ is completion. $\pi_{1ij}(x)$ is the probability that an interviewer makes contact but the sample unit refused to cooperate, given covariates x. This enabled us to make comparisons between different stages of interviewing. In other words, we wanted to model the effect of the covariates on the difference between cases with no contact and cases with contact but no cooperation, as well as the difference between cases that do not cooperate and cases that do cooperate, both of which are dependent on making contact.

To include the effects of the interviewer as well as case reassignment, Y_{ij} was estimated using a system of equations. Level 1 included covariates for the case, and Level 2 modeled select coefficients in the Level 1 equation with interviewer characteristics.

Level 1: Sample Unit

$$Y_{ij} = \beta_{k:0,j} + \beta_{k:1,j}\text{Reassigned} + \beta_{k:2,j}\text{SEFA} + \beta_{k:3,j}\text{Difficult Strata}$$
$$+ \beta_{k:4,j}\text{Scheduled Appointment} + \beta_{k:5j}\text{Ever Refused}$$
$$+ \beta_{k:6j}\text{Access Barrier} + \beta_{k:7j}\text{Contact Attempts} + \beta_{k:8-14,j}\text{Survey}$$

where Y_{ij} is the log of the probability of having final outcome k – either a noncontact or a completed interview – compared to a refusal. Both outcomes are shown as a function of the sample unit contact characteristics, $\beta_{k:1-14,j}$, or the distributive effects. $\beta_{k:2,j}$SEFA captures the time patterns in contact attempts to see if varying attempt times influences the dependent variable. $\beta_{k:8-14,j}$ are the coefficients for the dummy indicators for the specific survey.

As mentioned previously, the CHI data structure nests contact attempts within interviewers. The models compensated for the nested structure by including a second level – the interviewer.

Level 2: Interviewer

$$\beta_{k:(0),j} = \gamma_{k:0,0} + \gamma_{k:0,1}(\text{Tenure} - 12) + \gamma_{k:0,2}\text{Interviewer Position}$$
$$+ \gamma_{k:0,5}(\text{Average SEFA} - \overline{\text{Average SEFA}})$$
$$+ \gamma_{k:0,6}(\text{Difficult Strata} - \overline{\text{Difficult Strata}}) + \mu_{k:q,j}$$

$$\beta_{k:(1-3),j} = \gamma_{k:q,0} + \gamma_{k:q,1}(\text{Tenure} - 12) + \gamma_{k:q,2}\text{Interviewer Position}$$
$$+ \gamma_{k:q,5}(\text{Average SEFA} - \overline{\text{Average SEFA}})$$
$$+ \gamma_{k:q,6}(\text{Difficult Strata} - \overline{\text{Difficult Strata}})$$
$$\beta_{k:(4-14),j} = \gamma_{k:q,0}$$

where $\gamma_{k:q,0}$ is the intercept of the interviewer effect, $\beta_{k:q,j}$ is the sample unit slope that is being modeled, and $\gamma_{k:q,j}$ is the contribution of the specified interviewer-level covariate to the sample unit's q-th covariate's slope. The interviewer's average SEFA score and the

Section on Survey Research Methods

proportion of the interviewer's workload in a difficult stratum were mean-centered. Subtracting twelve months from the interviewer's tenure set the basis for comparison as an interviewer with one year of experience. The case level characteristics vary by interviewer characteristics. $\beta_{k:(0),j}$ allows the intercept to vary by the interviewer characteristics and include a random error term, $\mu_{k:q,j}$. $\beta_{k:(1-3),j}$ allow three case characteristics to vary by the interviewer characteristics – reassignment, SEFA, and strata. These characteristics, however, were fixed, so the second level equation does not include a random error term. The remaining case characteristics, $\beta_{k:(4-13),j}$, were fixed and are not modeled using interviewer characteristics.

To answer the first research question regarding the difference between the assignment of the first versus last interviewer characteristics, we ran each of the models twice, and then compared the coefficients as well as the model fit statistics. Including SEFA and strata in the models enabled us to test the potential of two new measures to help inform case reassignment decisions, which answered our second research question. The next section discusses the modeled results.

3. Findings

To highlight the differences between modeling the final case disposition using the first and last interviewer characteristics, each modeled outcome is displayed in a separate table, showing the first and last interviewer models together. Table 3 shows the results of first and last interviewer characteristic models comparing noncontact and contact – refusal, hereafter referred to as the noncontact model. Table 4 shows the models comparing contact – completed interview to contact – refusal, hereafter referred to as the completed interview model. The tables include the actual coefficients, the standard errors, and the transformed estimates. Since these were logistic regressions, the transformation resulted in an odds ratio for each of the coefficients.

Looking at both tables, there are three situations where the coefficients of the first and last interviewer differ. The direction of the estimates does not differ, but, when modeling the last interviewer characteristics, these particular covariates are statistically significant. In the noncontact model, reassignment increases the likelihood of the case ending as a noncontact over a refusal, while the interviewer being a supervisor decreases the likelihood. In the completed interview model, when the last interviewer has a higher than average SEFA score, the interview is more likely to be completed versus a refusal.

The statistical significance of covariates indicates there is a difference between modeling the first and the last interviewer characteristics for reassigned cases. However, this does not necessarily mean that modeling the last interviewer characteristics is better. To test that aspect of the use of interviewer characteristics, we tested the model fit statistics from the model using the characteristics of the interviewer who initially attempted contact and compared them to the model fit statistics from the model using the characteristics of the interviewer who closed-out the case. Using the -2 log likelihood to calculate the likelihood-ratio statistic provided evidence in favor of the models using the last interviewer characteristics for both noncontacts versus refusals and completed interviews versus refusals (Agresti, 2013).

To answer the second research question – identifying new measures to help data collection managers enhance reassignment procedures – we modeled the slope of case

Section on Survey Research Methods

reassignment. Modeling the slope of reassignment showed the effect of interviewer characteristics on the relationship between reassignment and the outcome of the case, as shown in Tables 3 and 4. When looking at the noncontact versus refusal model, reassigning to interviewers with a higher than average SEFA score increased the positive relationship between case reassignment and final disposition as a noncontact. A case was more likely to be a noncontact than a refusal even when reassigned to an interviewer who attempted to contact the respondents at varying times of day.

Table 3: Estimated Parameters of the Noncontact versus Refusal Model

Variable	Last Interviewer			First Interviewer		
	Estimate	SE	Trans-formed	Estimate	SE	Trans-formed
Intercept	-1.060	0.084	0.346***	-1.167	0.087	0.311***
Case Variables						
Reassigned	0.142	0.061	1.153*	0.095	0.060	1.100
SEFA	-0.087	0.109	0.917	-0.117	0.108	0.890
Difficult Strata	-0.121	0.063	0.886	-0.159	0.063	0.853*
Number of Attempts	0.089	0.004	1.093***	0.100	0.005	1.106***
Appointment	-0.527	0.061	0.590***	-0.556	0.062	0.574***
Refusal	-3.135	0.051	0.043***	-3.195	0.052	0.041***
Access Barrier	0.140	0.054	1.151*	0.146	0.055	1.158*
Survey						
CPS	0.392	0.044	1.480***	0.453	0.044	1.573***
CEQ	-0.068	0.091	0.934	-0.041	0.091	0.960
CE Diary	-0.910	0.252	0.402***	-0.935	0.260	0.393***
NHIS	-0.005	0.089	0.995	-0.029	0.092	0.971
NCVS	-0.505	0.068	0.604***	-0.518	0.069	0.596***
SIPP	-0.757	0.080	0.469***	-0.756	0.082	0.470***
Interviewer Variables						
Modeling the Intercept (β_0)						
Int's Average SEFA	0.132	0.475	1.141	-0.736	0.436	0.479
Prop. Difficult Strata	-0.230	0.153	0.795	-0.168	0.155	0.845
Tenure in Months	-0.001	0.001	0.999	-0.002	0.001	0.998*
Supervisor	-0.278	0.131	0.757*	-0.235	0.145	0.790
Modeling the Slope of Reassignment (β_1)						
Int's Average SEFA	0.951	0.413	2.588*	-0.261	0.363	0.770
Prop. Difficult Strata	-0.037	0.111	0.963	-0.077	0.110	0.926
Tenure in Months	0.000	0.001	1.000	0.001	0.001	1.001
Supervisor	0.018	0.099	1.018	0.016	0.119	1.016

Significance indicated as *p < 0.05 level; **p < 0.01 level; ***p < 0.001 level
Source: ADRM Household Surveys Paradata, January 2013 through August 2013
Notes: -2 log likelihoods: 117,827.0 for the last interviewer model and 118,339.5 for the first interviewer model. Based on 17,252 first interviewer months, 9,810 last interviewer months, and 141,885 cases. The following variables are binary indicators: Difficult Strata, Appointment, Refusal, Access Barrier, Reassigned, CPS, CE – Quarterly, CE – Diary, NHIS, NCVS, SIPP, and Supervisor. ACS serves as the reference category for the survey variables. All interviewer variables except Supervisor and Tenure are mean-centered.

Section on Survey Research Methods

Table 4: Estimated Parameters of the Complete versus Refusal Model

Variable	Last Interviewer			First Interviewer		
	Estimate	SE	Trans-formed	Estimate	SE	Trans-formed
Intercept	4.737	0.055	114.046***	4.842	0.056	126.773***
Case Variables						
Reassigned	-1.146	0.041	0.318***	-1.374	0.040	0.253***
SEFA	-0.123	0.071	0.884	-0.115	0.070	0.891
Difficult Strata	-0.150	0.041	0.861***	-0.113	0.041	0.893*
Number of Attempts	-0.142	0.003	0.867***	-0.148	0.003	0.863***
Appointment	0.870	0.036	2.386***	0.905	0.037	2.471***
Refusal	-2.531	0.024	0.080***	-2.568	0.024	0.077***
Access Barrier	-0.554	0.039	0.575***	-0.572	0.040	0.565***
Survey						
CPS	-0.691	0.029	0.501***	-0.757	0.029	0.469***
CE - Quarterly	-1.792	0.061	0.167***	-1.866	0.061	0.155***
CE - Diary	-1.297	0.127	0.273***	-1.338	0.129	0.262***
NHIS	-1.120	0.060	0.326***	-1.182	0.061	0.307***
NCVS	-1.339	0.044	0.262***	-1.377	0.045	0.252***
SIPP	-1.591	0.046	0.204***	-1.628	0.047	0.196***
Interviewer Variables						
Modeling the Intercept (β_0)						
Int's Avg SEFA	0.832	0.306	2.298*	0.512	0.279	1.669
Prop. Diff Strata	-0.700	0.099	0.497***	-0.523	0.099	0.593***
Tenure in Months	0.002	0.001	1.002*	0.001	0.001	1.001*
Supervisor	-0.943	0.082	0.389***	-0.911	0.089	0.402***
Modeling the Slope of Reassignment (β_1)						
Int's Avg SEFA	-0.787	0.283	0.455*	-0.737	0.242	0.479*
Prop Diff Strata	0.172	0.078	1.188*	0.316	0.076	1.372***
Tenure in Months	-0.002	0.000	0.998***	-0.001	0.000	0.999
Supervisor	0.392	0.066	1.479***	0.432	0.079	1.540***

Significance indicated as *p < 0.05 level; **p < 0.01 level; ***p < 0.001 level
Source: ADRM Household Surveys Paradata, January 2013 through August 2013
Notes: -2 log likelihoods: 117,827.0 for the last interviewer model and 118,339.5 for the first interviewer model. Based on 17,252 first FR months, 9,810 last FR months, and 141,885 cases. The following variables are binary indicators: Difficult Strata, Appointment, Refusal, Access Barrier, Reassigned, CPS, CE – Quarterly, CE – Diary, NHIS, NCVS, SIPP, and Supervisor. ACS serves as the reference category for the survey variables. All interviewer variables except Supervisor and Tenure are mean-centered.

In the completed interview model, we found that a higher than average interviewer SEFA score moderates the negative relationship between case reassignment and interview completion. When a reassignment occurred for cases where interviewers made contact, reassignment to an interviewer who diversified the times of day of their contact attempts increased the likelihood of the respondent cooperating. Both the proportion of the interviewers' caseload in difficult strata and supervisory status exacerbate the case level effects of reassignment, further reducing the likelihood of case completion compared to refusal. However, both supervisory status and difficult strata have caveats that require clarification.

Section on Survey Research Methods

When interpreting the results of the effects of the interviewer's supervisory status, note that only 19.04 percent of the cases in our sample were reassigned overall, and only 4.35 percent of the total cases in the analytic sample were reassigned to supervisors. The reassignment of cases to supervisors is often done in the late stages of the interviewing period, and reserved for the most difficult to close-out cases. Supervisory status is likely serving as a proxy for the difficulty of the case. Also, the proportion of caseload in difficult strata may not be reconfigurable by data collection managers. Keeping these points in mind, the models showed if contact could be made with respondents, reassignment to a supervisory interviewer with the majority of their cases in a difficult strata made it even less likely that respondents would cooperate.

4. Conclusions

When modeling the reassignment of cases, specifically when attempting to predict the outcome of the case, assign the case the characteristics of the interviewer who finishes the case. The likelihood ratio statistic favored the model using the last interviewer characteristics over the use of the first interviewer characteristics and it changed the significance of the estimates. We acknowledge that during the data collection process, field managers are doing their best to increase response rates and balance the cost of data collection, all while striving to maintain the quality of the data. Whenever possible, the models showed it may be beneficial to reassign difficult cases to interviewers who have a higher than average SEFA score – meaning they vary their contact attempt times of day – and who have a less than average proportion of their cases in difficult strata. Since supervisory status is likely serving as a proxy for the most difficult cases, the models suggest that even reassignment to a supervisor may not be sufficient to gain respondent cooperation, however this requires additional research.

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Section on Survey Research Methods

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