The Effect of Interview Experience on Follow-Up Response Propensity in a Longitudinal Survey

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Abstract

In longitudinal surveys, the decision to participate in a future wave can be influenced by a respondent's experience in an earlier wave. Because attrition in longitudinal surveys has a compounding effect on nonresponse over time, researchers have examined how incentives, refusal conversion attempts, pre- and post-contacts, and interviewer characteristics affect the propensity to respond in future rounds. This paper expands on this work by using survey paradata and data from prior rounds to examine how interview characteristics affect the propensity to respond. We use logistic regression to identify the impact of the interview length, number of call attempts, interview mode, and item nonresponse in the first round on the propensity to respond in the second. We also examine the correlation between these factors and the respondents' feelings about participating in the survey.

Key Words: Disability, Longitudinal Survey, Response Propensity

1. Introduction

Attrition in longitudinal surveys is a topic of considerable interest to survey researchers. The causes of attrition include problems in locating respondents over survey waves, difficulty making contact with respondents, and an inability to obtain (or retain) their cooperation. Because attrition in longitudinal surveys has a compounding effect on nonresponse over time, it is critical to identify factors related to the propensity to respond in future rounds. In addition to the factors that affect any respondent's decision to participate in a survey, including design attributes or situational variables, in longitudinal surveys the decision to participate in the future can be influenced by a respondent's experience in an earlier wave. To address this issue, researchers have typically examined a number of survey design characteristics, including incentives, refusal conversion attempts, pre- and post-contacts, interviewer characteristics, and sample unit characteristics, in an effort to determine what may be predictive of longitudinal survey nonresponse.

This paper expands on earlier works by using survey paradata and data from prior rounds to examine how the interview experience, characterized by such factors as interview length, number of call attempts, interview mode, and item nonresponse, affects the propensity to respond. In addition, we examine aspects of the interview experience related specifically to a survey of persons with disabilities, including use of assistive technology, an assistant, or a proxy to complete a prior interview. Using these variables, we attempt to identify which, if any, predict survey nonresponse. Finally, we examine the degree to which these characteristics also have an impact on the respondent's feeling that the subsequent survey is a valuable use of time.

2. Background

Longitudinal surveys collect data from the same person (or unit) over several rounds of collection. Nonreponse presents additional complications for these surveys because data may be available at some points in time and missing for others (Fitzgerald et al. 1998). Minimizing nonresponse to maintain a viable sample is essential as attrition reduces sample representativeness and may bias estimates (Kasprzyk et al. 1989).

Much of the previous work on nonresponse in longitudinal surveys focuses primarily on survey design and sample unit characteristics. Survey design studies have shown that interview characteristics such as frequency of data collection, time between data collection, and number of rounds may increase feelings of respondent burden. For example, Hoogendoorn and Sikkel (1998) argue that the larger the respondent burden in terms of the number and size of the tasks, the higher the attrition. Similarly, Martin et al. (2001) found that respondents who expressed burden concerns in a prior interview were more likely not to respond to a subsequent survey request than those who did not. Bergman and Brage (2008) found that respondents who indicated they had experienced coercive pressure to participate in a prior survey round had more negative attitudes and intentions toward a follow-up survey than those who didn't experience such pressure. Sharp and Frankel (1983) found that longer initial interviews were correlated with higher attrition in subsequent rounds. Finally, Laurie et al. (1999) argue that maintaining high response rates in longitudinal surveys requires a complex and detailed set of procedures including interviewer training and monitoring, fieldwork procedures, locating efforts, refusal conversion, and interviewer continuity.

Research on the effect of sample unit characteristics has shown that certain demographic or geographic variables, such as age, sex or income, can potentially predict nonresponse in longitudinal surveys. Most of this research, however, appears to have focused on the effect of differential attrition on survey estimates and methods for compensating, such as imputation or weighting nonresponse adjustment factors (Waterton and Lievesley 1987). While both survey design and sample unit characteristics are clear and obvious determinates of subsequent survey nonresponse, an expanded definition of the respondent's interview experience may be an equally powerful determinate of subsequent response. A variable that is frequently missing in this research is the extent to which the respondent values the interview or feels that it is a good use of one's time. Characteristics of the prior interview may impact such feelings as well as the propensity to respond.

Several authors have argued that nonresponse in longitudinal surveys may be mitigated by collecting information in initial rounds to locate respondents and maximize cooperation in subsequent rounds (Lepkowski and Couper 2002). An extension of this would be to identify respondent and interview characteristics in initial rounds that would allow survey researchers to recognize cases with a likely lower propensity to respond, which in turn would allow him or her to prioritize those cases accordingly. For example, Martin et al. (2001) found that sending prepaid incentives to nonresponding households from a prior round significantly increased conversion rates in a subsequent round.

3. Research Questions

In this paper we examine the impact of the respondent's experience with the interview process in an earlier round of a longitudinal survey on the propensity to respond to a current round, and for those who do respond, on their rating of the value of the current interview. To evaluate this we fit logistic and Ordinary Least Squares (OLS) regression models to examine the impact of interview characteristics on response, controlling for sample person characteristics. Our research questions are:

1. Is the decision to participate in a future survey wave influenced by the respondent's experience in an earlier interview such as interview length, number of call attempts, interview mode, refusal attempts, and extent of item nonresponse?

2. In a survey of persons with disabilities, is future response affected by the use of assisted technologies, an assistant, or proxy to complete a prior round?

3. How does the respondent's experience in an earlier interview affect ratings of the value of the interview in subsequent rounds?

4. Methods

4.1 Description of the Survey
As part of an evaluation of the Ticket to Work (TTW) and Self-Sufficiency program, Mathematica Policy Research, Inc. (MPR) is conducting the National Beneficiary Survey (NBS). This survey, sponsored by the Social Security Administration (SSA) Office of Disability and Income Security, collects data from a national sample of Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) beneficiaries and a sample of TTW participants.

TTW is a voluntary employment program for people with disabilities. Authorized by the Ticket to Work and Work Incentives Improvement Act of 1999, TTW was designed to increase access and quality of employment services for SSA disability beneficiaries. The NBS is one of several components of an evaluation to assess the impact of the TTW program compared with the current system, the SSA Vocational Rehabilitation Reimbursement Program, which has existed since 1982.

For this analysis, we analyzed data from the second and third round of the NBS, conducted in 2005 and 2006 respectively; the first round took place in 2004. The NBS is a nationally representative survey of 18- to 64-year-old SSA disability beneficiaries with a sample is drawn from a frame of known SSA disability beneficiaries. Data are collected by means of a computer-assisted telephone interview (CATI) with a computer-assisted personal interview (CAPI) follow-up for beneficiaries who do not respond to CATI or who request an in-person interview to facilitate their participation in the survey. The 45-minute survey gathers information on the characteristics, health, income, employment, and service use patterns of the beneficiary. For the bulk of the field period, respondents received a post-paid incentive of $10 (in check form) once the survey was completed. During the last four weeks of the field period, however, the remaining nonrespondents were sent a prepaid incentive in the form of a $10 check to encourage response. There is both a cross-sectional and a longitudinal sample in which a cohort of beneficiaries are followed annually. This analysis focuses on the longitudinal samples.

SSA implemented the TTW program in three phases spanning three years, with each phase corresponding to the roll out of the program in about one-third of the states. The NBS survey design includes cross-sectional samples of nationally representative TTW-eligible SSA disability beneficiaries and TTW participants in each group of states (phase 1, phase 2, and phase 3) defined by the year in which the program was rolled out.[1] One group of sample members in each of the first two cross-sectional surveys of ticket participants was followed longitudinally across rounds: sample members from the phase 1 states that were active in the TTW program in round 1, and sample members from the phase 2 states who were active in round 2. At round 1, ticket participants from phase 1 states were fielded. At round 2, approximately one year later, ticket participants from phase 2 statues were fielded and re-interviews were attempted with all phase 1 state ticket participants who had been selected into the sample at round 1. Re-interviews were attempted whether or not an interview had been completed at round 1.

At round 3, about one year after round 2 interviews, we attempted to re-interview all phase 1 state ticket participants who were selected into the sample at round 1 whether or not they had been interviewed in rounds 1 or 2, and phase 2 state participants who were selected into the sample at round 2, whether or not they had been interviewed at round 2.

We are interested in the impact of prior interview experience on participation in a subsequent round, so for this analysis we focus on phase 1 and phase 2 TTW participants who completed a round 2 interview and examine their propensity to respond at round 3. Table 1 provides a summary of the number of longitudinal cases and their completion rates.

Table 1: Longitudinal Ticket Participant Sample and Completion Rates across Rounds

Sample	Completed R2		Completed R2 & R3		Total Sample
	Count	Rate	Count	Rate	
Phase 1	916	69.9	759	57.9	1311
Phase 2	900	73.2	744	60.5	1230
Total	**1,816**	**71.5**	**1,503**	**59.1**	**2,541**

Source: National Beneficiary Survey, 2005 and 2006

[1] In 2002, the first year of the program, SSA distributed tickets in the following 13 states, known as the "Phase 1" states: Arizona, Colorado, Delaware, Florida, Illinois, Iowa, Massachusetts, New York, Oklahoma, Oregon, South Carolina, Vermont, and Wisconsin. Phase 2 ran from November 2002 through September 2003, during which time SSA distributed tickets in the following 20 states and the District of Columbia: Alaska, Arkansas, Connecticut, Georgia, Indiana, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, South Dakota, Tennessee, and Virginia. Phase 3 ran from November 2003 through September 2004, during which time SSA distributed tickets in 17 states: Alabama, California, Hawaii, Idaho, Maine, Maryland, Minnesota, Nebraska, North Carolina, Ohio, Pennsylvania, Rhode Island, Texas, Utah, Washington, West Virginia, and Wyoming, as well as American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands.

4.2. Analysis

It is well known that sample person characteristics can be predictors of propensity to respond. For this sample, key demographics such as age, race, ethnicity, sex, and education are likely to impact both the interview experience and response across rounds. In addition, characteristics reflective of disability status including the nature of the condition, age of disability onset, and SSA benefit received (SSI, SSDI, or both) may be significant for this population. We used cross-tabulations to conduct initial comparisons of sample person characteristics with response. These variables were included in the regression models as controls, which enabled us to determine the impact on the outcomes with these variables accounted for.

To test the research questions we restricted analyses to longitudinal cases that completed a round 2 interview and examined the impact of characteristics of the interview on response and ratings of the value of the interview at round 3. Proxy responses were included as completed interviews. However, cases that switched response status between interviews, for example completed by the sample person at round 2 and completed by proxy at round 3, were excluded from the analysis (n=88).[2] Additionally, while phase 1 and phase 2 cases were combined for the analyses, we created a variable—multiple survey rounds—to control for the affect participation in the number of survey waves might have on the outcome variables. All analyses were done using unweighted data.

For analyses testing the impact of interview characteristics on response, the outcome measure was response at round 3 (coded as 0=did not complete round 3 interview, and 1=did complete round 3 interview). For analyses testing the impact of interview characteristics on ratings of the value of the interview, the outcome measure was based on an item assessing the respondent's perception of the value of the interview:

> Thank you very much for taking part in this survey. Because people like you are such a valued part of what we do, I'd like you to think about the survey you just participated in. On a scale of 1 to 10, where one means 'it was not a good use of time' and ten means 'it was a good use of time', which number between 1 and 10 best describes how you feel about your experience today?

For models testing response, we fit logistic regression models to the outcome variable to test whether characteristics of the round 2 interview predicted response at round 3, controlling for a variety of background variables (n=1,816). Predictors included interview mode (telephone versus in-person), length of interview, number of call attempts, initial refusal later converted, amount of item nonresponse, interview assisted or conducted by TTY, respondent type (sample person or proxy), interview tiring for respondent (as observed by interviewer), prepaid incentive sent, and whether an interview had been attempted with the respondent in multiple rounds. As controls we included background variables that might impact propensity to respond including sample person's ethnicity, race, education, age, sex, disabling condition, benefit type, age of disability onset (under or over 18 years of age). For models testing ratings of value, analyses were restricted to cases that completed a round 2 interview (n=1,503). Multiple regression was used to test the impact of the same predictors and background variables on the outcome measure. Table 2 provides a description of each variable in the model.

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[2] We assume that the proxy respondent was the same person for each round, although we could not verify this.

Table 2. Predictor Variables for Logistic Regression Analyses

Variable Name	Description
Key Variables of Interest	
Interview Mode	Completed round 2 interview by CATI or CAPI follow-up. Coded 0=CATI and 1=CATI.
Length of Interview	Length of round 2 interview from start to finish (summed over multiple sessions) in number of minutes. Continuous variable.
Number of Call Attempts	Number of calls placed to sample person in an attempt to complete the round 2 interview during the field period. Does not include in-person attempts. Continuous variables.
Refusal Conversion	Cases coded as refusal at some point during round 2 field period and later converted to a complete. Coded as 0=never refused, 1=refused and converted.
Item Nonresponse	Sum of missing responses over 10 key variables on path for all respondents: aware of TTW, currently have Medicare, currently have Medicaid, weight and height, household income in 2004, education of father and mother, age first limited, and race. Coded 0 to 4.
TTY Interview	Round 2 interview completed using TTY—an electronic device for text communication via a telephone line—for respondents with hearing or speech difficulties. Coded as 0 if not completed by TTY and 0 if completed.
Assisted Interview	Round 2 interview completed with help of an assistant, typically a family member, provided encouragement, interpretation, and verified answers when needed. Coded as 0 if interview not assisted and 1 if assisted.
Respondent Type (Proxy)	Proxy completed interview at round 2. Coded 0 if sample person completed and 1 if proxy completed.
Interview Tiring for Respondent	Based on interviewer observation item at end of round 2 interview asking how tiring interview seemed to be for respondent. Coded 1 if interviewer indicated very or a little tiring and 0 if not tiring.
Prepaid Incentive	Received prepaid incentive in last phases of round 2 data collection as part of effort to increase response. Coded as 0=did not receive prepaid incentive and 1=received prepaid incentive.
Multiple Survey Rounds	Coded as 0 if phase 1 sample member (interview attempted in 1 prior round) and 1 if phase 2 sample member (interview attempted in 2 prior rounds).
Background Variables (Controls)	
Male	Sex is male. Coded 0 if sex is female.
Adult Onset	Age of disability onset is 18 years or older. Coded 0 if childhood onset.

Variable Name	Description
Ethnicity (Hispanic)	Ethnicity is Hispanic or Latino. Coded 0 if ethnicity is non-Hispanic.
Black	Race is black or African American.
Other race	Race is other than white, black or African American.
White	Race is white. This is the omitted category for the regression analyses.
Age 18–29	Age at interview is 18–29 years.
Age 30–39	Age at interview is 30–39 years. This is the omitted category for the regression analyses.
Age 40–49	Age at interview is 40– 49 years.
Age 50+	Age 50 or older at interview.
High School Education	Highest level of education is equal to high school diploma or GED. This is the omitted category for the regression analyses.
Beyond High School	Highest level of education is beyond a high school diploma or GED.
Education < High School	Highest level of education is less than a high school diploma or GED.
SSDI and SSI	Concurrently SSI and SSDI beneficiary at interview (or at sample date if not on the rolls at interview).
SSDI-only	SSDI-only beneficiary at interview (or at sample date if not on the rolls at interview).
SSI-only	SSI-only recipient at interview (or at sample date if not on the rolls at interview). This is the omitted category for the regression analyses.
Mental Condition	Mental health condition is reported as a main reason for activity limitation.
Mental Retardation	Mental retardation or learning disability is reported as a main reason for activity limitation.
Musculoskeletal	Musculoskeletal condition is reported as a main reason for activity limitation.
Sensory Condition	Sensory disorder is reported as a main reason for activity limitation.
Other Nervous System Condition	A condition of the nervous system other than a sensory disorder is reported as a main reason for activity limitation.
Other Condition	A condition other that those listed above is reported as a main reason for activity limitation. This is the omitted category for the regression analyses.
No Condition	Respondent reports that no condition(s) limit sample member activities.

5. Results

Results of the cross-tabulations suggest that younger beneficiaries (18–29 year olds and 30–39 year olds) were more likely to be nonrespondents at round 3 and older respondents (40–49 year olds and 50+) were more likely to be respondents than nonrespondents. Ethnicity and sex were marginally significant, with Hispanics somewhat more likely to be nonrespondents than respondents and non-Hispanics more likely to be respondents than nonrespondents. Men were somewhat more likely to be nonrespondents than respondents while women were more likely to be respondents than nonrespondents (see Table 3).

Table 3. Sample Person Characteristics By Round 3 Response Status

Sample Person Characteristic	Response Status	
	Nonrespondent	Respondent
Age*		
18–29	29 (9.3%)	115 (7.7%)
30–39	118 (37.7%)	451 (30.0%)
40–49	134 (42.8%)	681(45.3%)
50 and older	32 (10.2%)	256 (17.0%)
Total	313 (100%)	1,503 (100%)
Disabling Condition		
Mental Condition	90 (28.8%)	412 (27.4%)
Musculoskeletal	41 (13.1%)	192 (12.7%)
Mental Retardation	15 (4.8%)	63 (4.2%)
Sensory Condition	29 (9.3%)	83 (5.5%)
Other (includes other nervous system condition)	104 (33.2%)	568 (37.8%)
No Condition	34 (10.9%)	185 (12.3%)
Total	313 (100%)	1,503 (100%)
Race		
White	191(61.0%)	975 (64.9%)
Black	108(34.5%)	439 (29.2%)
Other	14 (4.5%)	89 (5.9%)
Total	313 (100%)	1,503 (100%)
Ethnicity+		
Hispanic or Latino	32 (10.22%)	109 (7.3%)
Not Hispanic or Latino	281 (89.8%)	1,394 (92.8%)
Total	313 (100%)	1,503 (100%)
Age of Disability Onset		
< 18	97 (31.0%)	453 (30.1%)
18 and Older	216 (69.0%)	1,050 (69.9%)
Total	313 (100%)	1,503 (100%)
Benefit Type		
SSI-only	91 (29.1%)	396 (26.4%)
SSDI-only	153 (48.9%)	787 (52.4%)
SSI and SSDI	69 (22.0%)	320 (21.3%)
Total	313 (100%)	1,503 (100%)
Sex+		
Male	174 (55.6%)	749 (49.2%)
Female	139 (44.4%)	754 (50.2%)
Total	313 (100%)	1,503 (100%)
Education		
Less than High School	71 (22.7%)	356 (23.7%)

High School	99 (31.6%)	474 (31.5%)
Beyond High School	143 (45.7%)	673 (44.8%)
Total	313 (100%)	1,503 (100%)

*= p ≤ .05; +=p ≤ .10

5.1 Tests for Collinearity.

Since many of the predictor variables were known to be related to each other (for example interview mode and number of calls) we used the variance inflation factor (VIF) to check for multicollinearity, which occurs when variables are so highly correlated with each other that it is difficult to come up with reliable estimates of their individual regression coefficients. The VIF is an index that measures how much the variance of a coefficient (square of the standard deviation) is increased because of collinearity. A common rule of thumb is that if the VIF is greater than five, then multicollinearity is high. None of the VIF values were greater than four and, as a result, all predictor variables were retained in the model.

5.2 Predictors of Response at Round 3

We used logistic regression analysis to assess the relationship between round 2 interview characteristics and the likelihood of response at round 3. Analyses were restricted to cases that had data for each of the variables of interest (n=1,810). For all regression analyses, self response, female sex, childhood disability onset, white, age 50 and older, less than high school education, receiving SSDI, and other limiting condition were the omitted groups.

5.2.1 Regression Results.

The results of the logistic regression show a significant relationship between several round 2 interview characteristics and round 3 response when background variables are held constant (see Table 4). Beneficiaries who completed the interview by CAPI in round 2 were .59 times less likely to complete a round 3 interview (p<.10). Those who received more calls or required a refusal conversion at round 2 were .98 and .41 times less likely to respond at round 3, respectively. Additionally, the variable prepaid incentive was marginally significant with respondents who received one (provided to nonrespondents during the last four weeks of data collection to increase response) being .50 times less likely to respond at round 3. Respondents with higher levels of missing data on key survey variables were .83 times less likely to complete a round 3 interview. Overall interview length and whether the respondent had been included in the study in multiple rounds were not significant predictors of response.

Characteristics of the interview unique to interviewing a sample of persons with disabilities had less of an impact on response. Respondent type was a significant predictor, with proxies .78 times less likely to respond at round 3. However, whether the sample person completed the survey at round 2 with assistance or not was not a significant predictor. Similarly, whether the interview was conducted by TTY or not at round 2 was not significant once other variables in the model were controlled. It should be noted however, that the number of cases interviewed via TTY was very small and the effect may have been significant with more cases.

Several respondent characteristics were significant predictors. Beneficiaries who were 50 years of age and older were twice as likely to respond at round 3 and those who were 40 to 54 year old where 1.3 times more likely to respond than those in the 25 to 40 age group (p<.10). Beneficiaries with a sensory condition (such as a hearing or vision impairment)

were .58 times less likely and those with a musculoskeletal condition where .71 times less likely to respond than those with other limitations (p<.10). Beneficiaries who experienced disability onset after age 18 were 1.5 times more likely to respond at round 3 than those whose disability onset was before age 18. Males were .77 times less likely to respond than females and those with an education beyond high school were .74 times less likely to respond than those with a high school education (both significant at the p<.10 level).

Table 4. Impact Of Round 2 Interview Characteristics on Response at Round 3

R2 Interview Variables	Beta		S.E.	Exp (B)
Interview Mode (In Person)	-.531	+	.321	.588
Refusal Conversion	-.888	*	.465	.411
Number of Calls	-.023	***	.005	.977
Prepaid Incentive	-.703	+	.285	.495
Level of missing data	-.188	**	.063	.829
Interview Length	.005		.004	1.005
TTY Interview	-1.636		1.00	.195
Assisted Interview	.099		.421	1.104
Respondent Type (Proxy Respondent)	-.255	*	.117	.775
Interview Tiring for Respondent	-.158		.127	1.171
Number of Rounds	.072		.139	1.076
Beyond High School Education	-.301	+	.160	.740
Less than High School	.150		.187	1.161
18 to 24 Years Old	-.039		.262	.962
40 to 54 Years Old	.297	+	.157	1.346
55 Years and Older	.768	**	.238	2.155
Black	-.111		.150	.895
Other Race	.311		.315	1.364
Ethnicity (Hispanic)	-.207		.229	.813
Sex (Male)	-.264	+	.134	.768
SSI Only	-.098		.177	.907
SSDI and SSI	-.058		.177	.944
Mental Condition	-.177		.167	.838
Mental Retardation	-.186		.357	.831
Sensory Condition	-.545	*	.268	.580
No Condition	-.001		.226	1.001
Musculoskeletal	-.341	+	.217	.71
Adult Disability Onset	.380	*	.184	1.463

+=p<.10; *=p<.05; **=p<.01; ***=p<.001

5.3 Predictors of Rating of Interview at Round 3

For those who completed round 2 and 3 interviews, we examined whether characteristics of the interview at round 2 impacted respondents' rating of the value of the interview at round 3. With the exception of level of missing data (respondents with higher levels of missing data were less likely to rate the value of the survey highly), none of the other interview variables that predicted response at round 3 predicted rating of the interview (see Table 5). However, cases in which interviewers indicated that the interview was tiring for the respondent were less likely to rate the value of the interview highly.

Several demographic variables were also significant predictors of interview rating at round 3. Those with an education beyond high school rated the interview less highly than those with a high school education, blacks rated the interview more highly than whites, and respondents receiving SSI and SSDI rated the interview more highly than those

receiving SSDI only. Ethnicity and SSI only were marginally significant with Hispanics rating the interview more highly than non-Hispanics and those receiving SSI only rating the interview more highly than those receiving SSDI only (p<.10). Additionally, those with musculoskeletal conditions rated the interview less highly and those with no condition rated the interview more highly than those with other limitations. Respondents with disability onset in adulthood rated the interview less highly than those with disability onset at age 18 or younger.

Table 5. Impact Of Round 2 Interview Characteristics on Rating Of Interview Experience At Round 3

R2 Interview Variables	Beta		S.E.
Interview Mode (In Person)	-.043		.115
Refusal Conversion	.983		.613
Number of Calls	-.009		.006
Prepaid Incentive	-.064		.324
Level of Missing Data	-.173	**	.059
Interview Length	-.004		.003
TTY Interview	.315		1.224
Assisted interview	-.170		.362
Respondent type (Proxy respondent)	-.065		.120
Interview Tiring for Respondent	.330	***	.432
Number of Rounds	-.126		.120
Beyond High School Education	-.333	*	.141
Less than High School	.245		.162
18 to 24 Years Old	-.094		.244
40 to 54 Years Old	.181		.145
55 and older	.216		.192
Black	.261	*	.136
Other Race	.165		.246
Ethnicity (Hispanic)	.392	+	.225
Sex (Male)	.037		.117
SSI only	.294	+	.160
SSDI and SSI	.384	*	.156
Mental Condition	.134		.145
Mental Retardation	-.218		.340
Sensory Condition	.172		.264
No condition	.445	*	.189
Musculoskeletal	-.426	*	.190
Adult Disability Onset	-.345	*	.159

+=p<.10; *=p<.05; **=p<.01; ***=p<.001

6. Conclusion

6.1. Response Propensity
Overall, the evidence from this analysis suggests that the interview experience in a previous round does impact propensity to respond in the future. In particular, variables which suggest greater effort to complete the case or more reluctance on the part of the sample person to participate (such as number of call attempts and whether the respondent initially refused to participate) were associated with a lower likelihood of response at round 3. Similarly, respondents who received a prepaid incentive were those who were still nonrespondents at the end of the field period, and those who were sent to the field for an in-person interview, were generally those who were difficult to find, contact, or had

refused initial telephone survey attempts. Higher levels of missing data may also reflect a lack of interest or reluctance to respond. These variables were significant when characteristics of the sample person known to impact propensity to respond were included in the model.

Contrary to our expectations, overall interview length and whether the interviewer perceived the interview experience as tiring for the respondent were not significant predictors of response at a subsequent round. This may be because there was not enough variability in interview length to discriminate among cases. A better measure may be an indicator that would sum the number of questions respondents should have answered based on instrument pathing. However, this may also suggest that length of a prior interview is not as important in shaping the respondent's view of the interview experience, particularly when compared to variables that reflect initial reluctance to participate.

Interestingly, characteristics of the interview specific to surveying the population of persons with disabilities had less impact on response relative to these more general interview traits despite the fact that type of disabling condition was a significant predictor of response (individuals with sensory and musculoskeletal conditions were less likely to respond at round 3). For example, whether the interview is conducted by TTY, TRS, or instant messaging or requires an assistant, it appeared to be less important than the number of calls it took to get the completed case. However, it should be noted that there were very few cases in this subsample that were completed by TTY, thus making it difficult to reach a valid assessment about the potential impact of this variable.

6.2 Value of Interview
Only one of the interview variables—level of missing data—was a significant predictor of response at round 3 and ratings of the value of the interview experience. Those with a higher degree of missing data rated the value of the interview lower than those with less missing data. Additionally, interviewer observations that the interview was tiring for the respondent were also associated with lower respondent ratings of value. Both variables may reflect a scenario in which greater feelings of burden negatively affect respondents' feelings about the value of the survey. This may be particularly pronounced for this survey population.

Overall, interview length at a prior round was not associated with value ratings at round 3. Respondents who were more difficult to locate, contact, and convince to participate appeared to be just as likely to value the interview experience once they take part as those who require less effort in a prior round.

Unfortunately, the question asking respondents to rate the value of the interview was not included until round 3. Having the ability to include this question as a predictor of response at a subsequent round would provide further insights into the linkage between the respondent's perception of the interview, other characteristics of the interview experience, and propensity to respond in future rounds.

7. Implications

Our findings suggest that it may be possible to target sample members, based on their interview experience in a previous round, as likely non-responders to the current interview. This may mean selecting such sample members for special treatments such as

early pre-paid incentives or higher incentives, early and intensive locating efforts, or supplemental tracking between rounds. Alternatively, if resources are limited, the researcher may decide to limit effort put into attempting to re-interview respondents who did not complete, or were reluctant to participate, in a prior round given their lower propensity to respond. However, since it is unclear whether such an approach would introduce bias into the survey results, more analysis would be needed to inform such an approach.

Additionally, we think that value of the interview should be explored as a variable which may provide some insight into why respondents choose to participate or not. Although in this analysis, we do not know if feelings of value predicted propensity to respond, there is some suggestion that value, burden, and response may be linked. Incorporating respondent ratings of value into a survey may help to shed light on these findings.

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