

Interviewer Attitudes Toward Respondent Persuasion: The Impact on Production

Lauren Machingo,^{1,*} Barbara Forsyth,² Gretchen McHenry,¹ Grace Medley,² Breda Munoz,¹ Stephanie Parker,¹ Stephanie Terrey,¹ and Christina Touarti¹

¹ RTI International, Research Triangle Park, NC

² Substance Abuse and Mental Health Services Administration, Rockville, MD

*lmachingo@rti.org

Abstract

The National Survey on Drug Use and Health (NSDUH) conducted a series of four short surveys with active interviewers in early 2016 to better understand interviewer attitudes in the field and the impact those attitudes may have on respondent cooperation. NSDUH interviewers were asked about overall job satisfaction, supervisor management and project expectations, respondent persuasion, and communication and support. Previous literature shows that interviewer attitudes and characteristics impact survey cooperation in a variety of ways (Durrant et al., 2010). One study conducted by the National Centre for Social Research (NatCen) examined the role of interviewers' experience, attitudes, personality traits, and interpersonal skills in determining survey cooperation. In their research, NatCen found that interviewers who "are more positive about the justification, feasibility and usefulness of persuading reluctant respondents" are able to persuade respondents at higher rates (Sinibaldi et al., 2009). This paper describes analysis of the findings from the NSDUH Persuading Respondents survey and includes comparisons to the findings from the NatCen survey. Specifically, we examined interviewer attitudes and cooperation rates by interviewer tenure. Response rates are decreasing across household surveys and costs for mitigating these decreasing response rates are increasing. Information gained from this analysis may assist in attracting and retaining interviewers likely to be successful obtaining cooperation based on their positive attitudes. This analysis may also lead to improved training in approaches for encouraging cooperation. NSDUH, sponsored by the Substance Abuse and Mental Health Services Administration, provides national, state, and substate data on substance use and mental health in the civilian, noninstitutionalized population aged 12 years or older. Approximately 67,500 NSDUH interviews are completed annually by about 700 interviewers. Efforts to increase respondent cooperation are likely to have important effects on data quality and utility.

Keywords: Response rates; interviewer behavior; persuasion.

1. Introduction

The growing problem of survey nonresponse poses a substantial threat to the quality of data that are crucial to public policy development and decision-making. Although many factors contribute to nonresponse, respondent refusal to participate remains one of the most challenging issues to overcome in the field of survey research. The National Survey on Drug Use and Health (NSDUH) is one of many large and critically important national surveys in the U.S. facing the constant challenge of respondent refusal and nonresponse. NSDUH is a household survey completed annually across all 50 states and the District of Columbia and provides national, state, and substate data on substance use and mental health in the civilian, noninstitutionalized population aged 12 years or older. Approximately 67,500 NSDUH interviews are completed

annually. The project has implemented various strategies to combat refusals and nonresponse over the course of several decades and continually seeks new ways to increase respondent participation. As response rates continue to decline across NSDUH and other household surveys (Brick and Williams, 2013), exploring all components that influence participation and focusing on those that are within the researchers' span of control is critical to development of new refusal aversion techniques.

Because interviewers are an influential factor in determining respondent cooperation, interviewer behavior is a key phase of the exploration process. Previous literature shows that interviewer attitudes and characteristics impact survey cooperation in a variety of ways (Durrant et al., 2010; Groves and Couper, 1998; Johnson and Price, 1988). Further, multiple studies have found that successful interviewers have positive expectations of cooperation by respondents (Jäckle et al., 2013; Beerten, 1999; de Leeuw et al., 1998; Groves and Couper, 1998; Hox and de Leeuw, 2002). One study conducted by the National Centre for Social Research (NatCen) examined the role of interviewers' experience, attitudes, personality traits, and interpersonal skills in determining survey cooperation. In their research, NatCen found interviewers who "are more positive about the justification, feasibility and usefulness of persuading reluctant respondents" are able to persuade respondents at higher rates (Sinibaldi et al., 2009). Such findings can have implications for how projects approach interviewer recruitment, training and retention to increase interviewer success in the field.

Four short surveys were conducted with NSDUH interviewers in early 2016. Topics included overall job satisfaction, supervisor management and project expectations, respondent persuasion, and communication and support. For this paper, we focused specifically on one of the interviewer surveys – the survey related to respondent persuasion. Questions in the Persuading Respondents survey were developed based on the persuasion items from the NatCen survey. The purpose was to further understand the impact that interviewer attitudes have on respondent cooperation. We looked at the findings from NSDUH interviewer survey and drew comparisons to those derived from the NatCen survey. We also examined interviewer attitudes and cooperation rates by interviewer tenure. As response rates decrease across household surveys and resulting costs increase, information gained through this analysis may assist in enhancing approaches for attracting and retaining interviewers who will be successful in obtaining cooperation as a result of their positive attitudes. This analysis may also guide the development of improved training in refusal aversion and conversion techniques.

2. Survey Design

The research described in this paper builds upon previous research conducted by the National Centre for Social Research (NatCen) in the United Kingdom. NatCen data were collected on 842 interviewers who were working or had recently worked on face to face surveys with general population samples. The data collected included administrative data (age, gender, years of experience, and performance), attitudes toward persuading reluctant respondents to participate, interpersonal skills, and personality traits. The attitudes toward persuasion, interpersonal skills, and personality traits were measured through a self-completion survey mailed to current interviewers and those who had recently left. NatCen analyses indicated that the probability of respondent cooperation increased with positive attitudes toward respondent persuasion (Jackle et al., 2013)¹.

¹ NatCen compared interviewer production from multiples surveys. All surveys included were face to face with a general population sample. NatCen excluded any special samples, longitudinal

NatCen also found a positive linear relationship between interviewer experience and cooperation rates.

2.1 Hypotheses

Given the similarity of the NSDUH interviewer sample to that of NatCen, it was anticipated that findings would be similar to NatCen's results in two ways:

1. Positive attitude toward persuading respondents is correlated with higher cooperation rates.
2. Longer interviewer tenure on the project is correlated with higher cooperation rates.

It was expected that more experienced interviewers would achieve higher cooperation rates because their experience allows them to better tailor their approach at the door (Groves and Couper, 1998). Attitudinal data could not be directly associated with each individual interviewer's cooperation rates, as done by NatCen, because the NSDUH interviewer survey was conducted anonymously. The survey was kept anonymous so interviewers would feel more comfortable providing honest answers to survey questions. Instead, the cooperation rates of interviewers within four tenure groups were compared to those of interviewers within the same groups who completed the survey.

2.2 Questionnaire Design

As noted above, the Persuading Respondents survey was developed based on the questionnaire from NatCen's 2008 survey.² The NatCen survey used the following eight statements about respondent persuasion:

1. Reluctant respondents should always be persuaded to participate.
2. With enough effort even the most reluctant respondent can be persuaded to participate.
3. An interviewer should respect the respondent's privacy if they do not want to participate.
4. If a respondent is reluctant, a refusal should be accepted.
5. Interviewers should always emphasize the voluntary nature of participation.
6. It does not make sense to contact reluctant respondents repeatedly.
7. If caught at the right time, most people will agree to participate.
8. Respondents persuaded after great effort do not provide reliable answers to survey questions.

A subset of these items and similar items have been used by several previous studies as well (de Leeuw et al., 1998; Hox and de Leeuw, 2002; Blohm, Hox, and Koch, 2007; Groves and Couper, 1998; Durrant et al., 2010).

surveys, and pilot studies. They computed respondent cooperation by looking at all cases in which contact was attempted, regardless of the outcome of the contact. They then assigned a 0 value if the case was never completed and a value of 1 if the case was ultimately completed (Jackle et al, 2013).

² Survey 1 addressed Job Satisfaction, Survey 2 addressed Field Supervisor Management and Project Expectations, and Survey 4 addressed Communication and Support.

The Persuading Respondents survey used a five-point response scale for eight items to measure interviewer attitudes toward persuading reluctant respondents. Interviewers indicated whether they strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with each statement. The NatCen survey used a four-point scale (without a “neither agree nor disagree” option). Although this made comparison to the NatCen survey more difficult, including a mid-point was important in this interviewer survey for ensuring reliable and valid responses. Some studies have found that adding mid-points to rating scales is desirable, as omitting the mid-point can lead respondents to randomly select a moderate response close to where the mid-point would be (Krosnick and Presser, 2010; O’Muircheartaigh et al., 1999). Despite this methodological difference, it was still anticipated that findings would be similar to those of NatCen, where they found a positive linear relationship between interviewer attitudes toward persuasion and cooperation rates.

For each survey, NSDUH interviewers also self-reported key demographic characteristics for analysis purposes, including gender, whether they were a NSDUH bilingual interviewer (NSDUH is conducted in Spanish by certified Spanish-speaking interviewers), tenure on the project, region of the country they primarily work in, and whether they mostly work in rural, suburban, or urban areas. For this paper, the focus was on tenure and interviewers were classified into one of the following tenure groups: less than 1 year, at least 1 year but less than 5 years, at least 5 years but less than 10 years, and 10 years or more on NSDUH. The decision was made to look specifically at tenure on NSDUH to better understand how attitudes may relate to interviewer attrition and retention, an important staffing issue for the annual administration of NSDUH.

2.3 Administration and Overall Response Rates

The Persuading Respondents survey was administered electronically using Survey Gizmo, an online survey software tool. All active interviewers who were hired before October 2015 received a link to the survey via a NSDUH-specific messaging system. Interviewers who were hired after October 2015 were not included in the survey due to their limited time on the project. The email containing the survey link explained the purpose of the survey and that responses were anonymous. The survey remained available for 1 week and a reminder email was sent the day before the survey ended. To minimize burden on interviewers, the survey could be completed in just a few minutes. Participation was voluntary, individual items within the survey could be left blank, and an explicit “don’t know” response was provided for all closed-ended questions. The survey was sent to 539 active interviewers (see Table 1) in February 2016.

Table 1 NSDUH Persuading Respondents Survey Response Rates

Persuading Respondents Survey	
Active Interviewers ¹	539
Returned Questionnaires ²	473
Usable Cases ³	379
Response Rate ⁴	70.32%

¹ Excluded newly hired interviewers who were hired after October 2015 and trained in January 2016 due to their short length of time on the project.

² Includes 79 partially completed surveys.

³ In addition to removing blank surveys, cases that appeared to be duplicate entries based on the IP address and questionnaire responses were removed.

⁴Response Rate is calculated by dividing the number of Usable Cases by the number of Active Interviewers.

All completed and partially completed interviewer survey questionnaires were reviewed to identify usable cases. Any blank questionnaires were removed from the data set. Cases that appeared to be duplicate entries based on IP addresses and questionnaire responses were also removed from the dataset. After cleaning, there were 379 usable cases, including completed and partially completed interviewer survey questionnaires (consisting of any survey in which responses were provided to one or more of the Persuading Respondents survey questions). Any item left blank in the survey was treated as missing data. Overall, missing data rates were low across the interviewer survey, ranging from 0.5 percent to 2.6 percent across items. Response rates were high for the Persuading Respondents survey, at 70 percent (Table 1).

All closed-ended questions in the Persuading Respondents survey had an explicit “don’t know” option. The highest endorsement of the “don’t know” response was 9 percent for the agreement statement in the survey: “Respondents persuaded after great effort do not provide reliable answers to NSDUH questions.” These “don’t know” responses were treated as legitimate responses rather than non-responses since interviewers may not know about response reliability. The next highest endorsement of “don’t know” in this survey was only 0.5 percent. The distribution of “don’t know” responses can be seen in Table 3.

3. Methods

To analyze the results of the Persuading Respondents survey, each of the eight attitudinal measures were analyzed separately and not as part of a scale. Although previous researchers have used the items to develop an attitude index of one or two factors (de Leeuw et al., 1998; Blohm, Hox, and Koch, 2007), the NatCen survey found nonlinear relationships among the items and used the items as separate variables. Therefore, the same practice was followed in analyzing the interviewer responses.

Due to the anonymous nature of the Persuading Respondents survey, it was not possible to directly link individual survey responses to the data available in the interviewer’s administrative records. However, when comparing the distribution of responses for self-reported gender and tenure to the administrative records-based information for all NSDUH interviewers, the two distributions were very similar. Specifically, the respondent tenure distribution was similar to that of the full 2016 NSDUH interviewer population (see Table 2). Based on comparisons on these demographic measures, it seems that respondents to this survey reasonably represent all NSDUH interviewers. At the time of this study, productivity and cooperation measures were not available for the 2016 NSDUH interviewers. . Therefore, administrative data on 2015 productivity and cooperation were analyzed by tenure category.

Table 2 2016 Active Staff Tenure and Retention Survey Tenure Reported

Tenure Status	2016 Active Staff	Persuading Respondents Survey
Less than 1 Year	20.92%	20.58%
At Least 1 Year but Less than 5 Years	33.87%	28.76%

At Least 5 Years but Less than 10 Years	18.97%	21.64%
10 Years or More	26.24%	24.27%

The following measures of interviewer productivity were used as indicators for the ability of field interviewers to gain respondent cooperation:

- Screening and Interview Response Rates: the ratio of completed cases to eligible cases for household screening and individual interviews, by interviewer.
- Overall Response Rate: calculated by multiplying the screening and interview response rates, by interviewer.
- Screening and Interview Refusal Rates: the ratio of cases finalized as refusals out of screening and interview cases worked by the interviewer.
- Screening and Interview Refusal Conversion Rates: looking at all cases an interviewer finalized, how many cases ever were a pending refusal and what portion of cases ever coded as a pending refusal were finalized as successfully completed. This calculation accounts for the fact that refusal conversions are often attempted by interviewers who did not generate the initial refusal.

The Fisher Exact test was used for all significance testing due to the small sample sizes, and significance was tested at the 0.05 level.

4. Analyses and Results

In this section, the agreement statements included in the Persuading Respondents survey are discussed and compared to NatCen findings. Then, results from significance testing are presented as well as results by tenure for each attitudinal statement. Last, the productivity and cooperation measures by tenure group are discussed as they relate to interviewer attitudes about persuading respondents.

4.1 Overall Findings

The overall distributions of responses to the eight statements are shown in Table 3 along with those of the NatCen survey for comparison. As noted previously, a five-point scale was used instead of NatCen's four-point scale. We included a five-point scale for the NSDUH interviewer survey as previous studies have found that including a mid-point improved response reliability and validity (Krosnick and Presser, 2010; O'Muircheartaigh et al, 1999). Despite the differences in scales, it was possible compare results by response categories common to both surveys. Noteworthy findings are outlined below.

For the first statement, nearly 60 percent of NSDUH interviewers agreed that reluctant respondents should always be persuaded to participate. Compared to NatCen interviewers, this is 14 percentage points higher.

For the second statement, nearly 60 percent of NSDUH interviewers disagreed and 29 percent agreed that "with enough effort, even the most reluctant respondent can be persuaded to participate." In contrast, 82 percent of NatCen interviewers disagreed and 18 percent agreed with the same statement. While neither set of interviewers was particularly optimistic about persuading even the most reluctant respondents, NSDUH

interviewers were not as discouraged as NatCen interviewers about converting very reluctant respondents.

Roughly four fifths of NSDUH interviewers (84 percent) agreed that it is important to respect a refusing respondent's right to privacy, while 5 percent disagreed with this statement. Nearly all NatCen interviewers (99 percent) agreed with this statement, and only 1 percent disagreed. It is difficult to assess the impact of the 9 percent of NSDUH interviewers who chose the middle category in creating the differences observed here, but even if they all agreed with the statement, there would still be noteworthy differences on this item between the two sets of interviewers.

NSDUH interviewers tended to disagree that a reluctant respondent's refusal should be accepted. Forty-seven percent of NSDUH interviewers disagreed with accepting a refusal. This result is similar to that of NatCen (at 50 percent). But there is a large difference (15 percentage points) when looking at the interviewers who agree. The difference between the two sets of interviewers at the agreement end of the response scale could be driven by the availability of a neutral mid-point on the NSDUH interviewer survey, endorsed by 17 percent of NSDUH interviewers.

When asked if interviewers should always emphasize the voluntary nature of participation, 20 percent of NSDUH interviewers chose "neither agree nor disagree." Again, the relatively high percentage endorsing the mid-point makes comparison to the NatCen result difficult. It is clear that within both sets of interviewers, the majority agreed with the statement (56 percent for NSDUH and 66 percent for NatCen).

The sixth statement, "It does not make sense to contact reluctant respondents repeatedly," shows that nearly one third (30 percent) of NSDUH interviewers disagreed with this statement. For NSDUH, this item is particularly interesting because project protocols often require interviewers to recontact refusal cases, yet 53 percent agreed that it does not make sense to contact reluctant respondents repeatedly. Furthermore, as noted above, only 35 percent of NSDUH interviewers agreed that a reluctant respondent's refusal should be accepted. On the surface, it seems that the NSDUH interviewers hold conflicting views about re-contacting reluctant respondents and accepting their refusals. Additionally, although the middle category makes comparison to NatCen challenging, it may be worth noting that even if the 15 percent of NSDUH interviewers who endorsed the mid-point response would choose to agree on the smaller NatCen response scale, the findings from the NSDUH interviewer survey would still reflect slightly higher levels of disagreement about re-contacting reluctant respondents compared to the NatCen interviewers.

Even though most interviewers disagree with repeatedly contacting respondents, interviewers reported overall agreement with the statement, "If caught at the right time, most people will agree to participate." Seventy-one percent of NSDUH interviewers and 78 percent of NatCen interviewers agreed with this statement. Again, the difference in the interviewer survey response scales makes it difficult to draw conclusions about any differences between the two sets of interviewers.

Interviewers also showed some faith in the responses provided by initially reluctant respondents who were persuaded to participate. Only 13 percent of NSDUH interviewers and 22 percent of NatCen interviewers agreed that respondents persuaded after great effort do not provide reliable answers. It is notable that 27 percent of NSDUH interviewers chose "neither agree or disagree", which makes it difficult to compare

results from the NSDUH interviewer survey with the NatCen results. The high endorsement of the mid-point response among the NSDUH interviewers may indicate that at least some interviewers interpreted this question as asking about their knowledge of response quality. Since interviewers are unaware of the quality of respondent answers during parts of the interview, they may have been uncertain about offering an opinion on response quality. As noted earlier, the highest endorsement of the “don’t know” response was for this question and accounted for 9 percent of NSDUH interviewers.

Overall, for most of the eight statements, it was found that the majority of NSDUH interviewers had positive attitudes toward persuading respondents. However, these results do point out a couple of potentially contradictory attitudes as well as conflicts with NSDUH project protocols. Specifically, while the majority of interviewers disagree with accepting a refusal from a reluctant respondent and agree that most respondents will participate if caught at the right time, the majority also agree that it does not make sense to repeatedly contact reluctant respondents. Project protocols have interviewers contact reluctant respondents multiple times. If interviewers perceived project protocols as requiring “repeated” contact, their attitudes may conflict a bit with project protocols. It is clear from project records, that these efforts have a considerable impact on response rates. However, interviewers may be skeptical about their utility. On the other hand, these results show a couple items for which the attitudes of NSDUH interviewers are more positive toward refusal conversion than those of NatCen interviewers. Specifically, NSDUH interviewers were more optimistic that reluctant respondents should always be persuaded to participate and that with enough effort even the most reluctant respondent can be persuaded to participate. To better understand these findings, the results of the Persuading Respondents survey were analyzed to see how attitudes vary by tenure on the project. Tenure was included in the analyses based on the findings from NatCen but also because interviewer retention is an important focus for the project.

Table 3 Persuading Respondents Survey Item Results by Organization

	NSDUH Interviewer Survey Results		NatCen Results ¹
	n	%	%
Close-Ended Questions	Count = 379		
Below is a series of statements on persuading respondents to participate in NSDUH. To what extent do you agree or disagree with each of these statements?			
1. Reluctant respondents should always be persuaded to participate			
Strongly/Somewhat Disagree	96	25.33%	55.60%
Neither Agree nor Disagree	51	13.46%	N/A
Strongly/Somewhat Agree	220	58.05%	44.40%
Don't Know	2	0.53%	
Missing	10	2.64%	
2. With enough effort, even the most reluctant respondent can be persuaded to participate			
Strongly/Somewhat Disagree	222	58.58%	81.70%
Neither Agree nor Disagree	43	11.35%	N/A
Strongly/Somewhat Agree	111	29.29%	18.30%
Don't Know	1	0.26%	
Missing	2	0.53%	

	NSDUH Interviewer Survey Results		NatCen Results ¹
	n	%	%
Close-Ended Questions	Count = 379		
3. An interviewer should respect the respondent's privacy if they do not want to participate			
Strongly/Somewhat Disagree	21	5.54%	0.90%
Neither Agree nor Disagree	34	8.97%	N/A
Strongly/Somewhat Agree	319	84.17%	99.10%
Don't Know	1	0.26%	
Missing	4	1.06%	
4. If a respondent is reluctant, a refusal should be accepted			
Strongly/Somewhat Disagree	176	46.44%	50.30%
Neither Agree nor Disagree	66	17.41%	N/A
Strongly/Somewhat Agree	131	34.56%	49.70%
Don't Know	0	0.00%	
Missing	6	1.58%	
5. Interviewers should always emphasize the voluntary nature of participation			
Strongly/Somewhat Disagree	83	21.90%	34.30%
Neither Agree nor Disagree	75	19.79%	N/A
Strongly/Somewhat Agree	214	56.46%	65.70%
Don't Know	2	0.53%	
Missing	5	1.32%	
6. It does not make sense to contact reluctant respondents repeatedly			
Strongly/Somewhat Disagree	115	30.34%	27.80%
Neither Agree nor Disagree	57	15.04%	N/A
Strongly/Somewhat Agree	202	53.30%	72.20%
Don't Know	0	0.00%	
Missing	5	1.32%	
7. If caught at the right time, most people will agree to participate			
Strongly/Somewhat Disagree	58	15.30%	22.10%
Neither Agree nor Disagree	50	13.19%	N/A
Strongly/Somewhat Agree	268	70.71%	77.90%
Don't Know	1	0.26%	
Missing	2	0.53%	
8. Respondents persuaded after great effort do not provide reliable answers to survey questions²			
Strongly/Somewhat Disagree	188	49.60%	78.10%
Neither Agree nor Disagree	103	27.18%	N/A
Strongly/Somewhat Agree	51	13.46%	21.90%
Don't Know	34	8.97%	
Missing	3	0.79%	

¹ See Jäckle et al., 2013.

² The NSDUH interviewer survey specifically asked for reliability of answers to "NSDUH survey questions."

4.2 Interviewer Attitudes and Tenure

Table 4 shows results from the NSDUH Persuading Respondents survey by tenure on the project. Note that of the 379 useable cases, 21 percent (78 cases) of

interviewers reported being on the project for less than 1 year, 29 percent (109 cases) for at least 1 year but less than 5 years, 22 percent (82 cases) for at least 5 years but less than 10 years, and 24 percent (92 cases) for 10 years or more. Respondents who did not indicate their tenure (accounting for 18 cases) were excluded from all of these analyses. Additionally, interviewers who did not answer or selected “don’t know” for a respondent persuasion question were excluded from analyses for that item. One consequence is that total frequencies differ across the agreement statements. For the analysis, 10 years or more of tenure is the reference group for all significance testing. Significant findings at the 0.05 level are noted in the table and discussed below.

For the statement, “Reluctant respondents should always be persuaded to participate,” it was found that interviewers with the shortest tenure on NSDUH (less than 1 year) were significantly more likely to strongly agree than those with 10 years or more on the project. This could be a result of their inexperience on NSDUH. They have had less time in the field and fewer refusals (or strong refusals). Additionally, they could be responding based on what they believe is the expected project procedure in lieu of field experience on NSDUH.

Interviewers with less than 1 year of tenure were significantly less likely than those with 10 years or more to somewhat agree with the statement “If a respondent is reluctant, a refusal should be accepted”. Moreover, interviewers with less than 1 year and at least 1 but less than 5 years of tenure were significantly more likely than those with 10 years or more to strongly disagree. Again, interviewers with the shortest tenure also seem to be the most optimistic – in this case, by being more likely to disagree and less likely to somewhat agree that they should accept a refusal.

When examining results for the statement “It does not make sense to contact reluctant respondents repeatedly,” it was found that interviewers with at least 5 years but less than 10 years on NSDUH were significantly more likely than those with 10 years or more to strongly disagree with this statement. This same group with at least 5 years but less than 10 years was significantly less likely to strongly agree than those with 10 years or more of tenure. Despite these differences, perhaps the most noteworthy result for this item is that relatively large portions of interviewers in each tenure group may disagree with study refusal conversion procedures that call for multiple contacts to initially refused cases. The portions strongly or somewhat disagreeing range from 23 percent to 37 percent across tenure groups.

Interviewers with 5 to 10 years’ experience on NSDUH were more optimistic than their more tenured peers (10 years or more of tenure) for the statement “If caught at the right time, most people will agree to participate.” Specifically, they were significantly less likely to disagree with this statement than those with 10 or more years of tenure. As with the preceding item, overall we did not see much difference across the tenure groups for this measure. The majority of interviewers (ranging from 70 to 73 percent across tenure groups) either somewhat or strongly agree that most people will participate if caught at the right time.

Finally, when asked their opinions about response reliability after persuasion to participate, interviewers with at least 5 years but less than 10 years’ experience on NSDUH were significantly less likely than those with 10 years or more to neither agree nor disagree that respondents persuaded after great effort do not provide reliable answers. Across tenure groups, nearly 36 percent of interviewers selected “neither agree nor

disagree” or “Don’t Know” for this question (see Table 3). As noted previously, this relatively high percentage may indicate that interviewers think they don’t know about response quality. Furthermore, across the tenure groups, the percentages of interviewers somewhat or strongly disagreeing with this statement were high, ranging from roughly 48 percent to 68 percent. The majority of interviewers, regardless of tenure, did not believe that lower quality data are collected from reluctant respondents.

Table 4 NSDUH Persuading Respondents Survey Results by Interviewer Tenure

Statement 1: Reluctant respondents should always be persuaded to participate						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	8.97	10.28	6.25	14.94	36	10.23
Somewhat Disagree	12.82	17.76	12.50	16.09	53	15.06
Neither Agree nor Disagree	8.97	15.89	15.00	14.94	49	13.92
Somewhat Agree	35.90	34.58	45.00	34.48	131	37.22
Strongly Agree	33.33*	21.50	21.25	19.54	83	23.58
Statement 2: With enough effort, even the most reluctant respondent can be persuaded to participate						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	25.97	31.19	32.93	35.16	113	31.48
Somewhat Disagree	24.68	28.44	28.05	27.47	98	27.30
Neither Agree nor Disagree	9.09	14.68	8.54	10.99	40	11.14
Somewhat Agree	28.57	15.60	25.61	20.88	79	22.01
Strongly Agree	11.69	10.09	4.88	5.49	29	8.08

Statement 3: An interviewer should respect the respondent's privacy if they do not want to participate						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	1.30	2.75	1.22	1.11	6	1.68
Somewhat Disagree	3.90	3.67	4.88	3.33	14	3.91
Neither Agree nor Disagree	2.60	11.01	12.20	8.89	32	8.94
Somewhat Agree	33.77	22.94	28.05	28.89	100	27.93
Strongly Agree	58.44	59.63	53.66	57.78	206	57.54
Statement 4: If a respondent is reluctant, a refusal should be accepted						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	20.78*	14.81*	13.58	5.49	48	13.45
Somewhat Disagree	37.66	34.26	30.86	31.87	120	33.61
Neither Agree nor Disagree	18.18	12.96	17.28	23.08	63	17.65
Somewhat Agree	16.88*	23.15	32.10	29.67	91	25.49
Strongly Agree	6.49	14.81	6.17	9.89	35	9.80
Statement 5: Interviewers should always emphasize the voluntary nature of participation						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	5.19	5.56	7.41	2.20	18	5.04
Somewhat Disagree	15.58	15.74	24.69	16.48	64	17.93

Neither Agree nor Disagree	20.78	23.15	14.81	21.98	73	20.45
Somewhat Agree	24.68	13.89	20.99	16.48	66	18.49
Strongly Agree	33.77	41.67	32.10	42.86	136	38.10
Statement 6: It does not make sense to contact reluctant respondents repeatedly						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	2.56	7.48	10.98*	2.20	21	5.87
Somewhat Disagree	24.36	28.04	25.61	20.88	89	24.86
Neither Agree nor Disagree	14.10	13.08	19.51	14.29	54	15.08
Somewhat Agree	39.74	23.36	30.49	35.16	113	31.56
Strongly Agree	19.23	28.04	13.41*	27.47	81	22.63
Statement 7: If caught at the right time, most people will agree to participate						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	6.41	3.67	1.23*	8.70	18	5.00
Somewhat Disagree	8.97	11.93	11.11	7.61	36	10.00
Neither Agree nor Disagree	11.54	14.68	14.81	10.87	47	13.06
Somewhat Agree	44.87	44.95	46.91	43.48	162	45.00
Strongly Agree	28.21	24.77	25.93	29.35	97	26.94

Statement 8: Respondents persuaded after great effort do not provide reliable answers to NSDUH questions¹						
	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More	Total	
	%	%	%	%	Frequency	%
Strongly Disagree	25.97	32.63	43.06	28.24	106	32.22
Somewhat Disagree	25.97	15.79	25.00	27.06	76	23.10
Neither Agree nor Disagree	33.77	33.68	16.67*	34.12	99	30.09
Somewhat Agree	9.09	14.74	12.50	8.24	37	11.25
Strongly Agree	5.19	3.16	2.78	2.35	11	3.34

*Statistically significant at the .05 level.

¹Statement 8 was revised from the NatCen survey to ask specifically about NSDUH questions.

4.3 Interviewer Tenure and Cooperation Rates

As previously noted, unlike the NatCen study, NSDUH interviewers' self-reported attitudes cannot be linked with measures of their productivity because the survey was anonymous. Furthermore, the most recently available production data are from 2015 while the survey was conducted with 2016 interviewers. However, it was possible to examine interviewer productivity by tenure group for 2015 NSDUH interviewers. For this purpose, 7 measures of interviewer productivity were selected: cooperation rates for screening cases, cooperation rates for interview cases, overall response rates, screening refusal and refusal conversion rates, and interview refusal and refusal conversion rates. To appropriately account for interviewer changes across the 2015 year, such as increases in tenure over the year or lack of work in a quarter, interviewer-level production measures were first averaged by tenure group within each quarter. Subsequently, production data were averaged across all four quarters to calculate the average production of interviewers by tenure group. Table 5 shows average interviewer productivity by interviewer tenure.

Based on previous literature, it was anticipated that the findings would be similar to those from NatCen in two ways. First, that positive attitudes toward persuading respondents would be correlated with higher interviewer productivity. Second, that interviewer tenure on the project would be correlated with higher interview productivity. As mentioned previously, less experienced NSDUH interviewers have somewhat more optimistic attitudes toward persuasion. However, interviewers with more NSDUH experience have higher screening response rates, higher overall response rates and lower screening refusal rates than NSDUH interviewers with less experience, as illustrated by the patterns of significance in Table 5. Extrapolating from 2015 production, it seems that the optimism expressed by interviewers with less NSDUH experience may not be reflected in their productivity measures.

It is interesting to note that despite the inability to link attitude and tenure measures from this study directly to individual NSDUH interviewer productivity

measures, these results are in accordance with the results from the NatCen survey that found attitudes were more important for predicting the productivity of less tenured staff compared with the importance of attitudes in predicting productivity for more experienced staff (Durrant et al., 2010; Jäckle et al., 2013). Several factors could be at play. For example, it could be that experienced staff illicit higher screening cooperation rates due to an increased ability to read respondents, independent of their attitudes toward persuasion. Also, experienced interviewers probably have more opportunities to receive training on averting and converting refusals, and this could be another influence on their productivity levels.

Table 5 2015 NSDUH Average Cooperation Rates by Interviewer Tenure

	Less than 1 Year	At Least 1 Year but Less than 5 Years	At Least 5 Years but Less than 10 Years	10 Years or More
	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
Screening Response Rate ¹	54.95*	57.80*	59.41*	63.26
Interview Response Rate ²	53.01	53.73	54.09	55.03
Overall Response Rate ³	28.58*	31.05*	33.03	34.95
Screening Refusal Rate ⁴	9.02*	8.36*	8.14*	6.86
Interview Refusal Rate ⁵	30.95	29.91	29.14	27.32
Screening Refusal Conversion Rate ⁶	17.48*	22.34	21.42	25.07
Interview Refusal Conversion Rate ⁷	9.47	9.89	9.05	10.25

¹ Screening Response Rate is the ratio of completed screenings to eligible selected dwelling units.

² Interview Response Rate is the ratio of completed interviews to the interviews yielded.

³ Overall Response Rate is calculated by multiplying the screening and interview response rate.

⁴ Screening Refusal Rate is the ratio of screening cases finalized as refusals to the number of screening cases worked.

⁵ Interview Refusal Rate is the ratio of interview cases finalized as refusals to the number of interview cases yielded.

⁶ Screening Refusal Conversion Rate is the ratio of completed screenings to pending refusal cases finalized.

⁷ Interview Refusal Conversion Rate is the ratio of completed interviews to pending refusal cases finalized.

*Statistically significant at the .05 level.

5. Conclusion

5.1 Summary of Key Results

Looking across tenure groups (Table 3), NSDUH interviewers reported a mix of more and less optimistic attitudes. Most interviewers somewhat or strongly agreed that reluctant respondents should always be persuaded to participate and that if caught at the right time, most people will agree to participate. Also, a large portion of NSDUH interviewers somewhat or strongly disagreed that refusals should be accepted from

reluctant respondents and that respondents persuaded after great effort give unreliable answers. These are all positive attitudes on the general topic of persuasion.

On the other hand, most NSDUH interviewers also somewhat or strongly disagreed that with enough effort even the most reluctant respondent can be persuaded to participate. In addition, most NSDUH interviewers either somewhat or strongly agreed that interviewers should respect reluctant respondents' privacy and that it does not make sense to repeatedly contact reluctant respondents. These are negative attitudes on the general topic of persuasion.

NSDUH interviewers' mixture of attitudes is similar, to a certain extent, to those of their NatCen peers. NSDUH interviewers' attitudes about persuasion were more positive than their NatCen peers on only two of the eight items. First, NSDUH interviewers were more likely than NatCen interviewers to somewhat or strongly agree that reluctant respondents should always be persuaded to participate. Second, NSDUH interviewers were less likely than the NatCen peers to somewhat or strongly disagree that with enough effort, even the most reluctant respondent can be persuaded to participate.

When looking at tenure data, several differences were found. First, those with less than 1 year of tenure on the project were more likely to strongly agree that reluctant respondents should be persuaded to participate, compared to interviewers with 10 or more years' experience on NSDUH. Second, interviewers with less than 5 years' experience were more likely to strongly disagree that a refusal should be accepted from a reluctant respondent, compared with interviewers having 10 or more years' experience. While there were a few additional differences, it seems that in general interviewer attitudes were consistent across tenure groups for the remaining six items. Given that less experienced interviewers were more optimistic than the most experienced interviewers on two items and interviewers were reasonably consistent across the remaining six items, one might hope that this boosted optimism might be accompanied by a boost in productivity. This is a question the design cannot address because the interviewer survey was anonymous and the productivity data was from an earlier interviewer cohort. However, results from exploratory analyses looking at NSDUH interviewer productivity by interviewer tenure indicated that interviewers with 10 or more years of NSDUH experience were more successful than interviewers with less NSDUH experience on three of the seven measures of productivity. These findings are consistent with the hypothesis that interviewer project experience is more important than attitudes for cooperation rates. With an appropriate design, we might still hope to observe a productivity boost associated with an interviewer's attitudes toward persuasion.

5.2 Research Limitations

The NSDUH interviewer survey was conducted anonymously to encourage honest responses from interviewers; therefore, responses cannot be linked to production data. As noted above, this design feature blocks the direct examination of relations between interviewer attitudes and production. All interviewers surveyed were NSDUH interviewers, and thus findings are limited to this project and may not be applicable to the other surveys.

The response scale used for the Persuading Respondents survey included a middle item of "neither agree nor disagree," which was not included in the NatCen survey. Although "neither agree nor disagree" may be seen as an easy option to take when an interviewer is unsure how to respond, other studies have found that not

including a mid-point can lead to respondents randomly selecting moderate responses closest to where the mid-point would be (Krosnick and Presser, 2010; O’Muircheartaigh et al, 1999). Given the differences in scales between the two surveys, it is more difficult to see how NSDUH findings compare to other studies. It is possible by adding a mid-point NSDUH interviewers were less discriminating and took less time to weigh the merits of each response category.

The NSDUH interviewer survey was conducted as a web survey with a link sent directly to an internal messaging system provided by NSDUH to the interviewers. The NatCen survey was mailed to respondents. This difference in mode and delivery method could have impacted response distributions and response rates, furthering limiting comparability between the two surveys.

5.3 Improvements

The intent of these analyses was to determine potential improvements to project procedures and interviewer training. Initial steps have been taken to meet that goal by directly discussing refusal aversion and conversion outcomes with interviewers as well as addressing their concerns. Hopefully, through such efforts, there will be increased buy-in on project protocols, which in turn could improve interviewer morale and retention.

Based on the results of this analysis, refusal conversion data were shared with interviewers to show what drives the project’s case management strategies. The goal is that sharing this information will increase buy-in and interviewer efforts to convert refusals. Understanding that a proportion of cases are successfully completed after numerous attempts may motivate interviewers to make additional attempts to work refusal cases. NSDUH plans to continue sharing this type of information via periodic online and in-person training.

Refresher training was also provided regarding respondent’s rights, clarifying that asking a respondent to reconsider participating and explaining their importance to the survey does not violate the right to refuse. Following that clarification, the training provided details on what an interviewer should not say to gain cooperation during refusal conversions. This training also offered suggestions for how to positively frame and phrase conversion attempts.

5.4 Future Recommendations

Although the primary results of this paper provide a useful basis for understanding interviewer attitudes on NSDUH, further research could be done to better analyze interaction effects. For example, the effects of tenure on attitudes could vary by region, gender or other demographic characteristics. A deeper analysis could be conducted to control for interaction effects, though it should be noted that all demographic variables were self-reported by interviewers.

To assess whether project initiatives and changes have impacted interviewer attitudes over time, one recommendation would be to conduct a similar survey on an annual or biannual basis. NSDUH continues to make adjustments to the interviewer job that can affect attitudes, job satisfaction and retention. A repeated survey could be used to assess the impact of those changes on the interviewer cohort. Additionally, information on the interviewers who resign or are terminated from the project would be an interesting addition to the dataset. Analyzing whether interviewers who report more negative

attitudes toward respondent persuasion and/or job satisfaction actually leave the project would be of interest for understanding interviewer attrition.

Further, eliminating anonymity in a future design should be weighed against other important outcomes, such as response rate. A non-anonymous survey design that links interviewer attitudes to administrative and production records would allow for a more thorough analysis of the results. For example, such an analysis might identify a productivity boost associated with an interviewer's attitudes toward persuasion. With approximately six regional supervisors overseeing 40 field supervisors who in turn manage approximately 600 interviewers throughout the country, there could be supervisor effects on any of the measures. Identifying area- or region-specific issues with interviewer attitudes and/or job satisfaction would allow the project to target those concerns. Additionally, the individual impact of project initiatives on interviewer attitudes and performance could be investigated. If the project attempts to improve interviewer attitudes toward persuasion via additional training courses throughout the year, any effects of the training could be determined. For example, does training affect interviewer attitudes? If so, does appropriate training improve the attitudes of those who previously had negative perceptions of respondent cooperation? Does training have a major impact on interviewers whose attitudes fall somewhere on the middle of the scale? Are some attitudes susceptible to training, while others are not? Does training affect productivity through its impact on interviewer attitudes? To minimize any impact a non-anonymous survey design may have on response rates, survey wording could be used to assure interviewers that their answers would be kept confidential and used only for internal project analyses to better improve protocols, training and management.

Future iterations of the survey could also include measures of personality characteristics. Despite the mixed evidence on the impact of personality characteristics on respondent cooperation, it would be of interest to NSDUH whether there are personality effects on the survey. This could lead to a richer analysis of the interviewer attitudinal measures.

Understandably, interviewers had strong opinions regarding persuading respondents to participate. Key findings from the survey show that many interviewers do not feel that "with enough effort, even the most reluctant respondent can be persuaded to participate," and they did feel that "it does not make sense to contact reluctant respondents repeatedly." These opinions are contrary to the strategy by which most refusals are handled by field managers. More openly shared information about factors that drive the project's case management strategies might increase buy-in and influence the level of effort interviewers give to converting refusals. Understanding that a proportion of cases are successfully completed after numerous attempts may motivate interviewers to continue to work their reluctant cases. Although the project took specific steps to share such data with interviewers following the survey, NSDUH can look for ways to continually share data when training on conversion strategies. Further, the project can continue providing opportunities for interviewers to share their views on reluctant respondents and refusal conversion strategies. By hearing their perspective and concerns, the project could identify additional opportunities to improve project protocols and training.

References

- Beerten, R. (1999). The Effect of Interviewer and Area Characteristics on Survey Response Rates: An Exploratory Analysis. *Survey Methodology Bulletin*, 45, 7–15.
- Blohm, M., Hox, J., and Koch, A. (2007). The Influence of Interviewers' Contact Behavior on the Contact and Cooperation Rate in Face-to-Face Household Surveys. *International Journal of Public Opinion Research*, 19, 97–111.
- Brick, J. M., and Williams, D. (2013). Explaining rising nonresponse rates in cross-sectional surveys. *Annals of the American Academy of Political and Social Science*, 645(1), 36–59.
- de Leeuw, E., Hox, J., Snijders, G., and de Heer, W. (1998). Interviewer Opinions, Attitudes and Strategies Regarding Survey Participation and Their Effect on Response. *ZUMA Nachrichten Spezial*, 4, 239–248.
- Durrant, G., Groves, R., Staetsky, L., and Steele, F. (2010). Effects of Interviewer Attitudes and Behaviors on Refusal in Household Surveys. *Public Opinion Quarterly*, 74, 1–36.
- Groves, R. M., and Couper, M. P. (1998). *Nonresponse in Household Interview Surveys*. New York: John Wiley.
- Hox, J., and de Leeuw, E. (2002). The Influence of Interviewers' Attitude and Behavior on Household Survey Nonresponse: An International Comparison. In R. M. Groves, D. A. Dillman, J. L. Elting, and R. J. A. Littler (Eds.), *Survey Nonresponse*. New York: Wiley.
- Jäckle, A., Lynn, P., Sinibaldi, J., and Tipping, S. (2013). The Effect of Interviewer Experience, Attitudes, Personality and Skills on Respondent Participation. *Survey Research Methods*, 7, 1–15.
- Johnson, R., and Price, Y. (1988). *The Relationship of the Jackson Personality Traits of US Census Bureau Current Survey Interviewers to Work Performance and Turnover*. Washington, D.C: US Bureau of the Census.
- Krosnick, J. A., & Presser, S. (2010). Question and questionnaire design. *Handbook of survey research*, 2(3), 263-314.
- O'Muircheartaigh, C., Krosnick, J. A., & Helic, A. (1999). Middle alternatives, acquiescence, and the quality of questionnaire data. Paper presented at the American Association for Public Opinion Research annual meeting, St. Petersburg, FL.
- Sinibaldi, J., Jäckle, A., Tipping, S., and Lynn, P. (2009.) Interviewer Characteristics, Their Doorstep Behaviour, and Survey Co-Operation. In *American Association for Public Opinion Research (AAPOR) Conference* (pp. 5955–5969). Hollywood, Florida: American Statistical Association, Survey Methods Research Section.