

Recordings of prior refusals: Do they improve later conversion attempts?

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INTRODUCTION

In this paper we describe an experiment conducted using digital audio recordings for refusal conversion. The data come from the Wisconsin Longitudinal Study (WLS), currently being conducted by researchers at the University of Wisconsin-Madison with the University of Wisconsin Survey Center (UWSC). Since all WLS cases are recorded digitally, including refusals, we expected that allowing interviewers who call refusals to use the audio recording of the refusal would help them improve tailor their appeal for participation and improve their chances at converting a non-participant into a participant.

In their analysis of interviewing training protocols, Groves and McGonagle (2001) argue that “if the survey designer can arm interviewers with more knowledge about the sample case prior to their contacting the case, then interviewers can construct working hypotheses about what concerns about the survey request different respondents might harbor.” Furthermore, recruiting same sample on multiple occasions expands the list of potentially viable predictors of sample recruitment outcomes in longitudinal cohort studies (Kalsbeek, Yang and Agans, 2002). Listening to the recordings of the initial refusals might help interviewers by providing them with more information about the respondent than can be noted on a call log sheet, such as tone of voice or the emotional state of the respondent.

On the other hand, listening to recordings might also make interviewers nervous or reinforce their negative expectations about converting the case. Anecdotal impressions from interviewers suggest that they like to have as much information about a case as possible before they call it, so we expect that listening to recordings of refusals would help convert these cases more often than it would hurt.

LITERATURE REVIEW

Groves and Couper (1998) posit that the influences on survey participation arise from the social environment, social-psychological attributes of the respondent, the survey design, and interviewer attributes. These influences shape the initial short interaction between interviewer and respondent. Indicators of the interaction between the interviewer and respondent are related to survey cooperation. The interviewer's strategies on the doorstep or on the telephone address all of these influences.

The analysis by Groves and Couper (1998) supports the conclusion that standardization in an *introduction* to a survey is ineffective at obtaining cooperation; unscripted and adaptive techniques are more effective. Because the initial interaction requires a quick response to the concerns of the respondent, the most successful interviewers are able to preempt objections and tailor their responses effectively. Depending on the respondent's predispositions, interviewers' introduction strategies might address any of Cialdini's (1984) six psychological principles of survey participation: reciprocity, consistency (with respondents' beliefs), social validation, authority, scarcity, and liking (of the interviewer).

Interviewers tend to be self-aware of the different strategies they use in different social environments and to address different respondent concerns. Moreover, different strategies are related to different success rates across interviewers; Snijders, Hox and de Leeuw (1999) find that more experienced and more successful interviewers rely more on tailoring and perceive it to be a more important tactic. Houtkoop-Steenstra and van den Bergh (2000) similarly find that a flexible introduction where interviewers have the

option to decide how to present information in their own words is more effective at gaining higher response and lower refusal rates than scripted introductions.

Evidence also suggests that interviewer training aimed at satisfactorily addressing respondents' concerns with rapid, natural delivery and that focuses on refusals increases cooperation (Groves and McGonagle, 2001; Mayer and O'Brian, 2001). The emphasis is on rapidity because it is generally known that interviewers have very few moments to make their appeal, and those moments are fewer still on the telephone than in-person.

Respondent Characteristics

Various socio-demographic variables have been shown to be related to participation in cross-sectional and longitudinal surveys. For example, age, gender, socioeconomic variables such as education and income, mobility, health, urbanicity, region, and behavioral variables have all been found to be related to participation. However these variables may not be so straightforward and may interact with other aspects of the survey, such as the saliency of the topic, resulting in different propensities to participate, especially over multiple waves.

For example, rural areas usually have higher response rates due both to contactability and cooperation (Groves and Couper 1998, DeMaio 1980, Mierzwa et al 2002), but Kalsbeek, Yang and Agans (2002) did not find urbanicity to be a factor in an in-person survey of adolescents. In the American context, women and whites are generally more cooperative with a survey request than men and minorities (Groves and Couper 1998), but the *American National Election Studies* has higher attrition rates for women in their panel (e.g. Bartels 1999) and Kalsbeek and his colleagues found whites to

be less willing to participate in a panel study than respondents of other races. They also note that other behaviors, such as smoking, may be correlated with respondent predispositions. In fact, they found smoking behavior from previous round predicted recruitment outcomes for a more recent wave of their panel.

Interviewers' approach to a household might address any or all of these characteristics, by timing their calls differently, dressing differently based on characteristics of the neighborhood where they are interviewing, or any other approach (Snijkers, Hox and de Leeuw, 1999). Interviewers might also be able to anticipate respondent objections to participation based on social-psychological variables. For example, if respondents have different propensities to participate based on gender, race, or some health behavior, they can be prepared with responses to some of those objections.

Interviewer Characteristics, Expectations, and Experience

Groves and Couper (1998) note that it is difficult to conduct research on interviewer-level correlates of contactability and cooperation for a number of reasons. Good interviewers are likely to self-select into and remain on the job longer, so it is difficult to isolate the effect of variables related to experience and training – such as tenure on the job, number of studies called, or number of trainings attended. Second, it is often impractical, if not impossible, to randomly assign cases to interviewers. In face-to-face surveys, cases are assigned in clusters, so that correlates of the neighborhood are confounded with the interviewer.

Though it is possible to randomly assign cases to interviewers in telephone surveys, this can be impractical for certain kinds of studies, especially those with repeated contacts and extended field periods. Supervisors will often assign cases to interviewers in a nonrandom fashion, for example, by assigning the most difficult cases to interviewers who are most experienced or successful according to different various measures (Kalsbeek, Yang and Agans, 2002; Singer, Frankel and Glassman, 1983). Finally, in telephone call centers, fewer interviewers tend to take on a greater share of the workload (Groves et al 2004, and Singer et al 1983). Thus studies where the telephone interviewer is the unit of analysis are often hampered by very small sample sizes (e.g. Singer, Frankel and Glassman only had 6 interviewers).

Some work on interviewer characteristics has found a few socio-demographic characteristics to be important, although to a limited extent. This is generally true only for sensitive survey topics, or when the interviewer characteristic is related to the survey topic, such as race or reproductive health and sexual activity. However these effects are limited in scope and tend to affect survey responses more than survey participation. While interviewers' characteristics are probably less important in determining cooperation than the techniques they use and when they use them, interviewer age and education have been found to be related to cooperation rates, and attributes including tenure on the job, self-confidence, and belief in the legitimacy of their work are also related to success (Groves and Couper, 1998; Hox and de Leeuw, 2002; Mierzwa et al, 2002; Singer, Frankel and Glassman, 1983).

Expectations about the ease of persuading respondents can also have an impact on response rate (Singer, Frankel and Glassman, 1983). Groves and Couper (1998) note that

interviewers with five or more years of experience tend to achieve higher rates of cooperation than those with less experience since they are better able to anticipate and overcome such barriers as negative attitudes towards surveys. However others have found the relationship between experience and success is not linear. Moderately experienced interviewers – which can range from several months to several years of experience depending on the study – do better than novices, but the effect of experience levels off or decreases altogether (Groves and McGonagle, 2001; Singer, Frankel and Glassman, 1983; Mierzwa et al 2002).

Impact of Interviewers in Longitudinal Studies

The literature reviewed above about interviewer strategies in gaining respondent cooperation suggests that how an interviewer changes behavior over successive contacts affects the likelihood of eventual cooperation. Compared to cross-sectional studies, longitudinal surveys increase the amount of information that can be used for this purpose in subsequent waves (DeMaio, 1980). Research on the effect of interviewer on respondent cooperation in longitudinal surveys strongly suggests that information from prior interviews can be a useful tool in gaining cooperation. Moreover, having the same interviewer paired up with the same respondent during each wave may be beneficial, though it is unclear what the causal variable is for this finding.

Hill and Willis (2001) find that assigning the same interviewer each wave (two years apart) has a strong positive effect on response rates. The study they examined – the Health and Retirement Study (HRS) – had an overall response rate of 92% in its second wave in 1994; thus the 6% point difference found by Hill and Willis would seem to be an

enormous benefit to having the same interviewer at each wave. Hill and Willis argue that the continuity of having the same interviewer helps establish trust with the respondent, thus making the respondent more likely to participate again in the future. Though her analysis is not an experimental comparison, Ott (2002) also used the same interviewer for multiple contacts and site visits in an agricultural survey.

Pickery, Loosveldt and Carton (2001) find that the effect of the interviewer in the first wave of a longitudinal study has a greater impact on cooperation in a subsequent wave than respondent or interviewer characteristics, or even than the effect of the interviewer in the current wave. This suggests that in longitudinal surveys, every interaction has an impact on a respondent's subsequent propensity to continue their participation. The interaction with a prior interviewer also becomes an important variable to be addressed by the current interviewer in their attempt to persuade a respondent to participate. Positive interactions may have a cumulative effect on the respondent.

One reason why interviewer continuity is important in minimizing attrition in longitudinal surveys may be that the interviewer managed to establish a rapport with the respondent. By definition, that initial interviewer is a successful interviewer by virtue of having persuaded the respondent in the first place, whether it be because they have a pleasant, friendly interpersonal style (Fowler and Mangione, 1986) or they develop a closer relationship, thus making the interview request more personal (Ott, 2002). Analysis of respondent debriefing questions in a survey with high attrition rates suggests that establishing a level of ease and trust, especially in a survey of sensitive topics, can be important to minimize attrition (Boots-Miller, et al 1998).

The authors of all of these studies above note that interviewers filled out forms and wrote detailed call notes that were used by subsequent interviewers or in subsequent visits or waves. Much of the information recorded by interviewers is subjective in nature – the interviewer chooses what is important to record, and it may include a subjective evaluation of the respondent’s predisposition. As Ott notes, the intent of keeping this information is to develop a closer relationship between the respondent and the survey organization.

However for most of these studies, waves are weeks, months, or in the case of the HRS, two years apart. The more time in between waves, naturally the harder it is to retain the same corps of interviewers. The problem of interviewer attrition may be even greater for studies where time in between waves is even longer, such as in the *Wisconsin Longitudinal Study* (WLS) that we examine here, where each wave is about 10 years apart. Furthermore, at academic call centers in the United States, interviewers tend to be college aged and very mobile. Interviewer turnover is high and retention can be very difficult. For example, the average length of employment among interviewers at the UW Survey Center at the University of Wisconsin-Madison is approximately 7 months. Thus having the same interviewer call on each wave may be impractical, if not impossible, but retaining as much information from a prior interviewer’s strategies can be an asset.

WHY RECORDING IS IMPORTANT

All of this literature on interviewer strategies and interviewer effects in longitudinal studies suggests that there is a premium on information from prior interviews and prior interactions with the respondent. Most of these studies are also based on face-

to-face surveys.¹ Mode of administration is an important variable; over the telephone, the effect of the interviewer may decrease.

Many researchers have also remarked on the different opportunities and constraints that interviewers face when they approach a respondent's household in-person versus by telephone. Since the initial approach of the interviewer is a continuous search for cues about the attributes of the sample member, face-to-face interviews are a richer source of cues than telephone interviews. Face-to-face, interviewers have more opportunities to collect information that is necessary for successful tailoring. Socio-economic variables may be more evident in person, and even physical movements, eye contact, and auditory information are important (Groves and McGonagle, 2001; Snijkers, Hox and de Leeuw, 1999).

The authors of both of these articles note that they are skeptical of a naïve application of these findings to telephone surveys because of the tendency for a radically shorter initial interaction by phone. However, if as these authors assert, it is not just the respondent's words that an interviewer responds to and uses, but also inflection, volume and pacing, then these characteristics, which are rarely explicitly articulated and recorded by interviewers, may be in gaining cooperation over the telephone. Since telephone interviewers have less time and less opportunity to maintain interaction and customize their approach, voice characteristics may be important information. Thus we expect that listening to audio recordings may provide information that will help interviewers in their conversion attempts. This information is not normally kept in case notes, so the recordings should help improve conversion rates.

¹ One exception is the study by Hill and Willis (2001). Their data from the Health and Retirement Study was completed in person only on the first wave. Subsequent waves were completed by telephone from the interviewers' homes.

DATA

The data we use to examine the impact of listening to audio files comes from the *Wisconsin Longitudinal Study (WLS)*. This study is currently still being fielded. It is a longitudinal survey with multiple family members. The survey design is as follows:

- 1957 – One-page survey of all seniors in high schools in the state of Wisconsin
- 1964 – Postcard to parents of these high school graduates
- 1975 – First phone interview with random 1/3 of these original high school Graduates (N=10,317)
- 1977 – First phone interview with a randomly selected Sibling of the graduates
- 1992 – Second phone interview with the Graduate Sample
- 1994 – Second phone interview with the Sibling Sample
- 2004 – Third phone interview with the Graduate Sample
- 2004 – First phone interview with Spouses and Widow(er)s of Graduate Sample
- 2005 – Third phone interview with the Sibling Sample (still in field)
- 2005 – First phone interview with Spouses and Widow(er)s of Sibling Sample (still in field)

All WLS interviews, including the interviewer-respondent interaction prior to the start of the interview, are digitally recorded. The recordings are used for a number of reasons. First, they are being used to gather cognitive data previously only gathered in psychology labs. The current wave of the WLS administers standard cognitive tests such as category and letter fluency tasks, digit ordering tasks, and immediate and delayed recall tests over the phone, among others. For some of these tasks, recording provides a check on the interviewer's data entry. For others such as letter fluency—where the respondent has one minute to name as many words as possible that begin with a given letter—the interviewer cannot type the entire response accurately. Instead, coders listen to recordings after the interview and code the respondent's answers.

Secondly, recording provides data for studying interviewer-respondent interaction. The availability of software for analysis of such interactions facilitates the

expansion of research in this area (Dijkstra 1999). The data are currently being behavior-coded to examine how interviewers persuade reluctant respondents to participate in surveys (e.g. see Dijkstra and Smit 2002). Such data has also been used to examine how interviewer behavior such as probing, providing feedback, maintaining objectivity, developing rapport, or other departures from the rules of standardized interviewing affect respondent behavior and the quality of responses (e.g. see van der Zouwen, Dijkstra, and Smit, 1991).

Finally, recordings are being used internally for quality control purposes. While interviews were traditionally recorded with cassette tapes that had to be manually turned on by interviewers, recent advancements in digital technology make recording considerably less intrusive. In a CATI interview, recording can start automatically and the digital data is saved to the computer without interviewer involvement. Respondents are asked for permission to record at the start of the interview, and are asked for permission to use the recording for educational and research purposes at the end of the interview.

The sample that we use for this paper comes from the most recent wave of the sibling sample (third phone interview, 2005). The total sample size for this wave of siblings is $N=5612$. We first selected a random subsample of cases to use in this experiment ($N=2199$). We then randomly assigned these cases to one of two conditions: 1) audio (experimental) condition, where the interviewer would listen to a recording of the initial interaction; or 2) non-audio (control) condition, where the interviewer would not listen to the audio recording, and all normal protocols would apply. This was the

only variable that we manipulated. Since respondent gender, age, and ability are related to survey participation, in assigning cases to the two conditions, we stratified cases by gender, age, and IQ-scores. The sample is composed of 49% men; the mean age is 66.6 years old (the range is from 45.6 years to 89.2 years); the mean IQ score is 97.2 points (the range is from 61 to 145 points). Testing for the gender, age, and IQ-score distribution between the control and experimental group shows that the groups do not differ by these three variables.

Assignment to the experimental or control condition was done in advance of identifying the case as a refusal. This allowed us to treat all the cases in the same way rather than assigning cases as they accumulate and possibly introducing some other confounding factor. However, refusals accumulate on an ongoing basis, and it is possible for the two groups (audio and non-audio) to end up as different sizes. However our ultimate sample of refusal cases in each group is of roughly equal sizes. Our sample resulted in N=388 first refusals that had been placed on hold until we attempted to call back to convert the respondent. Of this total, about half are in each condition: N=196 are in the audio condition and N=192 are in the non-audio condition. We expected a first refusal rate of approximately 30%, however we ended up with just over half what we expected – our refusal rate is 17.6%. Thus our sample for the experiment is considerably smaller than we anticipated.

These cases are “hard refusals,” which means that a prior interviewer had managed to identify either the WLS or the UW Survey Center (our call center) before being refused by the respondent. Quick hang-ups where the interviewer did not have a chance to identify the study were considered “soft refusals” and were placed back in the

general calling queue without any special treatment. Hard refusals are put on hold for a minimum of one month, after which time they are mailed an informational brochure about the study. Our sample consists of two groups of cases. For hard refusals that were refused between July and December 2005, refusal conversion efforts began in February 2006. For cases that were refused between December 2005 and February 2006 refusal conversion efforts began in May 2006. As mentioned above, this study is still in the field and expected to end on August 1, 2006. Thus results presented here are preliminary.

Since interviewers who are confident in their ability to obtain cooperation tend to achieve higher cooperation rates, we try to address this during training. Interviewers have to work at the call center for several months before being eligible to train on the WLS. The training consists of three sessions of 4 hours each, covering every aspect of the hour-and-a-half long interview. Furthermore, interviewers have to be experienced in the WLS and to have good response rates before being eligible to call refusals. New refusal callers are trained on an ongoing basis based on suggestions from call center supervisors and based on their rates in the WLS and other studies. Refusal training consists of a one-hour discussion between the project manager, the phone room supervisor, and about four interviewers at a time on barriers to respondent cooperation and effective strategies to overcome them.

The interviewers then receive individual training with a supervisor where they discuss additional refusal conversion techniques and do role-playing or mock interviews. New refusal callers also listen to an experienced refusal caller for about two hours before they begin calling refusals. We ended up with only 12 interviewers in this experiment. As mentioned in the literature review above, having a small number of interviewers on a

telephone study is not unusual. However it does severely limit the analysis on interviewer effects. Though we have extensive information on interviewer characteristics, they are not useful with such a small corps of interviewers. These interviewers are all college-aged and white.

Since prior cooperation between an interviewer and respondent appears to have a positive effect on subsequent participation, we assume that a prior respondent refusal will result in a similar outcome with the same interviewer – another refusal. Therefore interviewers cannot call cases on which they were previously refused.

It is possibly that some cases assigned to the audio group did not have the audio available due to technical problems or if the respondent called the call center to refuse (i.e. the interaction was not generated on the interviewer computers with the recording software).

If an interviewer has already listened to a case within the last month but did not get a hold of anyone on that call, they do not need to listen to that case again on a subsequent call, but were allowed to do so if they wished. Because cases may linger for a long time before an interviewer gets a hold of someone in the household, we asked interviewers to re-listen to a case if a month or more had passed since the last time they listened to the audio for that case.

Microsoft media player was used for audio playback. This program was chosen for its ease of use. This software allows the interviewer to pause, rewind and navigate through the audio. Interviewers are also randomly assigned to call the refusal cases so that interviewer characteristics are not confounded with the experimental condition.

RESULTS

Our key dependent variable is whether a case was converted to a complete interview or not. We also looked at whether a case a positive outcome, even if it had not yet been completed. Because the interview is long and some respondents are elderly, the interview is often conducted in multiple sessions. Thus we also looked at partial interviews as a positive outcome. Finally, we also looked at whether cases resulted in callbacks – signaling that the household member was no longer resistant to receiving our phone call – and we looked at whether the case resulted in a second refusal outcome.

The key independent variable is whether a case was listened to in the audio condition or not. We also looked at gender, age and IQ-scores, but none of these variables were significant in any tests, so we did not include them here. We also included controls for interviewer.

TABLE 1: Case Outcomes by Experiment Condition

	Audio	Control	Difference
Conversions , complete interview (Chi-Sq=2.56, p=0.11)	10.1% (N=18)	15.8% (N=28)	-5.7%
Conversions , partial interview (Chi-Sq=0.96, p=0.33)	3.9% (N=7)	6.2% (N=11)	-2.3%
Conversions , completes and partials (Chi-Sq=3.83, p=0.05)	14.0% (N=25)	22.0% (N=39)	-8.0%**
Callback arranged (Chi-Sq=1.81, p=0.20)	12.9% (N=23)	14.7% (N=26)	-1.8%
2nd Refusal (Chi-Sq=2.27, p=0.13)	39.9% (N=71)	32.2% (N=57)	7.7%
2nd Refusal and partial/refusal combined (Chi-Sq=3.75, p=0.05)	42.1% (N=75)	32.2% (N=57)	9.9%**
Total Cases	N=178	N=177	

** denotes statistical significance at the $p \leq 0.05$ level

Table 1 above shows the distribution of outcomes by audio condition. We examined completes and partial interviews both separately and together. We also looked at second refusals and partials that ultimately ended as refusals together as well. Very few of the results are statistically significant (using chi-square tests). However the general trend is contrary to our expectations. The audio condition results in fewer completes and partials and more refusals than the control condition, but only marginally so.

The first two columns of Table 2 below show the results from a logistic regression predicting completes and refusals by audio condition (including dummy variables for interviewer). The results are similar to what the table above suggests – namely that there is very little, if any, effect of listening to the audio. The model predicting completes and cooperative partial-interviews is not statistically significant, though the model predicting second refusals is significant.

Furthermore, the trend is in the opposite direction of what we had predicted. Listening to the audio of a prior refusal does not seem to help interviewers; rather it decreases the probability of completion and increases the probability of a second refusal.

Finally, there are a few individual interviewers that have a significant impact on success – interviewers number 3 and number 9 both had a negative impact on refusals (that is, they decreased the number of refusals). The dummy variables for these two interviewers are both statistically significant and substantively they have a much larger impact than any other interviewer, or even than the audio condition.

Finally, we also checked to see if interviewers complied with the experimental conditions. Verifying that a case was indeed listened to (in its entirety) is difficult to observe directly. The only way to verify compliance by interviewers was for someone to be present while the case was being listened to. This is not practical and would require a fair amount of supervisor time. Instead, we asked interviewers if they did indeed listen to the audio each time the case was called. This provides us with an indirect verification that the cases in the group being listened to did actually receive the treatment. We simply ran the same model for outcome by interviewer compliance – did they in fact listen to the audio or not – as we did for audio case assignment. The results in the last two columns of table 2 are almost identical to the results described above.

TABLE 2: Logit model predicting outcome by audio condition

	Outcome by case assignment+		Outcome by interviewer compliance++	
	Completes and Partial	Refusals and Partial/Refusals	Completes and Partial	Refusals and Partial/Refusals
Audio condition	-0.53*	0.46*	-0.45	1.22***
Interviewer Dummy Variables:				
2	0.72	-0.37	0.82	-0.45
3	0.90	-1.12**	0.88	-1.03**
5	1.12	-0.34	1.24	-0.53
6	0.58	-0.54	0.59	-0.65
7	1.10	-0.08	1.17*	-0.17
8	0.93	0.50	0.92	0.62
9	-0.76	-2.52***	-0.70	-2.59***
10	1.02	--	1.37	--
11	0.52	-0.29	1.26	-0.37
Constant	-1.71**	-0.30	-1.69**	-1.00**
N	283	280	288	285
Log likelihood	-138.295	-160.521	-140.119	-158.096
LR chi-sq	15.81	36.32	14.52	47.99
Prob > Chi-sq	0.105	0.000	0.150	0.000
Pseudo R-squared	0.054	0.102	0.049	0.132

+ Outcome by case assignment refers to the outcome (complete or refusal) by whether the case was assigned to the audio condition or not.

++ Outcome by interviewer compliance refers to the outcome (complete or refusal) by whether the audio for the case was in fact listened to by an interviewer or not, regardless of what group the case was originally assigned to.

* P<0.10; ** P<0.05; *** P<0.001

Logit regression. Audio condition is coded 0=control group (non audio), 1=Audio.

DISCUSSION

The results from this experiment show minimal effects from listening to recordings of prior refusals. This is contrary to our expectations, as more information – especially about the respondent’s frame of mind, their disposition, and their concerns about the survey – is usually regarded as being advantageous in increasing cooperation rates. Recordings might have provided information not usually described in interviewer call notes, and thus we expected they would be beneficial.

Though generally more information is considered better – and interviewers do request more information – the type of information may also matter. Listening to refusals may put interviewers in a frame of mind that is discouraging. Since interviewer expectations have been found to be related to success rates, listening to refusals may lower their expectations.

Results from this experiment are still preliminary; as the study is still being called. However there were also aspects of size that hampered full analysis of the preliminary results. The number of cases subject to the experiment is small, so minimal effects are hard to find. Refusal rates were lower than we had anticipated, resulting in a smaller pool of cases to study. Also, only the most experienced interviewers call this study; effects may be more pronounced on less-experienced interviewers, where differences in experience may interact with the study design. Also, the number of interviewers is small; this makes it difficult to study interviewer correlates. Finally, interviewer compliance was also an issue. In order to truly study the effect of the recording with random assignment, interviewers would need to comply more strictly with the protocols of the study. This also hampers studying the effects of listening to

audio. However, though it is not a perfect experiment, results from looking at cases by interviewer compliance reinforces the finding that listening to audio of refusals hinders the interviewers' performance on refusal conversion attempts.

Other aspects of the design may account for a minimal finding. Though we used a longitudinal study and anticipated that the results could be applied more usefully in longitudinal surveys where there is more information that can be helpful to interviewers, this particular study design uses cross-sectional data. The series of interactions between interviewer and respondent are smaller – and therefore likely to have a smaller impact – than full participation in a prior wave of the survey.

Also, the mode of survey administration may be an important variable. Most of the studies above administer their surveys face-to-face. Our data come from a telephone survey. Groves and McGonagle (2001) may be correct in their skepticism about the effectiveness of applying in-person techniques in telephone surveys. Also, the experimental design may have had an impact on interviewers. It is possible that listening to audio may affect rates on all cases, or that the experiment made interviewers more conscientious, regardless of what kind of case they are calling.

Though results are preliminary, they do suggest that more information about the respondent's psychological characteristics and disposition is not necessarily better. The type of information passed on to interviewers – and the way it is passed on to them – may also be important.

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