Mode and incentive effects on aspects of survey administration and data quality

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This paper examines the effects of survey mode and the distribution of incentives on aspects of survey administration (e.g., response rates and the responses themselves) and data quality (e.g., the percent of "don't know" and "refused" responses). The initial motivation for the present study stems from considerations regarding the administration of INDEPENDENT SECTOR'S biennial survey on the nation's giving and volunteering behaviors. Since 1988, the survey has been conducted as an in-home interview. Due to increasing costs, increasing difficulty with hiring field interviewers, and low response rates with this method, INDEPENDENT SECTOR decided to explore the feasibility of conducting the Giving and Volunteering Survey as a telephone rather than an in-home interview. To address this question, the Giving and Volunteering Survey was conducted nationally in parallel as both an in-home interview and a telephone interview by two different contractors in 1999.

Comparative analysis of the results of the telephone and in-home interviews revealed a number of striking differences between the two sets of data (Kirsch et al., 2000). First, the in-home response rate was 19.2% while the telephone response rate was 45.3% (Kirsch et al., 2000). Further, telephone respondents reported significantly higher average household charitable contributions than did in-home respondents ($1,270 vs. $754). Telephone respondents also reported volunteering about two and a half times more hours, on average, in the past month compared to in-home respondents (21.25 vs. 8.47 hours).

In light of these significant and major differences, the question arose as to whether these results reflected "true" mode differences or were a function of different contractor procedures and training. INDEPENDENT SECTOR determined that in order to assess fully the feasibility of changing to a telephone administration for the Giving and Volunteering Survey, a mode comparison should be conducted by a single contractor using standardized instruments and procedures that could better isolate mode effects. Further, INDEPENDENT SECTOR took the opportunity of the additional data collection to conduct an incentive quasi-experiment.

The analyses described here address the following research questions:

- Do advance letters with cash incentives increase response rates?
- Do higher cash incentives enhance response rates more than modest cash incentives?
- Does the mode of a survey's administration influence respondents' reports of giving and volunteering?
- Does the mode of a survey's administration affect data quality?

Method

Data Collection

Westat administered the Mode Study survey simultaneously as an in-home and a telephone interview between October 16, 2000 and December 15, 2000. Two New England County Metropolitan Areas (NECMAs) were selected for the study: the Hartford, Connecticut NECMA and the Springfield, Massachusetts NECMA. In selecting the data collection sites, Westat and INDEPENDENT SECTOR identified areas that were reasonably diverse in demographic characteristics such as income and race/ethnicity. Additionally, the areas had to be in close proximity so that experienced field staff and supervisors could interview respondents in both sites, thus reducing interviewer variance. Table 1-1 summarizes the number of completed interviews for each mode in each NECMA.

Table 1-1. Completed Interviews in Hartford and Springfield, by Mode

Hartford NECMA		Springfield NECMA	
Telephone	**In-Home**	**Telephone**	**In-Home**
298	224	313	224

Respondent Selection

Once the household was contacted, the interviewer selected the respondent by asking to speak with the head of the household. The head of the household was defined as the person responsible for completing the tax return for the household. INDEPENDENT SECTOR felt this person would be most knowledgeable about the financial information requested in the survey.

The Mode Comparison

Standardization efforts

Careful, systematic efforts were made to keep the data from the two modes as comparable as possible, including interviewer training, advance letter content, survey instrumentation, and all other aspects of the data collection.

Interviewer training materials were identical, apart from differences necessitated by the particular mode.[1] All *survey-specific* information was held constant across the modes, including: answers to commonly asked questions; question-by-question specifications; role-play materials; instructions for complex questions; and instructions for respondent selection.

Naturally, the content of the survey instrument was also identical for both modes. The contact procedures (i.e., screener), however, required a small degree of mode-specific tailoring. Five items from the screener portion of the telephone instrument were unnecessary and therefore deleted from the in-home version (e.g., "In what county is this home located?").

Other procedures were also standardized. For example, contacts with respondents outside the interview were handled in similar ways (e.g., encouragement to participate). Additionally, procedures for refusal avoidance and refusal conversion were also handled in similar ways. Lastly, the procedure for recontacting respondents to confirm unusual (i.e., outlier) responses[2] was scripted across both modes of administration.

As part of the incentive quasi-experiment (described in greater detail in the next section), advance letters describing the study were sent to sampled households for which addresses could be determined. In keeping with the standardization efforts necessary for a mode comparison, the content and form of the advance letters were nearly identical across the modes, though one referred to "calls" and the other to "visits." In addition, all the advance letters were sent via FedEx to the sampled households, regardless of whether the household was in the in-home sample or the telephone sample. FedEx express packages were sent rather than first-class mail to draw the attention of potential respondents, who may then be more likely to participate when contacted by an interviewer. Recent research by Cantor and his colleagues (1998) revealed higher response rates from households that received an advance letter sent via FedEx compared to households that received a pre-notification letter sent via first-class mail. All the advance notification letters contained some form of cash incentive.

The Incentive Quasi-Experiment

Although the Mode Study was primarily designed to investigate possible mode effects, INDEPENDENT SECTOR took the opportunity of the additional data collection effort to conduct a quasi-experiment to explore the costs and benefits of providing respondents with a small financial incentive to improve overall response rates. Please note that the design used to study the effect of incentive/advance letters on response rates was not a true experiment. That is, there was no random assignment to conditions and no control over potential confounding variables such as systematic differences between those households that received the incentive/advance letter and those that did not. Moreover, the incentive was always accompanied by an advance letter, thus it is not possible to isolate the potential effect of the advance letter from that of the incentive. Therefore, the design is more properly described as a quasi-experiment.

The incentive quasi-experiment was designed to address two questions. First, do advance letters with cash incentives increase response rates? To answer this question, response rates for households that received no advance letter/incentive (due to unavailable addresses) were compared to response rates for households that did receive the advance letter and cash incentive. Second, do higher cash incentives enhance response rates more than modest cash incentives? To answer this question, some households in the telephone sample were given a $5 incentive while others were given a $20 incentive. Because only households in the telephone sample received the $20 incentive, we only report incentive results for the telephone sample.

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[1] For example, the manual used for training the in-home interviewers included material on helping interviewers locate the sampled households, manage the listing sheets, and mail completed survey materials back to Westat.

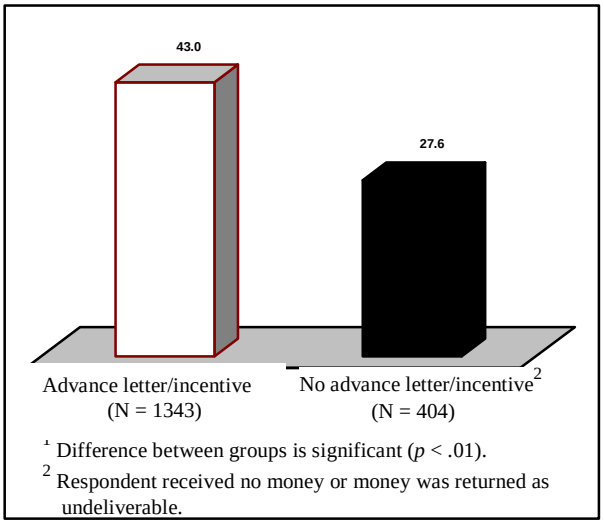
[2] Outlier responses were defined as reported charitable contributions in excess of 20 percent of the household's 1999 income.

Results

Do advance letters with cash incentives increase response rates?

The advance letter/incentive, as expected, had a large effect on response rates ($p < .01$). In the telephone sample, 43 percent of respondents who received either $5 or $20 in the advance notification letter participated. Respondents who received no advance letter and no incentive responded at a significantly lower rate (27.6%). Figure 1.1 displays these results which are consistent with the findings of research conducted by Westat and others showing the positive effects of incentives on response rates (e.g., Singer et al., 2000; Brick et al., 1997; Brehm, 1994).

Figure 1.1. Response Rates, by Incentive (Telephone Sample Only)[1]



[1] Difference between groups is significant ($p < .01$).

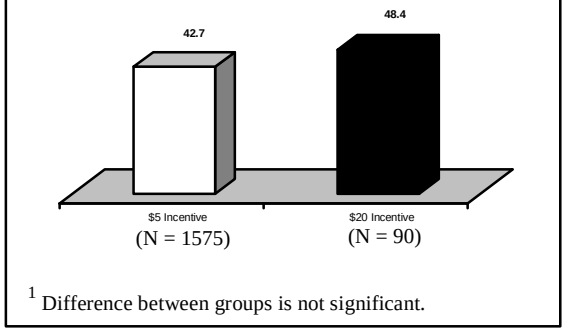
[2] Respondent received no money or money was returned as undeliverable.

It must be noted, however, that since the incentive was always accompanied by an advance letter, the observed increase in response rates could be explained by either or both factors. Also, caution is needed in interpreting these results because the group that did not receive the advance letter may be systematically different from the group that did. For example, the lack of addresses for the no-letter group could indicate a greater desire for privacy, contributing to their lower response rate.

Do higher cash incentives enhance response rates more than modest cash incentives?

Interestingly, the incentive analysis also revealed that the response rate for those who received the $20 incentive was not significantly higher than the response rate for those who received a $5 incentive (48.4% vs. 42.7%, respectively), as Figure 1.2 indicates. Some other studies that have examined the effects of incentive size show that larger amounts do indeed increase response rates (e.g., James & Bolstein, 1992). Our study suggests that while advance letters with incentives clearly have a beneficial effect on response rates, larger incentives do not necessarily work better than smaller incentives. However, this finding should be interpreted cautiously since those receiving the $20 incentive represented a very small number of respondents compared to those respondents receiving the $5 incentive.

Figure 1.2. Response Rates, by Size of Incentive (Telephone Sample Only)[1]



[1] Difference between groups is not significant.

Does the mode of a survey's administration influence respondents' reports of charitable giving?

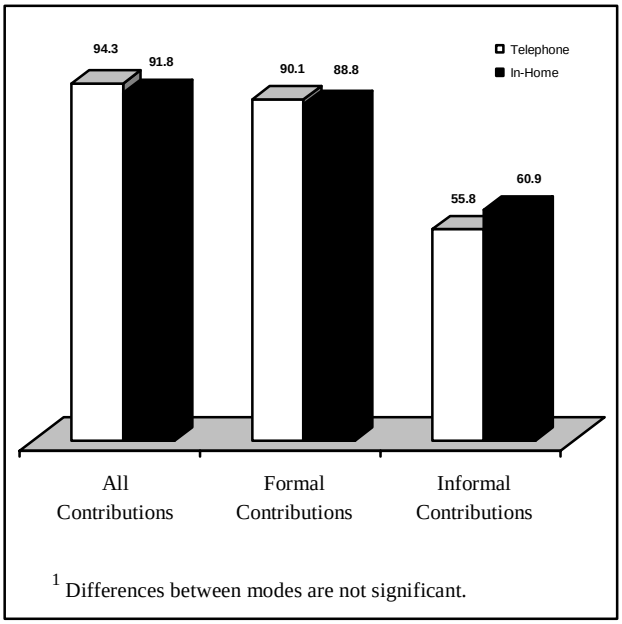
Telephone and in-home respondents were compared on two kinds of charitable contributions- formal and informal. *Formal* giving included voluntary contributions to a charitable organization, with no intention of making a profit or obtaining goods and services. *Informal* giving included direct giving (i.e., not through an organization) to relatives (e.g., non-resident children, parents), or to needy persons (e.g., homeless people, beggars). Respondents reporting a contribution, either formal or informal, were asked to report the amount of money or cash equivalent of property the household contributed to charitable organizations in 1999[3].

No effects of mode were obtained in any of the primary measures of charitable giving. These measures included:

[3] A respondent who was unable to recall the amount, was asked to provide a range. In the analysis, ranges were converted to midpoint values so that means could be computed.

- The percent of households that made any kind of charitable contribution in 1999, either formal or informal (see Figure 1.3).
- The percent of households that made one or more formal contributions in 1999 (see Figure 1.3).
- The percent of households that made one or more informal contributions in 1999 (see Figure 1.3).
- The mean household contribution made in 1999 (see Table 1-2).
- The mean formal contribution made in 1999 (see Table 1-2).
- The mean informal contribution made in 1999 (see Table 1-2).

Figure 1.3. Percent of All Respondents Reporting Household Charitable Contributions in 1999, by Mode[1]



[1] Differences between modes are not significant.

Table 1-2. Mean and Median 1999 Household Charitable Contributions for All Respondents, by Mode[1]

	Telephone		In-Home	
	Mean	***Median***	***Mean***	***Median***
Households with contributions	$1,846	$612	$1,824	$639
Households with contributions, excluding informal	$1,094	$398	$1,169	$398
Households with informal contributions	$742	$16	$671	$46

Note: This analysis excludes contributors who did not provide an amount.
[1] Differences between modes are not significant.

Does the mode of a survey's administration influence respondents' reports of volunteering?

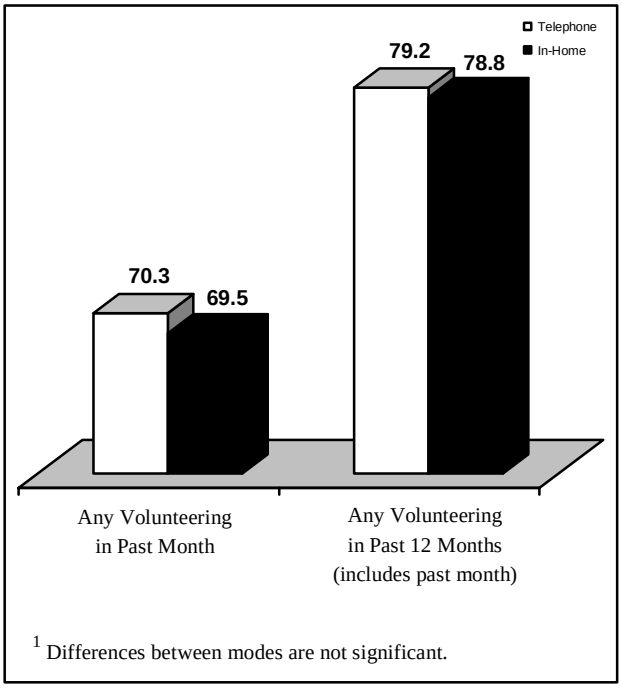
Similar to the measures of charitable giving, the Giving and Volunteering Survey measures two types of volunteerism, formal and informal volunteering. *Formal* volunteering involves unpaid work done to help others under the auspices of a service organization (e.g., church; civic organization). *Informal* volunteering consists of any other unpaid work done for others, but not within the context of a formal service organization. Informal volunteering includes activities such as helping a neighbor, caring for an elderly person, or baby-sitting children of a friend, but excludes help given to family members who live in the same household as the respondent.

Unlike reports of charitable giving, however, respondents in the Mode Study answered questions regarding their volunteer activities at the individual rather than household level. Respondents were asked to name and describe the organizations with which they worked in the past month and/or in the past 12 months. Respondents were also asked to report the number of hours they volunteered with each organization in the past month.

No effects of mode were obtained in any of the primary measures of volunteering activity. These measures included:

- The percent of respondents that reported any volunteer activity, either formal or informal, in the past month (see Figure 1.4).
- The percent of respondents that reported volunteer activity, either formal or informal, in the past 12 months (see Figure 1.4).
- The mean and median number of hours volunteered in the past month, either formally or informally (see Table 1-3).

Figure 1.4. Percent of All Respondents Who Volunteered in the Past Month and Past 12 Months, by Mode[1]



[1] Differences between modes are not significant.

Table 1-3. Mean and Median Number of Hours Volunteered In the Past Month for All Respondents, By Mode[1]

	Telephone		In-Home	
	Mean	***Median***	***Mean***	***Median***
Number of hours	14.9	4.8	15.7	5.5
Number of hours (excluding informal volunteering)	6.0	0.0	5.0	0.0
Number of hours informally volunteered	8.9	1.8	10.8	2.4

[1] Differences between modes are not significant.

Does the mode of a survey's administration affect data quality?

In order to assess the effects of mode on data quality, the number of "refused" and "don't know" responses given by respondents across all items in the survey for both the telephone and in-home datasets were tallied and compared. Table 1-4 shows that there were no mode differences in the mean number of "don't know" and "refused" responses between the telephone and in-home respondents.

Table 1-4. Mean Number of Refused and Don't Know Responses, by Mode

	Telephone	In-Home	Statistical Significance
Don't Know	1.1	1.4	NS
Refused	0.7	0.5	NS

Summary and Conclusions

Given the limitations of the Mode Study (e.g., relatively small sample size; conducted only in two northeastern cities), two conclusions nonetheless seem clear. First, survey mode does not appear to affect reports of giving and volunteering behaviors, nor does it seem to affect data quality (as measured by the number of "don't know" and "refused" responses). Second, incentives, even small ones, help to improve response rates.

Changing over to a telephone administration offers several benefits. First, the costs for administering telephone surveys are much lower than for in-home surveys. In addition, using a telephone research center allows greater control over interviewer and data quality. The interview process can be monitored more closely while CATI programming can help reduce miskeying and other interviewer mistakes.

The next Giving and Volunteering Study (2001) will examine estimates of giving and volunteering at a national level. With a larger nationally representative sample, it is possible that estimates of giving and volunteering may deviate from those obtained in the Mode Study. However, it seems clear that simply changing to telephone administration should not have a negative impact on INDEPENDENT SECTOR'S ability to continue exploring trends in the nation's giving and volunteering behaviors and attitudes.

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