THE EFFECT OF ALTERNATIVE INCENTIVES ON COOPERATION AND REFUSAL CONVERSION IN A TELEPHONE SURVEY

Martha E. Kropf, Julie Scheib and Johnny Blair, University of Maryland
Johnny Blair, Survey Research Center, 1103 Art-Sociology Bldg., College Park, MD 20742

Key Words: Incentives, cooperation, refusal conversion, telephone survey

I. Introduction

As the cost and effort to gain cooperation in telephone surveys increases, many researchers are exploring the use of incentives to increase initial cooperation rates and as an inducement in refusal conversion. Seldom has the combined use of incentives for multiple purposes been used in a single telephone survey.

Anecdotal evidence suggests that survey organizations are facing decreasing response rates in large part due to higher refusal rates. Thus, survey organizations must work harder to avoid initial refusals. Once obtaining a refusal, it seems they must work harder to convert it. Evidence also indicates that survey organizations are working harder to reach respondents. For example, Triplett (1998) shows that the average number of call attempts that the Survey Research Center at the University of Maryland has had to make to complete an interview has increased almost 30 percent over the ten years from 1989-1998.

II. Previous Literature

Monetary incentives for participation have long been used in mail surveys, including both pre-paid and promised incentives and contributions to charity (see for example, Church 1993; Warriner et al. 1996; Hubbard and Little 1988; Furse and Stewart 1982; James and Bolstein 1992). Survey organizations are increasingly experimenting with the use of incentives for increasing participation in telephone studies (see for example the work of Singer and her colleagues). Several different incentive types are being used:

1.) Pre-paid cash incentives enclosed with advance letters

2.) Offer of money upon completion

3.) Offer of money for refusal conversion

In telephone studies, the literature supports the general finding that advance notice which includes pre-paid incentives increases response rates (see for example Singer et al. 1999). These findings have differed in magnitude across studies and survey organizations. Few experiments have been done to examine whether differing amounts of pre-paid incentives have an effect on cooperation. Offers of contributions to charities have not been widely used in telephone surveys. Little work has examined which increases cooperation in a telephone survey more: a promise of a payment to an individual or a promise of a payment of the same amount to the individual's favorite charity.

III. Data

The Survey Research Center had an opportunity to study the effects of incentives in a recent national study. The data used for the incentive analysis come from an annual National Omnibus telephone survey conducted by the University of Maryland Survey Research Center. The Omnibus was an RDD sample of adults age 18 or older residing in telephone households in the 48 states. A Plus One list-assisted frame was used. Within each sample household, the "Next Birthday" method was used to select the respondent. Up to 25 callbacks were made to sample households. All but the most adamant refusals were re-contacted for conversion attempts. The survey objective was to complete 1,000 interviews. This year's Omnibus included questions on issues such as family gender roles, disabilities, and computer use.

Calling for the National Omnibus took place from March 10, 1999 through June 9, 1999. There were 1,001 completes[1], with a response rate of 57%[2]. The cooperation rate was 72.4%[3]. The sample disposition is reported in Table 1.

---

[1]Two completes were dropped from the analysis because of a sampling mistake.

[2]The response rate is calculated by taking the total number of completes and dividing that number by the total number of eligible households (Interviews/Eligible Households).

[3]The cooperation rate is calculated by dividing the number of completes by the number of completes plus the number of refusals (Interviews/(Interviews+Refusals).

For refusal conversion, 82% of the refusals were attempted and finalized as either a completed interview, second refusal, or a final non-contact.

Table 1. General Population Final Sample Disposition

Total Sample	**2,979**
Ineligible	1,014
Unknown Eligibility, non-interview	199
Eligible Households	**1,766 100%**
interviews partials (demographic questions not answered)	999 57% 2 0%
refusals	381 21%
non-contacts	317 18%
other (problems)	67 4%
Cooperation Rate (Interviews/Interviews+Refusals)	72%
Response Rate (Interviews/Eligible Respondents)	**57%** [4]

[4]This assumes none of the 199 cases whose household status was unknown were in fact households. The most conservative response rate defined by AAPOR assumes that all of the 199 "unknowns" are eligible using this formula:

I+P/(I+P) + (R+NC+O) +(UH +UO) where I=interviews, P=partially completed interviews, R=refusals, NC=non-contacts, O=other problems, UH=unknown whether the number is a household, and UO=unknown other. Using this standard, the response rate for this study would be 51 percent: (999+2)/[(99+2) + (381+317+67) + (199+0)]=51%. However, with a minimum of 20 calls this response rate is unrealistically low.

A final definition provided by the AAPOR standard assumes that a portion of the "unknowns" are eligible, which is consistent with the CASRO standard. The CASRO formula assumes the same percent of these unknown cases were households as for the rest of the sample. The response rate would then be 1,001/(1,766+126)=53% (Unidentified Eligibles = (1,766/(1,766+1,014)*199)=126). This follows the CASRO (Council of American Survey Research Organizations) convention. See *Report of the CASRO Completion Rates Task Force*, New York, Audits and Surveys, Inc., 1982. Again, this standard may be unrealistically low because SRC makes a minimum of 20 calls to each number.

IV. Research Questions and Methodology

The literature on incentives in telephone surveys leave several questions unanswered:

1.) We know that pre-paid incentives increase response rates, compared to no incentives (see for example Singer et al. 1999; Brick et al. 1997). What are the effects of different levels of pre-paid incentives on response rates? Is a $5 incentive more effective than a $1? Moreover, if there is an effect, is it large enough to justify the greatly increased cost?

2.) When pre-payment is not an option, which is more effective: a promise of a $5 contribution to a charity or a promise of a $ payment to the respondent?

3.) Is a $5 offer to charity effective in converting refusals where the household has already received or been offered a monetary incentive?

In this study, multiple incentive strategies are used to increase response rates. A advance incentive strategy for the whole sample was not possible because RDD samples are comprised of both listed and non-listed numbers.

This study's experimental design consisted of three components. The design was balanced within each one. In the first component, the listed portion of the sample (38%), an identical advance letter was sent to all households. In random thirds of that sample, a $1, $2 or $5 bill was enclosed with the letter. Because of concerns about response rate, there was no non-incentive treatment.

For the non-listed part of the sample, promised incentives were used. This part of the analysis tested whether a promised $5 incentive to the respondent's household versus a promised $5 contribution to the person's favorite charity would affect cooperation rates. We had some anecdotal evidence from an earlier study that suggested that when cash incentives are small, a contribution to charity may be more effective than the same amount offered to the prospective respondent.

The third component involved refusal conversion, where we compared refusal conversion with a promised incentive to refusal conversion with no incentive. The promised incentive that was used here was a $5 offer to the respondent's favorite charity or type of charity.

In the survey introduction for the unlisted sample

(62%), a random half of the individuals first contacted were told that:

Hello, I'm calling from the University of Maryland Survey Research Center, a research unit at the University. We're conducting a nationwide study about some interesting topics dealing with healthcare and other current issues. As a token of our appreciation for your household's participation in this survey, we will send your household $5. For this study, I need to speak with the adult in your household, who is 18 or older and will have the NEXT birthday.
Who would that be?

The other half were told that:

Hello, I'm calling from the University of Maryland Survey Research Center, a research unit at the University. We're conducting a nationwide study about some interesting topics dealing with healthcare and other current issues. As a token of our appreciation for your household's participation in this survey, we will send your favorite charity $5. For this study, I need to speak with the adult in your household, who is 18 or older and will have the NEXT birthday. Who would that be?

This randomization was controlled by the computer, not the interviewer.

It is important to note that in both experimental components, the incentive was directed to the household, since it was not known who would be the randomly selected respondent. In cases where the person who answered the phone was not the respondent, the incentive offer was repeated to the respondent.

In the advance letter component, the person opening the letter may or may not have told the other adults in the household about the offer. In those same households, the person answering the telephone and/or the respondent may or may not have been aware of the letter and incentive.

Of course, in the refusal conversion component, we excluded the respondents who were originally offered the $5 contribution to charity. The refusals from the listed sample and the rest of the non-listed refusals were combined to increase the treatment sample sizes. Half of the refusals was offered $5 to a charity, and the other half was not offered anything, but standard refusal conversion was attempted. The computer randomly assigned them to one of the two conditions.

V. Results

First, the results of the gaining cooperation techniques are examined for listed households to whom advance letters and cash incentives were sent. Table 2 shows the results of the experiment comparing cooperation rates for different amounts of pre-paid incentives. There is a significant difference between the three amounts (p=0.084 for a two-tailed test).[5]

Table 2: How Different Incentives With Advance Letters Affect Cooperation Rates

	$1	$2	$5
Completed	182 (70.9%)	168 (73.0%)	200 (77.8%)
Refusal	81 (29.1%)	62 (27.0%)	57 (22.2%)
Total Receiving Treatment	263	230	257

χ^2=4.95, p=0.084 (two-tailed test)

When comparing only the $1 versus $5 treatments, the difference between the cooperation is significant at p=0.026. Thus, providing a $5 incentive rather than a $1 incentive means approximately a seven percentage point difference in cooperation rates. However, at five times the cost of the $1 incentive, a survey organization would have to weigh the benefits of increased cooperation rate with the $4 higher cost per case.

Next the effects of different types of promised incentives on non-listed households are examined. Table 3 demonstrates that there is no significant difference between the promise to charity and the promise to the household.[6]

[5]Forty-seven letters were returned to SRC with bad addresses. These 47 were excluded from this analysis, as well as the refusal conversion analysis.

[6]There were 13 people who were offered $5 at the completion of the interview, but told us to send the money to a charity. The results do not change when these people are excluded from the analysis.

Table 3: How Different Promises of Incentives Affect Cooperation Rates

	$5 Offered to Household	$5 Offered to Charity
Completed	155 (54.6%)	152 (49.7%)
Refused	129 (45.4%)	154 (50.3%)
Total Receiving Treatment	284	306

χ^2=1.42, p=0.233 (two-tailed test)

Table 3 includes all refusals, regardless of which person in the household refused the survey–the table does not separate "refusals by respondent" from "refusals by informant or by an unknown party." Table 4 shows only the cases where a respondent was identified, and the selected respondent chose to cooperate or not. This also eliminated the possibility of looking at those cases where someone in the household simply hung up the phone without giving the interviewer the opportunity to make the offer.

Table 4: How Different Promises of Incentives Affect Cooperation Rates, Excluding Refusals by Informant

	$5 Offered to Household	$5 Offered to Charity
Completed	155 (82.9%)	152 (74.9%)
Refused	32 (17.1%)	51 (25.1%)
Total Receiving Treatment	187	203

χ^2=3.73, p=0.05 (two-tailed test)

In the case where the offer was actually made to the selected respondent, the difference between the two offers is significant. The $5 offered to the household is more effective than the $5 offer to charity.[7]

Table 5 shows the results of the third component of the experiment. It indicates that there is no significant effect of an incentive offering a promised contribution to charity at refusal conversion. One reason these results may be so weak is because of the small sample size.[8]

Table 5: How a Promise of an Incentive Affects Cooperation at Refusal Conversion

	No Offer	$5 Offered to Charity
Completed	26 (21.8%)	33 (27.5%)
Double Refusal	93 (78.2%)	87 (72.5%)
Total Receiving Treatment	124	126

χ^2=1.03, p=0.311 (two-tailed test)

VI. Discussion and Conclusion

Our findings show that, as expected, a $5 pre-paid incentive has more of an effect on cooperation than a $1 incentive. However, marginally increasing the incentive to $2 did not significantly increase cooperation, even with the uniqueness of a $2 bill.

We had hypothesized that $5 offered to a charity would appeal to the altruistic side of individuals. However, altruism may not be the factor motivating participation in this survey. First, there was no significant difference in cooperation between offering a household $5 or offering to donate $5 to charity. When analyzing only at the selected respondent rather than refusals by informants or by an unknown party, self interest seems to be the motivating factor. Here, $5 to the respondent is more effective than $5 to the respondent's favorite charity. Furthermore, in refusal conversion, $5 to charity is also ineffective in increasing the probability of conversion.

[7]These results also hold when excluding the people who told us to send their $5 to a charity instead of to their household.

[8]Only 82% of the refusals were finalized. Further, only those refusals who were offered or received cash the first time were eligible for the experiment. This analysis excludes the 9 people (mailed an advance letter and incentives) who returned the money and refused to do the interview. They are coded out as a second refusal, and never received the refusal conversion treatment. This analysis also excludes the 47 bad addresses from the advance letter portion of the sample, since they did not first receive the cash incentive.

VII. Sources Cited

Brick, J. Michael, David Cantor, Jeffrey Kerwin, Pamela Giambo and Eleanor Singer. 1997. "Review of Methods to Increase Coverage and Response Rates on the Study of Privacy Attitudes." Unpublished report submitted to the US Bureau of the Census.

Church, Allan H. 1993. "Estimating the Effects of Incentives on Mail Survey Response Rates: A Meta-Analysis." *Public Opinion Quarterly* 57: 62-79.

Furse, David H. and David W. Stewart. 1982. "Monetary Incentives Versus Promised Contribution to Charity: New Evidence on Mail Survey Response." *Journal of Marketing Research* XIX: 375-380.

Hubbard, Raymond and Eldon L. Little. 1988. "Promised Contribution to Charity and Mail Survey Responses: Replication and Extension." *Public Opinion Quarterly* 52: 223-230.

James, Jeannine M. and Richard Bolstein. 1992. "Large Monetary Incentives and Their Effect on Mail Survey Response Rates." *Public Opinion Quarterly* 56: 442-453.

Singer, Eleanor, John Van Hoewyk, and Mary P. Maher. 1999. "Experiments with Incentives for Survey Participation on the Survey of Consumer Attitudes." Unpublished paper.

Triplett, Timothy. 1998. "What is Gained from Additional Call Attempts and Refusal Conversion and What are the Cost Implications?" www.bsos.umd.edu/src/papers.html

Warriner, Keith, John Goyder, Heidi Gjetsen, Paula Hohner and Kathleen McSpurren. 1996. "Charities, No; Lotteries, No; Cash, Yes: Main Effects and Interaction in a Canadian Incentives Experiment." *Public Opinion Quarterly* 60: 542-562.

***We especially thank Timothy Triplett for his assistance in this project.**