



RESPONSE ANALYSIS

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FALL 1981 INCENTIVE EVALUATION REPORT FOR THE NATIONAL DRUG ABUSE SURVEY

(The Effectiveness of Cash Incentives to Respondents As an Inducement
to Cooperate in Completing an In-Home Interview)

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I. Introduction

A. Objectives

In recent years, survey organizations have reported increasing difficulty in obtaining respondent cooperation. A growing body of literature suggests that one means of reducing respondent non-cooperation is to use an incentive, i.e., a reimbursement to respondents for the burden of responding. Such incentives are seen as a means of: enhancing respondent motivation, reducing respondents' perceptions of inconvenience, reducing item nonresponse, and improving interviewers' expectations of respondent cooperation.

Looking at past National Drug Abuse Surveys, there is evidence that supports the use of an incentive to attain higher response rates. The table below reflects the response rates and incentive levels over the past six nationwide drug surveys.

TABLE 1

Response Rates and Incentive Levels: 1971-1979

Age:	\$0		\$2*			\$3		
	<u>12-17</u>	<u>18+</u>	<u>12-17</u>	<u>18-25</u>	<u>26+</u>	<u>12-17</u>	<u>18-25</u>	<u>26+</u>
1971	76%	69%						
1972	62%	60%						
1974	78%	76%						
1976	79%	78%						
1977						82%	84%	79%
1979			86%	84%	80%			

As the table indicates, response rates increased when incentives were introduced in 1977 and 1979. It should be noted, however, that the National Institute on Drug Abuse raised the specified response rate to 80 percent at the same time that it introduced the use of incentives. Nevertheless, it is interesting to note that after incentives were introduced, the achieved response rates for youths (12-17) and young adults (18-25), but not for older adults (26+), was 82 to 86 percent, two to six percentage points above the specified response rate of 80 percent.

*This was actually a \$3 value with one dollar expended on special packaging (the two Eisenhower silver dollars were mounted on a printed card and encased in a clear cellophane wrapper).

1. 1981 Scope of Work

In an effort to obtain more data on use of an incentive in the National Survey, the NIDA authorized a \$3.00 incentive for the 1981 study and called for a limited respondent incentive evaluation in the scope of work statement:

In previous National Surveys on Drug Abuse, respondents received a gratuity valued at approximately \$3.00. This practice shall be continued in the 1981 survey. In an effort to determine the cost effectiveness of this practice in reducing interviewer callbacks and assuring at least an 80 percent response rate, an incentive evaluation study will be undertaken as part of the 1981 National Survey.

During the initial 30-day field data collection period, the contractor shall conduct an evaluation of incentive payment of respondents. This cluster of approximately 300 households shall be assigned to different conditions. The control conditions shall be defined as no payment to respondents; two experimental conditions (approximately 100 respondents each) shall be defined in terms of size of payment. Each of the experimental groups shall receive \$3.00 and \$6.00 respectively.

2. 1981 Proposal

In response to this directive, we proposed to perform an empirical test of the effectiveness and cost efficiency of incentives. Specifically, we proposed that the use of \$3.00 and \$6.00 incentives be compared to the use of no incentive to test the hypotheses that:

- a. The use of incentives increases the response rate;
- b. the use of incentives decreases the average number of visits to the households; and
- c. the use of incentives decreases the average direct cost per completed interview.

Due to the limited time and resources allocated for the incentive experiment study and the need to implement the next National Survey, we were not authorized to conduct an exhaustive test of the effects of incentive payments across all possible conditions that might arise over the course of the survey. In addition, the experiment was limited to a fixed number of cases and, according to the plan, this subset of respondents was to be incorporated into the overall National Survey.

Given these specifications, we viewed the experiment as a limited test, economical in time and cost, of the effectiveness and cost efficiency of respondent incentives under carefully selected treatment conditions, with minimum disruption of the overall survey.

B. Procedures

1. Sample Selection

Implementation of the incentive evaluation study began with the selection of the 36 locations to be used in the experiment. The guiding principle was to match and stratify on factors that might be correlated with the response rate independently of incentive level. Two factors were chosen: expected difficulty in obtaining interviews (as measured by previous completion experience in the National Survey) and region of the country.

In accordance with this design, the first step was to divide the 400 locations in our National Probability Sample into three strata on the basis of actual completion rates in the 1979 National Survey (high completion, medium completion, and low completion). The locations were further stratified on the basis of region (Northeast, North Central, South, and West), resulting in 12 sets of locations. Then three locations were randomly selected from each set of 12 locations, resulting in 36 locations. The final procedure was to randomly assign the locations in each matched set of three to one of the three treatment levels. That is, within each set of three locations, one was randomly assigned to the "no incentive" treatment, another to the \$3.00 incentive, and the third to the \$6.00 incentive.

The locations were then prelisted and household units were selected at random from the prelistings. Each location had 17 households designated for enumeration. On the average, 17 households were expected to yield 10-11 persons selected for the sample (because the sampling plan differentially selects various age groups: in some households there is no selected respondent, while in others there may be one or even two respondents selected). Thus, the 36 locations were expected to generate about 360 to 400 designated respondents, depending on the age comparison in the selected households. Assuming a response rate of 70-75%, this would yield approximately 250 to 300 completed interviews.

2. Controlling the Interview

Two additional steps were taken to control features of the interviewing situation that could affect the response rate independently of incentive level. First, the experiment was double blind: neither the interviewer nor the respondent was told that the incentive level varied across locations.* Thus, we prevented interviewers' expectations regarding differences in incentive level from consciously or unconsciously influencing their attempts to obtain an interview. In addition, since all respondents in a given location received the same incentive treatment, respondents could not compare their incentive offer to that of others in the survey.

*To ensure against the likelihood of interviewers' becoming aware of the varying incentive levels, only one location was assigned per P.S.U.

Second, an effort was made to assign interviewers of similar ability to the experiment. The selected individuals were good, reliable, "average" interviewers rather than "exceptional" or "marginally acceptable" interviewers. In all, there were 36 interviewers -- one per location; they had all worked on previous Response Analysis studies and about half of them had experience with past drug studies.

3. Selection, Training, and Supervision of Interviewers

Interviewers were trained at full-day personal training sessions held at four locations (Atlanta; St. Louis; San Francisco; and Newark, New Jersey) from November 18 to November 20. These sessions were conducted by two staff members with extensive experience in training interviewers for drug studies. Interviewers were not apprised of the actual incentive level until they called the office the day after the training session. In this way, we achieved the cost efficiencies associated with a single training session for all three treatments while ensuring the double blind training situation; i.e., interviewers were not aware of varying incentive levels.

The field period was November 18 to December 7, a relatively short span of time considering the inclusion of the Thanksgiving holiday. Interviewers were given strict instructions with regard to the field period and only those interviewers who could fully devote themselves to the task were assigned to the study. Close field supervision was instituted, including daily calls to check interviewer progress to ensure that the incentive evaluation interviews would be completed in time for a December 15 report. While the National Survey is always closely supervised, the daily calls were a singular departure from our ordinary field procedures.

In all, 313 respondents were interviewed during the incentive experiment: \$0 incentive level -- 100; \$3 incentive level -- 105; \$6 incentive level -- 108.

II. Findings and Conclusions

A. Introduction

This section presents the outcomes of the study in three parts:

1. A statement of findings.
2. Conclusions and recommendations based on the findings.
3. Discussion that shares with the reader the experience of conducting the experiment, and observations that may help to explain the outcome.

Available for analysis are data on the field experience and the results of the debriefing interviews with interviewers. (See Appendix D and Appendix E.)

For the analysis, we utilized percentaged data, f tests, and Duncan's Multiple Range tests. (See Appendix C.)

B. Findings

Data were available for analysis:

- For three incentive levels
- For three age groups of respondents
- For four regions of the country
- For the observed response rates in the same (contiguous) locations in the 1979 National Drug Study

1. Overall

The data show no statistically significant differences attributable to the incentive treatments. Specifically, with regard to the three hypotheses to be tested, there are no statistically significant differences between the three treatment levels in terms of:

- response rate;
- average number of visits to the household; or
- average direct cost per completed interview.

2. Response Rate

On a total sample basis, there are no statistically significant differences between incentive levels. Response rates for the three treatment levels are: 77% with \$0 incentive; 75% with \$3; and 81% with \$6. The lack of statistical difference also obtains for each of the three age groups (youth, young adults, and other adults).

A response pattern is evident among the youth cohort with the response rate increasing along with the incentive: 68% at \$0, 80% at \$3, and 86% at \$6. This response pattern was confirmed by some interviewers who, in telephone debriefings after the field period, said that they think incentives make a difference with youthful respondents. (Interviewers also reported that incentives make a difference in lower class neighborhoods, thus suggesting a differential impact of the incentive on various economic subgroups -- a hypothesis that the incentive experiment was not set up to test.) The response pattern that characterizes the youth data is not evident for the other two age cohorts, 18-34 and 35 and older.

Looking at the data by region and 1979 completion rate, we find nothing that is both significant and meaningful in terms of our previous experience. The cell sizes are so small that any significant differences that do appear are due to normal variation in respondents and locations within a sample of this size.

3. Average Number of Visits to Household

Again, no significant differences appear among the three incentive treatments. Looking at the three age cohorts, the average number of visits for the various incentive levels ranges from 2.1 to 3.0. The greatest variation is found among the youthful cohort, with the average number of visits somewhat smaller at the \$6 level (2.1) than at the \$3 or \$0 levels (3.0 and 2.8 respectively).

4. Average Direct Cost per Completed Interview

There are no significant differences across incentive levels for "total cost per interview" or "interviewing cost per interview." In fact, the interviewing cost per interview is almost identical across the three incentive treatments: \$11.00 for no incentive and \$3 incentive, and \$10.00 for the \$6 incentive.

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C. Conclusions and Recommendations

1. It is useful to review the commonly held beliefs among survey researchers with respect to incentives offered to respondents as an inducement to cooperate.
 - a. Belief: A higher degree of cooperation will be achieved with a cash incentive than without one.
 - b. Belief: The amount of the incentive must be large enough to suggest either appropriate payment for respondent's time or a symbolically sincere expression of gratitude.
 - c. Belief: Incentives are usually effective for two reasons: inducement to respondents and motivation to those interviewers who otherwise believe that they are imposing on the time or privacy of respondents.

There are other beliefs, more subtle than the above. For this report, the primary beliefs, as stated above, are the important ones to make explicit.

2. The findings from this study are not consistent with the above beliefs. These study findings indicate that:
 - a. Completion experience was about the same for no-incentive as for some-incentive.
 - b. No differences in response rates were observed between the two cash amounts.
 - c. The observed response rates at each incentive level (\$0, \$3, \$6) were not only about the same but were within the range of acceptable practice (about 75%-80% response rates according to the formula shown elsewhere in this report).
3. When the data were available, each senior member of the research team experienced dissonance between their beliefs and the data, and soon found explanations that would partially neutralize the findings.

Further thought suggests that the data may be closer to reality than would have been supposed at first examination.

However, there is a clue that something other than incentives was operative and may have partially confounded the results. The clue: an unusually high response rate (compared with other years' drug studies) across all treatments.

Data reported here are from an "original" assignment to interviewers. That is, interviewers were limited to four separate visits to complete the interview in households where there was one eligible respondent, and six separate visits maximum in households where there were two eligible respondents.*

Typically, in analogous drug studies in past years, this original assignment has produced a response rate of about 60% (with some variation). A reassignment of incomplete households (making them the task of an interviewer other than the interviewer who did not complete them) in a location has been necessary in order to bring response rates up to the contracted level.

In this experiment, the experience from the initial assignment alone produced response rates that have always before needed one or more waves of reassignments.

4. It appears to us that these findings - to the extent that they are accepted as valid - could have a meaningful influence on procedures for federally funded and other research practice (for in-home, face-to-face interviews of comparable duration and difficulty).

*This has been standard procedure in previous drug studies. In households where one or more occupants are ages 12-17, one of these persons is eligible, and also an adult in the same household may be eligible. Dual eligibility allows the interviewer up to six visits; where there are no persons 12-17, only one adult in a household may turn out to be eligible. Reassignments are also on the basis of six visits for two persons, four visits for one.

5. Response Analysis Recommendations

a. First recommendation

Continue a \$3.00 incentive to each respondent, as already budgeted, for data collection for the 1981-82 drug study. As Table 1 indicates, response rates have been higher in those years when respondents were given an incentive.

Rationale: The findings from this limited experiment should not determine the effectiveness of the outcomes for the major nationwide drug study.

b. Second recommendation

Response Analysis will review and re-examine its procedures to determine not only which activities contributed to the unexpectedly high response rates for each treatment, but also which procedures could be adopted for the main data collection without additional budget requirements. In other words, we shall learn what we can from this exceptional experience to improve the data collection to come.

c. Third recommendation

This study should be replicated.*

The findings are too much of a departure from conventional beliefs to regard them as enough by themselves to determine an important change in a practice which costs relatively little compared with the total cost of data collection, but which could affect the utility of the whole data collection effort.

If the findings had been consistent with belief (i.e., some incentive more effective than no incentive) a recommendation for replication would have been less likely.

Pending the outcome of such a second study, we regard the present findings as provocative but not a sufficient basis for action.

* We have a number of observations about the way that such a replication can be more usefully implemented. We regard these observations as outside the scope of this paper.

D. Discussion

After reviewing the results of the incentive evaluation study one could come to any one of three conclusions:

- incentives have no effect on response rate;
- the sample size was not large enough to determine the effect of incentives on response rate; or
- there is another effect(s) that overshadows the effect of the incentive.

Without additional information, and based on this study -- which is the best information available -- we might be influenced to choose the first option: incentives have no effect on response rate.

It should be noted, however, that the incentive experiment has had additional value: it has confirmed our belief that one of the main benefits of an incentive is its value in motivating interviewers, and, quite unexpectedly, it has suggested some new approaches to increasing response rates.

1. Motivating Interviewers

When we recruited and trained interviewers for this study, one of the first questions interviewers asked was, invariably, if there would be an incentive. The very fact that there is an incentive plays an important part in the recruitment, training, and performance of interviewers. It enhances the interviewer's expectations of respondent cooperation, and such expectations become a self-fulfilling prophecy. Interviewers who feel more comfortable approaching the respondent are more likely to obtain consent to proceed with the interview.

In debriefing sessions after the experiment, interviewers related their experience with the incentive. When asked, "How about the incentive payment. Did that help you a lot, help some, or not help much?", 80% (10 out of 12) of those assigned to the \$6 treatment said it helped "a lot" compared to 40% (5 out of 12) of those assigned to the \$3 treatment.

2. Increasing Response Rates: Possible Alternatives

The second, and somewhat serendipitous, effect of the incentive experiment was that it set in motion a chain of events that led to the use of field procedures that enhanced interviewer performance and may have improved response rates.

This chain of events began when the incentive experiment, which was to be embedded in the National Survey, was re-scheduled to occur prior to the overall survey. Time became an important factor. The incentive evaluation had to be completed before Christmas so that HHS and OMB approval could be obtained in time to field the remainder of the National Survey in January 1982. This time constraint led to the adoption of a number of field procedures that were atypical for the drug survey (e.g., extremely close supervision including daily calls to interviewers). We became "deadline" oriented and conveyed this message to the interviewers. The interviewers produced -- in fact, they over-produced to the extent that we wondered if the resulting high response rates were due in some small part to a "Hawthorne effect."* That is, the interviewers became so attuned to our needs and the close supervision they were receiving that it was this special treatment that produced the high and unvarying response rates between incentive levels.

Looking back objectively on the experience, it seems that the outcome of the experiment might have been different if it had been embedded in the National Survey and received no special attention. Nevertheless, the experience gained during the incentive evaluation experiment may be useful in suggesting alternate means of raising response rates. Indeed, with close supervision (i.e., daily or near daily phone calls) and no incentives, it seems likely that we could attain an 80% response rate, overall, with a minimum of 75% in any given subgroup. Of course, such close supervision would be costly in terms of internal staff time and could add considerably to the cost of the contract. Moreover, it should be noted that even with close supervision we could not commit ourselves to achieving the contracted 80% by each of the various subgroups unless there were an incentive.

*George A. Penneck, "Industrial Research at Hawthorne," Personnel Journal, Vol. 8, February, 1930, pp. 296-313.