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ABSTRACT

An overview is provided of factors considered relevant to gaining and maintaining the participation of subjects in longitudinal studies. Research findings indicate that the response rate can be affected by various aspects of the questionnaire, type of sponsorship, use of incentives, special mailing techniques, and followup procedures. Other factors that survey practitioners consider important are the contents and approach of the cover letter and followup communications, personalization, promise of anonymity, and enclosing a stamped, addressed envelope. In conducting surveys, researchers have found a relationship between response and respondent characteristics such as sex, race, achievement, educational level, and occupation. These findings suggest the importance of making all subjects feel they are valuable members of the population and employing motivating techniques that will win the cooperation of those more likely to be nonresponders. Survey literature also contains a large body of information on the psychological and mechanical aspects of designing a questionnaire that will appeal to respondents. Researchers stress the importance of subject identification with the study and suggest various techniques for gaining and maintaining their cooperation, including techniques for tracing respondents who have moved and/or changed their names. (Author/KM)

MAINTAINING SUBJECT PARTICIPATION: FACTORS TO CONSIDER IN A LONGITUDINAL STUDY

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Introduction

The mail survey has been widely accepted as a comparatively inexpensive and efficient procedure for gathering information about a specific population of persons. It seems reasonable to anticipate that, inasmuch as the response rate is critical to the success of a survey, conclusive research evidence on ways of ensuring an increased response rate would be found in the literature on surveys.

As the available survey literature was reviewed, several facts became evident: (1) many factors relative to promoting a higher response rate to questionnaires have been identified and discussed at length; (2) empirical evidence concerning the relationship of these factors to response rate is sparse in some areas and inconclusive in others because of conflicting findings; and (3) because of survey and population differences, and the possible confounding of variables within a study, it is advisable to be cautious in generalizing conclusions from one study to another. As Erdos (1970) has pointed out: "There is no magic wand which can be waved to guarantee a high response rate; it can only be achieved through careful planning in all phases of a mail survey [*p. 149*]."

This report will briefly overview available research findings on those factors identified in survey literature as important considerations for: (1) obtaining increased response to mail surveys, in general, and (2) retaining the participation of subjects in a longitudinal study. Where research findings have not been available, the guidelines and recommendations appearing in survey texts and reports will be considered.

Short-Term Considerations

The Accompanying Letter

The cover letter which accompanies the questionnaire is most likely the first item in the mailing that the subject reads. It serves both to introduce the survey and to motivate response. In considering its drawing power, Goode and Hatt (1952) note: "The appeal is the one-shot stimulus and its failure will result in the failure to gather data at all [*p. 178*]."

In view of the importance of the cover letter, it is not surprising to find considerable discussion relating to the qualities and essential ingredients which will get people to respond. The publication, *Guidelines for Conducting Periodic Follow-Up Studies in the VTAE System* (1970),* suggests that the general tone of the cover letter be "problem centered and partner centered." Others (Erdos, 1970; Goode and Hatt, 1952) advise that the cover letter be brief, simply and carefully worded, and easy to read. Although research evidence is lacking, there is a general consensus of opinion concerning the specific ingredients of an effective cover letter. The following points are usually recommended:

1. Describe the general purpose and importance of the study.
2. Name the sponsor and organization conducting the study.
3. Tell why the recipient is important to the study and request his cooperation.
4. Stress ease of answering the questionnaire and tell how long it will take to complete it.
5. Assure confidentiality -- tell how data will be reported.

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6. Motivate the respondent to reply.

7. Motivate promptness of return.

8. Offer stamped and addressed envelope.

9. Thank individual for his assistance.

Other features pertaining to the cover letter are also seen to affect the response rate. Lundberg (1968) stresses the importance of the stationery and letterhead since they provide the recipient with his/her first impression of the "character, respectability, and importance" of the survey. Erdos (1970) reports that including the name of the recipient in the salutation has helped increase the response rate by several percentage points in a number of studies he has conducted.

Questionnaire Design

If the cover letter has served its function, the attention of the recipient will then be drawn to the questionnaire itself. The recipient may be motivated to respond at this point, but after quickly glancing at the questionnaire or even after beginning to answer it, the willingness to reply may be affected by a number of factors relating to the contents of the questionnaire itself.

Research provides no scientific prescription to follow in designing a questionnaire that will elicit a high response. Moser (1971) has pointed out that each survey is unique and that in designing an effective questionnaire, one must take into account the knowledge of the survey population, the subject matter of the survey, previous experience, common sense, and the results of the pilot work. He observes:

> It is fair to say that questionnaire design is the survey director's most persistent headache, particularly, since it is still so largely a matter of art rather than science [*p. 308*].

Based on the experience of researchers, a great deal of practical information is available on the qualities of a questionnaire designed to maximize response.

Developing Rapport. Rapport is important in helping maintain motivation to respond and encouraging honest and useful replies. Various techniques for developing rapport appear in the literature. Erdos (1970) suggests that a good introductory question or set of questions can be very valuable in tying-in with the accompanying letter and that nimble sectionalizing and phrasing will help make the subject matter more interesting.

Oppenheim (1966) advises that the tone of the questionnaire be neutral in feeling and create an air of permissiveness that will help elicit honest responses, even to touchy questions. He stresses the importance of respect, consideration, and politeness, and warns against using questions that will make the potential respondent feel defensive. Erdos warns that rude, inconsiderate, or embarassing questions dealing with socially disproving attitudes or behavior may strongly affect the recipient's motivation to continue.

Personal questions pertaining to age, income, or other variables unique to the sensibilities of the population being surveyed may also be resented. If such questions are necessary, special care must be taken not to alienate the respondent. McKinney and Oglesby (1971) suggest placing such questions at the close of the questionnaire. Obviously, careful wording and the development of rapport can help counteract sensitivity to questions that are considered highly personal by the respondent.

Wording of Questions. Writers in the area of questionnaire design warn that using inappropriate or insensitive wording in phrasing questions may negatively affect the response rate. Lundberg (1968) emphasizes:

> The education and general intellectual level of the public from which answers are desired will determine to a large extent what degree of simplicity (i.e., vocabulary, sentence structure, etc.) is to be employed [*p. 191*].

Inasmuch as each survey and the population being studied is unique, sensitivity to the characteristics of the population is required to achieve effective wording. Young (1966) suggests that the vocabulary used should be simple and capable of being understood by the least intelligent of the group.

A number of other suggestions concerning wording appear in survey literature. In general, there is agreement that questions should be neutral in wording and that it is preferable to avoid long involved sentences, technical terms, and regional expressions.

Sequence of Questions. The guidelines which appear in the literature on questionnaire design suggest that a logical, systematic ordering of questions can help capture and sustain the interest of respondents. Scott (1961) hypothesized that interest is particularly important in a lengthy questionnaire. Clausen and Ford (1947) found that a multi-phasic questionnaire brought a larger response to the initial mailing than a shorter, single topic one. Franzen (1936) suggests that the number of unrelated subjects in a questionnaire may adversely affect the respondent's motivation to continue.

The recommendations made for effectively ordering questions focus on developing continuity and strategically placing questions to allow an interrupted flow of thought. There is general agreement that the opening questions should be simple to answer, neutral in feeling, and should attempt to develop rapport. Young (1966) suggests that interest-catching questions make good openers.

The literature on questionnaire design suggests a number of techniques for achieving continuity within an instrument. Questions may be grouped into sections by subject or time sequence or some combination of both. Young notes that poor time sequencing forces the respondent to jump from one time period to another. However she considers that where there is a conflict, it is usually more important to observe subject matter sequence than time.

It is also generally advised that the questionnaire logically move from one topic to another and that a brief introductory comment be used to introduce an important change in thought. Continuity within a group of questions may be developed by starting with questions of a general nature and then proceeding to more specific ones, or reversing this process.

As previously mentioned, it is recommended that questions which may offend the sensitivities of respondents be asked only after rapport has been developed. Also, since such questions may affect the respondent's desire to continue, it is recommended that these questions be placed toward the end of the questionnaire.

Length. Survey literature contains considerable advice against using long questionnaires. Many research practitioners agree that the shorter the questionnaire, the more likely it is to receive a higher response (Erdos, 1970; McKinney and Oglesby, 1971; Leslie, 1970; Orr and Neyman, 1965). However, conflicting research findings concerning the relationship between response rate and questionnaire length suggest that "the shorter, the better" is not always true, and that there is no exact formula that can be followed.

Several studies which analyzed a large number of mail surveys have concluded that short questionnaires did elicit a higher response than longer ones. For example, Erdos reports on a comparison made of the response rate of 330 separate studies and mail surveys conducted by his commercial market research organization. Of these mail surveys which were directed to subscribers, business men, professionals, consumers, and others, 116 surveys used one-page (one side) questionnaires, 140 used two-page (one leaf, two sides) questionnaire, and 74 used four-page questionnaires. The median response rate was 63 percent, 56 percent, and 54 percent, respectively.

Similarly, an earlier analysis of 43 commercial studies by Mitchell (1939) concluded that the response rate was lower when more work was asked of respondents. An analysis by the National Education Association (1930) of 136 questionnaires which were sent to school superintendents also found a higher response associated with the shorter questionnaire.

However, other studies found that increasing the length of the questionnaire did not result in an appreciable drop in response. Scott (1961) reports on an experiment he conducted on questionnaire length in a radio and television survey. He found no significant difference between the response to two short questionnaires containing different questions and a longer one consisting of the two short questionnaires together. The response rate of the mean of the two short ones was 90.5 percent, and for the longer one, 89.6 percent.

The National Education Study (1930) mentioned previously, found no relationship between length and response for questionnaires between 6 to 100 items in length. A study by Clausen and Ford (1947) found that the addition of one or two pages of supplementary questions did not appreciably affect responses to a three- to six-page questionnaire. In another study, Sletto (1940) found no appreciable difference when he compared the response rate of 300 college alumni to questionnaires of 10, 25, and 35 pages. The longer questionnaire which combined the two shorter ones had a response rate of 63 percent, and the two shorter ones, 68 percent and 30 percent.

Although a long questionnaire is more demanding of a respondent and therefore more likely to inhibit response, research findings suggest that other compensating factors can counteract this tendency. These variables, discussed elsewhere in this report, include an interesting questionnaire, respondent concern for the purpose of the survey, the prestige of the sponsoring organization, the use of incentives, and effective follow-up procedures. Leslie (1970) advises that the commercial printing of a questionnaire can decrease its apparent size and make its length appear less formidable to respondents. Young (1966) suggests that length itself need not be the guiding factor in designing a questionnaire. She states:

> The important consideration is that the questionnaire covers the subject and that the techniques used are those which meet the demands of the study. At the same time, it is wise to make a consistent effort to see that all questions are pertinent to the study and that the form is free of unnecessary repetition [*p. 197*].

Physical Appearance. Researchers agree that an attractive questionnaire can be an effective stimulus for motivating response. Goode and Hatt (1952) advise: "A slightly larger investment in format and typography will create a very great difference in numbers of questionnaires completed and returned [*p. 179*]."

It is generally recommended in the literature that an aesthetically appealing and functional questionnaire incorporate the following features:

1. A simple page format with an attractive balance of space and type arrangement.

2. Simple and easy-to-follow directions.

3. Easy-to-answer questions that require a minimum of writing.

4. Easy-to-read size and style of type; appropriate use of type variations.

5. An attractive cover design with an interesting title.

6. A good quality paper that will tolerate printing on both sides, and handling by the respondent and data processor.

Research findings concerning the effectiveness of questionnaires printed on colored paper is inconclusive and even researchers disagree. Some research designers of follow-up studies of high school and vocational school graduates consider color to have a motivating effect on response (Pucel, 1970;

McKinney and Oglesby, 1971). Parten (1966) points out that certain marketing studies have found yellow to elicit the highest rate of response with pink following closely. She recommends using lighter tints of color to avoid diminishing legibility.

Incentives

An appeal to the altruism of the recipient has been traditionally considered an effective means of motivation and has been used in many studies. A number of commercial studies found the use of premiums and money incentives to be highly effective in increasing response. This technique has been tested in some educational surveys with apparent success.

Pucel (1970) tested the effects of various types of small incentives in combination with the use of multiple incentives in a first-year follow-up field test of approximately 1100 post high school vocational graduates. The incentives included an enscribed golf pencil, a cup size packet of coffee, a colored questionnaire, and a pre-letter. Of the various subgroups, one control group received no incentives and the others received one, two, and three incentives, respectively.

Results of the study, reported for the initial mailing with no reminders, found the percent of response lowest for the control group and an increasing response associated with the number of incentives offered. Also, the number of incentives was found to be a more important factor for motivating males than females.

Kephart and Bressler (1958) tested the relative effects of different coins including a penny, nickel, dime, and quarter, on a population of graduate nurses. The larger coin was found to be more effective in eliciting response but not significantly higher than a questionnaire with a follow-up procedure.

Erdos (1970) found than an enclosed dollar bill was even more effective than a quarter. He states: "Money seems to be the most effective and least biasing incentive, the easiest to obtain, and the most useful to recipients [*p. 95*]." When using a money incentive, Erdos suggests that it is psychologically effective to explain that the money is simply a token of appreciation and not a payment for time. A community survey conducted by Dohrenwend (1971) offered recipients an honorarium of five dollars or a contribution in the recipient's name to a favorite charity. It can be speculated that the poor response received was related to the displeasure of recipients at having to make an unflattering choice, and the use of an unfamiliar academic term.

The use of incentives for retaining subjects in a longitudinal study is reported in a later section of this report.

Time of Mailing

Although there has been a great deal of speculation concerning the effects of time of mailing on the response rate, there is actually no conclusive evidence by which one may be guided. The most logical approach relates to the life styles within the population being surveyed. Parten (1966) emphasizes:

> The season of the year, the month, week, or time of the week during which a questionnaire should arrive in order to have the best chance of being filled out will vary with the type of informant [*p. 390*].

Deciding on the most advantageous time to mail a questionnaire can be simpler when there is greater similarity among the members of a population. The National Education Association Study (1930) found a decline in response to mail questionnaires by school superintendents as the school year progressed. It appears logical to speculate that school superintendents would be busier and have increased occupational pressures later in the school year which would affect their motivation to respond.

Concerning the best day of the week for respondents to receive a questionnaire, Scott (1961) found in a study he conducted for the Social Survey, that there was "...no evidence of any systematic variation in response according to day of dispatch... or ... short-term variations due to trivial causes such as the weather [*p. 175*]. McKinney and Oglesby (1971) advise that there may be some slight preference for receiving a questionnaire on Monday or Tuesday. They suggest that varying the day of mailing in the follow-up waves of questionnaires may help increase response.

Follow-up Procedures

There is unanimous agreement that follow-up mailings are highly effective for increasing response. Scott (1961) states: "The evidence that follow-ups raise the response is conclusive and too extensive to be worth detailing [*p. 164*]." He affirms that in a telephone survey he conducted, the use of two follow-up waves increased the response rate by 20 percent.

Erdos (1970) observes that every sample contains three types of individuals: (1) those who will answer practically everything; (2) those who may not particularly enjoy answering a questionnaire but will do so with proper motivation; and (3) those who will probably not respond under any circumstances. Erdos advises that it is to those in the second group that the follow-up appeal should be directed.

The effectiveness of the follow-up lies in its ability to convince the nonresponder that his individual reply is important and to reinforce the motivational appeals used in the initial mailing. The suggestions for conducting follow-ups are generally consistent concerning the content of the accompanying letter but vary regarding the number and timing of follow-up mailings. There are no scientific guidelines to follow in planning the number or timing of follow-ups which will generate the highest response. One can best be guided by the general practices of researchers, by knowledge of the population being surveyed, and by the nature of the survey itself.

Number and Timing of Follow-Ups. The number of follow-up mailings depends to a great extent on the time and cost constraints of a survey and the special requirements for an unusually high response rate. The percent of total returns has been generally found to decline with each successive follow-up. Eventually a plateau is reached where the diminished response obtained is not worth the effort and expense of an additional follow-up.

Becker and Cooley (1966) report that in *Project Talent* [illegible] a [illegible] of questionnaires were mailed out in the first-year follow-up of 1960 high school graduates. Of the 69 percent total response, 45 percent was received in the initial mailing, and 15 percent, 6 percent, and 3 percent, respectively for waves 2, 3, and 4 [p. *16*].

Concerning effective timing of follow-ups, researchers suggest that they be mailed to nonrespondents when there is an observed decline in response. Researchers concede that approximately 90 percent of all questionnaires returned in response to a survey mailing will arrive within two weeks. Many educational researchers mail the first follow-up at the end of this time period; commercial surveyors wait until three weeks. Parten (1966) reports on two different procedures used in studies which were successful in obtaining a high rate of response: (1) the first follow-up was mailed at the end of 16 days, the second, one week later, and the third, two weeks later; (2) each of the follow-ups was mailed after waiting until not more than one return per day was received for five successive days.

Some studies utilize a combination of postcard reminders in addition to the waves of questionnaires sent out. Reminder postcards were used following the first and second wave of questionnaire mailings in the Project Talent study. Orr and Neyman (1965) report that the mailed questionnaires were more effective than reminder postcards for eliciting response.

McKinney and Oglesby (1971) suggest that an "alert" card mailed one week prior to the first mailing of the questionnaire can be an effective procedure for obtaining increased response. Their recommendation for conducting a follow-up study of high school graduates utilizes a combination of reminder postc :ds and waves of questionnaire in the following sequence: alert card, initial maili .estionnaires, reminder card, first follow-up mailing of questionnaires, and second reminder card.

Erdos (1970) notes that very few mail surveys use more than three waves (two follow-ups), and that a fourth wave is generally an effort to probe the nature of the nonresponder. He and other researchers report that the telephone has been highly effective for reaching nonresponders.

Qualities of Follow-Up Letter. Researchers agree that an effective follow-up letter should contain the same general qualities as the initial letter, however, in abbreviated form. It is recommended (McKinney and Oglesby, 1971; Erdos, 1970) that the first follow-up reminder be a "thank you" which expresses appreciation to those who have returned the questionnaire and politely prods those who have not done so to respond.

It is also recommended that the second follow-up letter contain a stronger appeal and include such motivational techniques as: (1) remailing original questionnaire, (2) using special delivery, (3) mentioning high response received and progress of study, (4) stressing the importance of the individual's return, and (5) mentioning that the individual may omit any items that do not apply to him [*Erdos, p. 134*].

Additional Motivating Factors

Sponsorship. There is some research evidence which indicates that the type of sponsorship can affect motivation to respond. Two studies found important differences in response which favored official over private sponsorship (National Education Association, 1930; Watson, 1937).

Scott (1961) found that persons were more likely to respond to a survey which was sponsored by the government. He compared the effects of three different types of sponsoring organizations--government, university, and commercial, in a radio and television survey. The same questionnaire and accompanying letter, differing only in sponsorship were sent to three groups of approximately 1,000 persons each. Scott reports that after four weeks, and with the use of follow-up techniques, the response rate was significantly higher for the government sponsored survey than for the other pooled two [*p. 168-69*]. Erdos (1970) affirms that the high prestige of an organization, in combination with other favorable factors, can result in an unusually high rate of response, even to a lengthy questionnaire [*p. 139*].

Anonymity. To dispel any feelings of uneasiness or threat that the respondent may experience, it has become standard survey practice to assure anonymity of response. Erdos (1970) suggests that it is reassuring for the reader to be told that his replies will be used in statistical tables in combination with the answers of other respondents. Erdos also reports a respondent preference for the use of the word "confidential" rather than "anonymous". He reports on a study in which the same short questionnaire and accompanying letter, differing only in the use of these two words, were sent to two groups of airline passengers. Results indicated a 6.8 percent higher response rate for the group who received the mailing using the word "confidential".

Postage. There is some research evidence which suggests that respondent motivation may be influenced by the type of postage used. In the radio and television inquiry, Scott (1961) reports a small but significant difference in favor of stamped versus a franked envelope. In a study on the effects of varying types of motivating factors, Kephart and Bressler (1958) found that air mail and special delivery stamps were effective in increasing response. Parten (1966) suggests that using new stamps or commemoratives may appeal to respondents and notes that commercial surveyors have found that color preference in stamps is purple, blue and red, respectively.

Characteristics of Nonrespondents. Research findings concerning the relationship between responder characteristics and response rate suggest that special attention be given to motivating those individuals who are less inclined to answer. Reuss (1943) states:

> Knowledge of the probable tendencies of bias in response to mailed questionnaires should enable the investigators to evaluate his returns and phrase his questions and his appeal for response in a more effective manner [*p. 433*].

To ascertain which individuals of a population are more likely to fall in the nonresponder category, a number of clues are available in the literature. Research studies have found a higher response associated with females (Pucel, 1970; Burgdorf, 1969): higher intelligence and scholarship (Reuss, 1943); aptitude (Orr and Neyman, 1965); and achievement (Burgdorf, 1969; Watley, 1971b).

Researchers report that the educational level, socioeconomic status, and occupation of population members can also affect response. Pucel (1970) found that persons in clerical and sales occupations responded more frequently, and those in the skilled trades, less frequently. Hochstim and Athanasopoulos (1970) affirm that nonresponders are more likely to be white, male, and skilled. They found the tendency for low response to be associated with low educational level, poor physical health or poor morale, and nonparticipation in community life. Hochstim and Athanasopoulos also observe that it is generally more difficult to obtain the cooperation of minority group members--both Negro and others [*p. 73*]. Watley (1971a) affirms that black nonwinners of National Merit Scholarships were less willing to provide follow-up information about themselves than nonblacks.

Long Term Considerations

In planning a longitudinal study, there are a number of additional factors to be considered for retaining the cooperation of individuals over an extended period of time: (1) how to establish and maintain rapport, (2) how frequently to contact individuals to maintain rapport, and (3) how to trace individuals who are no longer at their original address and/or who have married and have a different surname.

Establishing and Maintaining Rapport.

Inasmuch as involvement of subjects is particularly important in a longitudinal follow-up study, special attention must be focused on using motivating techniques which can exert an extended effect.

McKinney and Oglesby (1971) suggest that special letterheads and envelopes can help subjects identify with the survey and that attractively designed materials can help arouse interest. Orr and Neyman (1965) report that a membership card given to Project Talent participants was effective in maintaining their sense of involvement. Students were given numbered IBM membership cards which described the purposes of the study on one side and requested notification of change of address on the other side.

Donaldson (1971) advises that interesting information about study findings included in the follow-up letters can often serve as an inducement to respond. Some researchers have utilized newsletters in which to report study highlights. Bachman, Green, and Wirtanen (1971) used a newsletter as a motivating technique in the *Youth in Transition* study. In addition to feeding back information about the study, the newsletter also invited comments and answered questions. It utilized cartoons and other visuals to stimulate interest and its attractive logo and letterhead were designed to help reinforce identification with the study. The researchers also used "thank you" letters tied in with Christmas greetings to maintain additional rapport with the subjects. Oden (Terman and Oden, 1959) comments on other aspects relating to the successful retention of subjects in a longitudinal study. She attributes the unusual cooperation of subjects in the well-known 35-year follow-up of gifted children to their interest in the study, the rapport developed between investigator and subjects, and the fact that all records have been kept private, and the confidence of subjects has been respected.

Contacting Individuals

Various types of communication with respondents during a longitudinal study can serve to maintain rapport and at the same time help provide information about changes in address. Although no information is available concerning the optimal frequency of contacting respondents to maintain rapport, the practices of researchers conducting longitudinal studies may provide a springboard from which decisions can be made.

The *Youth in Transition* study (Bachman, Green, and Wirtanen, 1971) followed approximately 2200 tenth graders for a four-year period, from 1966 through 1970. The boys were high school sophomores at the beginning of the study and at the close, had been out of high school for one year.

The initial interview and testing took place in fall, 1966, and a combination thank-you and Christmas greeting was mailed in December of that year. Approximately six to eight weeks prior to each of the successive waves (Spring 1968, Spring 1969, and Summer 1970) an "Invitation to Participate" announcement accompanied by a newsletter was mailed to respondents. Each of these mailings also included prepaid postcards requesting information concerning change of address. "Thank you" letters were mailed approximately three months following each of the waves.

Money incentives are considered to be an effective means of retaining participation in a longitudinal study. In the four waves of the *Youth in Transition* study (Bachman, Green, and Wirtanen, 1971), respondents received increasing incentives of two, five, and ten dollars for participating in waves 2, 3, and 4. Wirtanen, a co-author of the study, noted in a telephone communication that a reminder of a money payment was particularly effective with subjects who were reluctant to continue.

In *Project Talent*, the first newsletter was sent to respondents four weeks after the initial mailing of questionnaires as a combination reminder and motivational technique. Additional mailings of the newsletter, designed to keep respondents interested in the study, have been sent annually.

Another type of contact procedure followed by the National Opinion Research Center is described in an unpublished paper by Homans (1972). In a longitudinal study of 10,000 participants in four federal manpower programs, NORC writes to respondents several weeks before a wave of interviews is scheduled, mails Christmas cards to all respondents, and sends "thank you" letters. Homans notes that these communications are designed to help reinforce the respondent's experience of participation.

Locating Respondents

A major consideration in conducting longitudinal follow-up surveys is maintaining contact with subjects who have moved, entered the military, married and changed names, or are difficult to locate for other reasons. A number of techniques for handling the problem of respondent mobility are reported in the literature:

1. Researchers suggest that tracing techniques be incorporated into the questionnaire itself. Donaldson (1971) recommends including a *Statement of Intent* in the questionnaire in which the respondent records the address and telephone number of his parents and best

friend. Homans (1972) reports that relatives have proved to be the best source for obtaining information about "lost" respondents, and that the telephone has been a highly effective means for tracing individuals.

2. Requesting the social security number of respondents can provide an additional source for tracing "missing" subjects. Through the cooperation of the Social Security Administration, U.S. Government, Health, Education and Welfare Department, a mailing can be forwarded to the respondent through his employer. It has been indicated via telephone communication with the federal agency, that this procedure may take from four to six weeks.

3. A "preview" card or invitational letter mailed several weeks before the questionnaire can provide a head start in locating respondents who have moved. Researchers suggest writing "please forward" on all mailings. For a small fee, the postoffice will provide a forwarding address if an "address correction" form is requested.

4. Another tracing technique used is the prepaid change of address card which the respondent completes and returns directly to the agency conducting the survey. These cards are generally enclosed in the preview mailing and may be used in two ways: (1) to get a complete updated address listing of the entire population, or (2) to get the addresses of only those who have moved.

5. Homans (1972) advises that various types of agencies and government groups can be additional resources for tracing subjects. These include: Armed Services World Wide Locations, training programs, schools, Urban Renewal Authorities, Public Housing Authorities, and newspapers. McKinney and Oglesby (1971) suggest that using local credit bureaus, although costly, may be

effective in locating the hard-to-reach. Donaldson (1971) suggests listing "lost" respondents and asking the population's help in locating them.

Conclusions

This report has not attempted to deal comprehensively with the subject of survey design. It has been intended to provide an overview of factors considered relevant to planning a study that involves longterm participation of subjects.

Research findings indicate that the response rate can be affected by various aspects of the questionnaire, type of sponsorship, use of incentives, special mailing techniques, and follow-up procedures. Other factors which survey practitioners consider important are the contents of the cover letter and follow-up communications, personalization, promise of anonymity, and enclosing a stamped, addressed envelope.

In conducting surveys, researchers have found a relationship between response and respondent characteristics such as sex, race, achievement, educational level, and occupation. These findings suggest the importance of making all subjects feel that they are valuable members of the population, and employing motivating techniques that will win the cooperation of those persons more likely to be nonresponders.

Survey literature also contains a large body of information on the psychological and mechanical aspects of designing a questionnaire that will appeal to respondents. Concerning longitudinal surveys, researchers stress the importance of subject identification with the study and suggest various techniques for gaining and maintaining their cooperation.

There is no way of knowing precisely the extent to which each of the factors discussed above will affect motivation to respond. Since each survey is unique, the researcher must be sensitive to the characteristics of the population being surveyed and the special requirements of the study, in addition to being cognizant of research findings and recommended survey practices.

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