TOWARD A USEFUL THEORY OF SURVEY PARTICIPATION

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1. Introduction

Among the alternative means of gathering information about society, survey research methods offer unique inferential power to known populations within measurable levels of sampling error. This power however is the cumulative result of many individual decisions of sample persons to participate in the survey. When universal participation fails to obtain, the inferential value of the method is threatened. This weakness has long been recognized when description of a population is the goal (e.g., Deming, 1953a), but only relatively recently have similar weaknesses been widely acknowledged in analytic uses of survey data (e.g., Heckman, 1979). Nonparticipation in surveys appears to be increasing in the United States and in many other Western societies that have traditionally used the method.

Efforts to increase participation through persuasion by survey interviewers threaten the informed consent principles of modern science, greatly inflate the costs of survey research in a period of limited research funding, and increasingly are found to be nonefficacious. Sole attention to maximizing survey response rates erodes the legitimacy of the method among the population. The devastating effects on social science of public reactions against large scale measurement have already occurred in other Western countries, involving both censuses and surveys (e.g., Butz, 1985).

In addition to scientific and ethical issues arising from survey participation, there are practical issues involving the costs of scientific research. Any reluctance of the population to participate in surveys increases the costs of the method. Nonresponse has contributed to increases in the costs of major social science data collection efforts. Little recent work exists to guide researchers in the cost and benefits of nonresponse reduction. However, many design decisions involving nonresponse force the researcher to do just that. When explicit parameterization of the costs and errors functions appropriate to a survey can be made, optimal design features can be identified. This is a methodology common to sample design (Cochran, 1977), but can be extended to design features related to nonresponse also (Deming, 1953b; Groves and Lepkowski, 1985).

For linear statistics nonresponse error can be expressed as a function of several terms:

$$y_r = y + (n_{nc}/n)(y_r - y_{nc}) + (n_{rf}/n)(y_r - y_{rf}) + (n_{ni}/n)(y_r - y_{ni})$$

where y_r = the linear statistic computed on n_r respondent cases,
y = the linear statistic computed on all n sample cases,
y_{nc} = the linear statistic computed on all n_{nc} noncontacted cases,
y_{rf} = the linear statistic computed on all n_{rf} refusal cases,
y_{ni} = the linear statistic computed on all n_{ni} other noninterview cases, and
$n = n_r + n_{nc} + n_{rf} + n_{ni}$.

More complicated expressions apply to nonresponse error for analytic statistics (see Heckman, 1979). The simple expression above, however, illustrates how nonresponse error is a function both of nonresponse rates and the characteristics of nonrespondents on the variable of interest.

The statistical literature on nonresponse largely attempts to reduce nonresponse error through postsurvey adjustments. This include weighting cases by estimated probabilities of cooperation and by known population quantities, imputation, and selection bias models. All of these techniques are based on certain assumptions. When the assumptions are true, nonresponse bias is eliminated, but generally standard errors of adjusted estimators are inflated because of the adjustment. Unfortunately, tests of the assumptions underlying the techniques are generally not permitted within the data set being adjusted. Simply stated, without knowing the characteristics of the nonrespondents there is little way to test the assumptions about their characteristics.

In essence researchers are forced to argue logically that the assumptions underlying the techniques are true. These logical arguments simplify to statements about characteristics of respondents and nonrespondents. These characteristics are typically a subset of variables measured in the survey itself. We assert that these are themselves theories of survey participation, but they are

typically the result of "making-do" with what variables have been measured in the survey, not on what are the causes of participation in the survey at hand. The thesis of this paper is that the specification of such theories should inform the adjustment process.

The purpose of this paper is to (a) alert survey researchers to a set of conceptual developments and experimental findings that appear to be informative about causes of survey participation, (b) offer an integration of that work with findings from the more traditional survey methodological literature on nonresponse, and (c) given the integrated theoretical structure, deduce potentially promising paths of research toward the understanding of survey participation. The paper focuses specifically on the refusal component of nonresponse.

2. Psychological Concepts Relevant to Survey Participation

For a number of decades, social psychologists have been systematically engaged in the study of compliance, help-giving, and opinion change. For the most part, this research has gone on independent of the survey context; it affords, therefore, a relatively fresh perspective on questions of survey response and nonresponse. The accumulated body of social psychological work on compliance, helping, and persuasion is complex and extensive. However, more recent developments in cognitive and decision science have offered a way to integrate much of that literature through the application of a fundamental organizing principle: When processing information relevant to an upcoming decision, individuals typically use, to varying degrees, one of two basic styles--a deliberate, analytical, and thorough consideration of all of the pertinent features of the information or a shortcut analysis that involves a search for single, highly diagnostic pieces of information that have usually counseled the decision-maker correctly in the past (Shiffrin & Schneider, 1977).

These two information processing strategies can be referred to as the "systematic" and the "heuristic" approaches, respectively. As with other kinds of decisions, the decision to agree to a request is likely to be based on the differential use of these two types of information processing approaches. The systematic strategy is more likely to be undertaken when an individual has the interest, time, energy, and cognitive capacity to support a fully considered analysis of the available evidence relevant to the request at hand; however, when the individual is overloaded, distracted, fatigued, or indifferent, a more heuristic strategy becomes increasingly probable, leading the decision-maker to search the request situation for single, prominent features that have been previously and reliably associated with good compliance choices (Keinan, 1987; Kruglanski & Freund, 1983; Moore et al., 1986; Scammon, 1977).

Research in social psychology that appears most relevant to the issue of survey participation can be divided into three areas: Compliance with requests, helping tendencies, and opinion change. Each can be addressed in terms of the relation of its extant literature to the domain of survey participation.

2.1 Compliance with Requests

It is undeniable that people frequently decide whether to perform a requested activity on the basis of the attractiveness or unattractiveness of the inherent features of the activity itself (e.g., the interest value and personal relevance of the activity as well as the cost in time, energy, and resources required to perform it). Cialdini (1988) has argued, however, that in addition to these inherent features of the activity, other, external factors of a social or a psychological nature play a powerful role in determining whether individuals will agree to perform the activity. After an extensive review of experimental and observational evidence, Cialdini specified six such compliance principles that people regularly use to decide when to yield to a request. Because these principles usually inform individuals as to when it is appropriate and adaptive to comply, he reasoned that they serve as heuristic rules for compliance within the society. Consequently, they are more likely to guide behavior when the nature of the situation favors the heuristic information processing approach. It is our belief that the survey request situation most often favors a heuristic approach because the potential respondent typically does not have a large personal interest in survey participation and, consequently, is not inclined to devote large amounts of time or cognitive energy to the decision of whether or not to participate. The six principles are briefly summarized here (for a fuller discussion, see Groves, 1989):

Reciprocation: One should be more willing to comply with a request to the extent that the compliance constitutes the repayment of a perceived gift, favor, or concession.

Consistency: After committing oneself to a position, one should be more willing to comply with requests for behaviors that are consistent with that position.

Social Validation: One should be more willing to comply with a request to the degree that one believes that similar others would comply with it.

Authority: One should be more willing to yield to the requests of someone who one perceives as a legitimate authority.

Scarcity: One should be more willing to comply with requests to secure opportunities that are scarce.

Liking: One should be more willing to comply with the requests of liked others.

Numerous examples can be found of how these principles are translated into survey research practice (see Groves, 1989).

2.2 Helping Tendencies

Research on helping can be broken down into two major categories: emergency situations (see Piliavin et al., 1981) and nonemergency situations. Clearly, it is the latter form of nonemergency aid that is closer to the survey request situation.

In many respects the decision to provide low level help in response to a direct request can be seen as similar to the decision to comply with other types of requests. Indeed, when viewed in this way it becomes possible to apply much of what is known about general compliance to the helping arena. Still, the concept of help-giving is different from that of compliance and can add unique variance to the decision of to how to respond to a request. For example, it is argued that a helping norm (sometimes called the norm of social responsibility) exists in most cultures that motivates individuals to help others who are in need and who are dependent upon them for aid (Berkowitz & Daniels, 1964). For example, a wet and cold interviewer standing on a doorstep in Winter may elicit greater compliance. Thus, even a simple request to participate in a survey will be significantly more successful when it includes an appeal to the helping norm. For example, Mowen & Cialdini (1980) obtained a 19% increase in survey participation by adding the words "it would really help us out" to the end of their request.

In addition to the usual cost/benefit considerations associated with decisions to comply, other factors become prominent when the helping character of the requested act is salient, such as the severity of the problem, the likelihood and degree of impact that the requested help is judged to have on the problem, and the emotional consequences for the helper of providing help (Weyant, 1978).

Regarding the latter, three emotional states have been found to be reliably connected to helping decisions: anger, happiness, and sadness. Anger has a negative effect on requests to help, probably because refusing to help can be seen to be a form of passive aggression that reduces the anger/tension state (for example, see DeNicholas, 1987). Happiness, on the other hand, has with few exceptions an enhancing effect upon helping (see Clark & Waddell, 1983; Isen et al, 1978). Finally, sadness has been shown to relate to helping in a less unitary way than either anger or happiness, sometimes producing a positive impact and sometimes producing a negative impact (see Schaller & Cialdini, 1990).

The upshot of this analysis for the issue of survey compliance is that, among potential respondents, we can expect, (1) anger to generally reduce compliance, (2) happiness to generally enhance compliance, and (3) sadness to reduce it under conditions of a relatively high response cost to benefit ratio (e.g., a long survey with small perceived impact or value) but to enhance it under conditions of a relatively low response cost to benefit ratio. To apply this knowledge, observable indicators of emotional states are needed (see Ekman & Friesen, 1975). Thus, an interviewer may react to perceived sadness by emphasizing the enjoyment and societal benefits of the interview. If the householder appears angry, the interviewer would do well to retreat. In contrast to this guidance, it appears survey administrators generally ask interviewers to act on the behavior rather than the emotional state of potential respondents.

2.3 Opinion Change

Here again, the literature on opinion change appeals offers an encouraging degree of overlap with that on compliance with requests. Research by Petty & Cacioppo (1986) and Chaiken (1980; 1987) has generated evidence for the usefulness of the same systematic versus heuristic processing distinction that we have applied to the tendencies to comply and to render help. According to this body of work, any factor that can increase or decrease the motivation and/or ability to process the message fully is expected to be able to increase or decrease opinion change, depending on the strength of the arguments in the message. For example, the amount of external distraction that is present when a message is presented will decrease a recipient's ability to process it fully and will, therefore, decrease its persuasiveness when the message arguments are strong but will increase its persuasiveness when the message arguments are weak (Petty et al, 1976). Similar results are found when the message is too complex or quickly presented to be easily comprehended; an inability to comprehend the message easily will decrease its effectiveness when it contains strong arguments, but will increase its effectiveness when it contains weak arguments (Cacioppo & Petty, 1985; Moore et al, 1986).

The most reliable finding within this body of work is the demonstration that, when the topic of a persuasive communication is of high personal relevance, subjects will change their opinions on the basis of a systematic review of the communication's intrinsic features (i.e., the extent to which its arguments

conform to the rules of logic and evidence); however, when the topic is of small personal import, they will change their opinions on the basis of a heuristic review of its extrinsic features, which include such interpersonal and societal factors as the authoritative manner, attractiveness, and credibility of the source (Petty & Cacioppo, 1986).

It is our view that this particular distinction between intrinsic and extrinsic features does not apply well to the survey response/nonresponse context. That is so because in the survey context the persuasive appeal that is made to an individual is not simply to engage in a change of opinion; it is to engage in the behavior of survey participation, which is usually an interpersonal activity (when there is an interviewer present) and is invariably a societal activity (Dillman, 1978; Goyder, 1987). It is our position that individuals will respond to an interview request in a systematic information processing fashion when the behavior of interview participation is personally relevant to them. That is, they will attempt to take into account all of the factors--both intrinsic and extrinsic to the survey design itself--that contribute to the desirability of participation. However, they will use a more heuristic approach when the behavior of interview participation is of small personal import. That is, they will base their decisions on just one or two highly salient features of the situation that have usually been correlated with good decisions in the past (e.g., the perceived time costs required or the perceived credibility of the requester).

2.4 Conclusion

It is our view that the understanding of survey participation and nonparticipation can benefit from a consideration of factors that have been proven to be effective in the research on compliance, help-giving, and opinion change. Thus, researchers wishing to predict the response rate of a particular survey would be well advised to consider such factors as respondents': current moods; feelings of obligation, deference, and liking toward the survey interviewer and/or sponsor; and perceptions that interview participation is normative or represents a scarce opportunity to be counted or is consistent with existing commitments. It would be instructive to examine the degree to which particular survey designs (or particular interviewers) incorporate these factors into their appeals for participation and relative presence of these factors with level of survey response.

Similarly, the distinction between systematic and heuristic forms of information processing seems relevant to the decision to participate in a survey. However, in the survey context it does appear that most potential respondents are likely to take a heuristic approach to that decision. That is, the act of participation in a survey is rarely of sufficient personal relevance to cause potential respondents to want to systematically review and incorporate all of the available information into their decision. Consequently, they are likely to base their decisions on one or two highly prominent and normally diagnostic considerations (e.g., the length of the survey or the authoritativeness of the interviewer). It might well be, then that interviewer training that operated on the assumption of respondents' heuristic processing of survey-related information would be more effective.

3. Contributions to Theory from Intensive Discussions with Survey Interviewers

Between 1988 - 1991 we have conducted a series of focus groups with personal visit interviewers and interviewer supervisors from the Survey Research Center and the U.S. Census Bureau.

These groups have contributed to our thinking two important components of our theory: (a) "tailoring" - the use of different dress, physical behaviors, words, and strategies of persuasion for different sample persons, and (b) "maintaining interaction" - the use of interviewer behavior that tries to reduce the likelihood of the respondent terminating the discussion prematurely, instead of seeking to maximize the likelihood of an immediate acceptance.

Tailoring Experienced interviewers often reported that they adapt their approach to the sample unit. Interviewers engage in a continuous search for cues about the attributes of the sample household or the person who answers the door, focusing on those attributes that may be related to one of the basic psychological principles reviewed above. For example, in poor areas, some interviewers choose to drive the family's older car and to dress in a manner more consistent with the neighborhood, thereby attempting to engage the liking principle. In rich neighborhoods, interviewers may dress up. In both cases, the same compliance principle is engaged, but in different ways.

In some sense, expert interviewers have access to a large repertoire of cues, phrases, or descriptors corresponding to the survey request. Which statement they use to begin the conversation is the result of observations about the housing unit, the neighborhood, and immediate reactions upon first contact with the person who answers the door. The reaction of the householder to the first statement dictates the choice of the second statement to use. With this perspective, all features of the communication are relevant -- not only the words used by the interviewer, but the inflection, volume, pacing (see Oksenberg et al, 1986), as well as

physical movements of the interviewer.

Tailoring need not necessarily occur only within a single contact. Many times contacts are very brief and give the interviewer little opportunity to respond to cues obtained from the potential respondent. Tailoring may take place over a number of contacts with that household, with the interviewer using the knowledge he/she has gained in each successive visit to that household. Tailoring may also occur across sample households. The more an interviewer learns about what is effective and what is not with various types of potential respondents encountered, the more effectively requests for participation can be directed at similar others. This implies that interviewer tailoring evolves with experience. Not only have experienced interviewers acquired a wider repertoire of persuasion techniques, but they are also better able to select the most appropriate approach for each situation.

Maintaining Interaction The introductory contact of the interviewer and householder is a small conversation. It begins with the self-identification of the interviewer, contains some descriptive matter about the survey request, and ends with the initiation of the questioning, a delay decision, or the denial of permission to continue. There are two radically different optimization targets in developing an introductory strategy -- maximizing the number of acceptances per time unit (assuming an ongoing supply of contacts), and maximizing the probability of each sample unit accepting.

The first goal is common to some quota sample interviewing (and to sales approaches). There, the supply of sample cases is far beyond that needed for the desired number of interviews. The interviewer behavior should be focused on gaining speedy resolution of each case. An acceptance of the survey request is preferred to a denial, but a lengthy, multi-contact preliminary to an acceptance can be as damaging to productivity as a denial. The system is driven by number of interviews per time unit.

The second goal, maximizing the probability of obtaining an interview from each sample unit, is the implicit aim of probability sample interviewing. The amount of time required to obtain cooperation on each case is of secondary concern. Given this, interviewers are free to apply the "tailoring" over several turns in the contact conversation. How to tailor the appeal to the householder is increasingly revealed as the conversation continues. Hence, the odds of success are increased with the continuation of the conversation. Thus, the interviewer does not maximize the likelihood of obtaining a "yes" answer in any given contact, but minimizes the likelihood of a "no" answer over repeated turntaking in the contact.

We believe the techniques of tailoring and maintaining interaction are used in combination. Maintaining interaction is the means to achieve maximum benefits from tailoring, for the longer the conversation is in progress, the more cues the interviewer will be able to obtain from the householder. However, maintaining interaction is also a compliance-promoting technique in itself, invoking the commitment principle as well as more general norms of social interaction.

There is some support from training procedures that the "maintaining interaction" model is correct. First, interviewers are typically warned against leading the householder into a quick refusal. If the person appears rushed, preoccupied by some activity in the household (e.g., fighting among children), the interviewer should seek another time to contact the unit. A common complaint concerning inexperienced interviewers is that they create many "soft-refusals" (i.e., cases easily converted by an experienced interviewer) by pressing the householder into a decision prematurely. Unfortunately, only rarely do interviewer recruits receive training in the multi-turn repartee inherent in maximizing the odds of a "yes" over all contacts. Instead, they are trained in stock descriptors of the survey leading to the first question of the interview.

4. A Model of Survey Participation

We believe that full understanding of decisions to participate in a survey requires a theory that integrates the observed influences of socio-demographic and survey design factors, on one hand, with the less observable impact of the psychological components of the interaction between interviewer and respondent. We view the decision to participate on the part of the sample person to be the fusion of diverse influences on participation, shaped by the events of the relatively short interactions with the interviewer. A variety of factors lead to a decision to cooperate with or refuse a survey request. We argue that these factors operate through the interaction between respondent and interviewer. Some of these are discussed in more detail here.

Societal-level Factors There are a set of global characteristics in any society which impact on survey participation. These factors serve to determine the context within which the request for participation takes place, and constrain the actions of both respondent and interviewer. For example, the degree of social responsibility felt by a sample person may be affected by sociological factors such as the legitimacy of societal institutions, the degree of social cohesion, and so on. Such factors influence not only the expectations which both interviewer and respondent bring to the interaction, but also determine the particular persuasion strategies

(on the part of the interviewer) and decision-making strategies (on the part of the respondent) that are used. More specific to the survey-taking climate are such factors as the number of surveys conducted in a society (the "oversurveying" effect) and the perceived legitimacy of surveys.

Attributes of the Survey Design Some survey designs dictate more consistency of treatment across households than do others. Some survey designs restrict the ability of the interviewer to tailor an approach and of the householder to judge the intent of the contact. For example, the mode of initial contact, by advance letter, telephone, or personal visit, affects the number of channels of communication between interviewer and householder. The mode choice also affects what appeals to authority might be effective (e.g., an advance letter can contain evidence not as credibly presented by an interviewer). Invoking norms of reciprocity may be more successful in face to face contact.

The respondent rule (i.e., who is eligible to answer the survey questions) can permit multiple householders to be alternative respondents or restrict the choice to just one. The length of the interview being requested is a basic indicator of the burden of participation. The length of the interviewing period affects how forceful the interviewer must become in seeking time to conduct the interview and in evoking the scarcity heuristic. Finally, topic of the survey helps determine the respondent's level of interest and knowledge in the interview.

Characteristics of the Sample Person The factors that are most widely discussed in the survey literature, are the socio-demographic characteristics of the householder. These include factors such as age, gender, marital status, education, and income (for a review see Groves, 1989). Response rates have been shown to vary with each of these, as well as other, characteristics.

There are other factors associated with these which also have been studied for their relationship to response rates. These factors include the environment, such as the level of urbanization and crime rates; household structure and characteristics, such as the number and ages of the household members and the quality and upkeep of housing; and the past experience of the respondent, such as exposure to situations similar to the interview interaction or a background which provided information or training relevant to the survey topic.

We do not believe these factors are causal to the participation decision. Instead, they tend to produce a set of psychological predispositions that affect the decision. They are key tools, however, in the implementation of "tailoring" because they are markers for the interviewer that some cues may be positively received and others, negatively. Hence, they affect the initial approach of the interviewer to the sample unit. Some of them are indicators of the likely salience of the topic to the respondent (e.g., socio-economic indicators on income-related surveys); others are indicators of reactions to strangers (e.g., crime rates).

The socio-demographic factors, environmental factors, and household characteristics all may influence the respondent's psychological predispositions. Feelings of efficacy, embarrassment, or helpfulness, and moods of depression, elation, or anger will all be affected by these factors. All of these characteristics will then influence the cognitive process which will occur during the interaction with the interviewer.

We believe that there are four primary psychological predispositions that flow from the socio-demographic traits that influence the participation decision: (a) fear of criminal victimization, (b) social connectedness, (c) time pressures, and (d) cognitive and affective reactions to the survey topic.

Fear of criminal victimization and its milder variant, fear of contact with strangers, was hypothesized to be the psychological *sequela* of residence in large, decaying central cities (House and Wolf, 1978). It was a mechanism by which the effects of low socio-economic status harmed the likelihood of participation. Its effects are hypothesized to be especially pernicious in cases where strong and universal rules against contact with strangers have been set by the householder. The folk belief among interviewers about the reticence of elderly persons living alone to answer the door to survey interviewers might fit this influence. When formal personal rules prohibit such interaction, very low likelihood exists that survey participation will occur. The influence of fear of victimization, when extreme, produces the closest manifestation of the hard-core nonrespondent. The survey design often addresses this influence by advance letters, advertising, and incentives. The interviewers address the concern by displays of identification and other "official" attributes of the survey.

"Social connectedness" or the influence of "social location" was a focus of Goyder's (1987) examination of survey nonresponse. This complex of variables asserts that an exchange relationship must exist between interviewer and respondent for the interview to be granted. In this exchange relationship the interviewer acts as an agent of the survey organization, and all past interactions between the householder and the organization affect the householder's reaction to the survey request. When the survey organization is a government agency, all the attitudes toward the general

government may be brought into the calculus of the decision. When the survey organization is an academic organization, general attitudes toward universities may play a role. "Social connectedness" is gauged relative to the agency of the request and to the interviewer. Reactions of a householder to the same survey under different sponsorship may vary. The survey design can address the influence of "social location" by seeking endorsements of the effort by different sectors of the society. This is an attempt to borrow on exchange relationships of other organizations. The interviewers address this influence by altering their approach for different types of persons, attempting to increase perceived similarity between themselves and the householder.

"Time pressures", the low amount of unscheduled time available for survey response, produces disproportionate failure to contact sample householders, but is also related to a reluctance to provide the interview once contacted. This is the complex of attitudes related to size of household, number of working adults, number of children, non-work obligations, etc. It is manifested by reduced time at home and highly scheduled responsibilities when at home. This leads to relatively small amounts of free time to engage in the social interaction of an interview, or in any other activity requested by the external environment. The survey design addresses this influence by long interviewing periods; the interviewers address it by requesting permission to return at a time more convenient to the householder.

The "cognitive and affective reactions to the survey topic" is a complex of variables that relate to both to the saliency of the survey topic and to its sensitivity or threat to the householder. Salient topics are those that concern key components of self-identity. Sensitive topics are those that the respondents believe would reveal socially undesirable attributes they possess. In general, prior knowledge about the survey topic, because of one's occupation or avocation, leads one to favor communication about it. However, a belief that the interview will force revelation of embarrassing facts about oneself, leads to rejection of the survey request. Topics of low saliency to a householder also tend to be topics about which the householder has low information. An interview seeking knowledge of facts would itself be threatening. Hence, salience and threat are related in some circumstances.

The interviewers often seek to determine whether any parts of the interview might treat salient topics. They often avoid mentioning topics they believe may be threatening to the respondent (e.g., emphasizing the "health" focus of a survey on mental health issues). Under threat of embarrassment the householder may provide irrelevant excuses for noncompliance. Because the threat felt by the householder is unobservable by the interviewer, the interviewer may be misled.

Attributes of the Interviewer There are four relevant sets of attributes of the interviewer. The first are the socio-demographic characteristics of race, age, gender, and socio-economic status, among others. These are believed to affect the "script" evoked in the householder's mind at the first contact with the interviewer. At this moment, the householder is making judgements about the purposes of the visit. This occurs by considering the candidate possibilities (e.g., a sales call, an assault, a call for charitable contributions) and matching the pattern of visual and audio cues with those alternatives. All attributes of the interviewer that helps the householder discriminate the different scripts will be used to make the decision about the intent of the call.

The second set of attributes concern what experiences with diverse types of householders the interviewer possesses. To select an approach to use with a householder, the interviewer must judge the fit of the respondent to other respondent-types experienced in the past (either through descriptions in training or actual interaction with them). We believe that experienced interviewers tend to achieve higher levels of cooperation because they carry with them a larger number of combinations of behaviors proven to be effective for one or more types of householders (see Couper & Groves, 1991).

The third set of attributes might be viewed as causally derivative of the first two, interviewer expectations regarding the likelihood of gaining cooperation of the householder. Research shows that interviewers who believe survey questions are sensitive tend to achieve higher missing data rates on them (Singer and Kohnke-Aguirre, 1979). Interviewers report that their emotional state at the time of contact is crucial to their success: "I do not have much trouble talking people into cooperating. I love this work and I believe this helps 'sell' the survey. When I knock on a door, I feel I'm gonna get that interview!". We believe these expectations are both a function of interviewer socio-demographic attributes (and their match to those of the householder), their personal reactions to the survey topic, and of their experience as an interviewer.

The final set of attributes relates to the affective or psychological state of the interviewer prior to the contact. As with the potential respondent, an interviewer's mood, prior success that day or in that neighborhood, tiredness, motivation, etc., may all impact on the interviewer's behavior during the interaction.

Respondent-Interviewer Interaction It is here that the factors discussed above come to bear on the decision to participate. The strategies the interviewer employs to persuade the sample person are determined not only by the interviewer's own ability, expectations, etc., but also by features of the survey design and by characteristics of the immediate environment and broader society. Similarly, the responses that the sample person makes to the request are affected not only by a variety of factors, both internal and external to the respondent, and both intrinsic and extrinsic to the survey request.

We posit that most decisions to participate in a survey are heuristically based. The evidence for this lies in the tendency for refusals to come quickly in the interaction (Groves, 1989), for interviewers to use short, generally nonoffensive descriptors in initial phases of the contact, for respondents to only rarely seek more information about the survey. This occurs most clearly when participation (or lack thereof) has little personal consequence. With Brehm (1990) we believe that the verbal "reasons" for refusals -- "I'm too busy", "I'm not interested" -- reflect these heuristics, mirroring current states of the householder but, in contrast to Brehm, we believe they are not stable under alternative cues presented to the householder. That is, if more appropriate "tailoring" had been exercised by the interviewer, different excuses (or reasons for participation) might be generated.

In contrast to the heuristically based decision-making of the respondent during the interaction, the interviewer is typically making use of considered processing. Tailoring is an activity that we think involves a great deal of cognitive activity on the part of the interviewer.

5. Conclusions

We have outlined a set of concepts and a proposed initial integration of them to explain some influences on survey participation. Although the relationships seem appropriate to a large set of survey situations, it is also apparent upon reflection that they are not universally applicable. For example, in surveys of populations deeply affected by the outcome of the survey (e.g., surveys of members of organizations or special-interest groups about issues of high salience), a theory more akin to rational choice principles may apply. In mailed, self-administered surveys the influences of the interviewer on the actions of the sample are not present. In surveys using quota samples, we have speculated that the importance of "maintaining contact" with the sample person prior to gaining cooperation would not be as highly valued. Finally, surveys having organizations as their sampling and measurement units, in which members of the organization are asked to report organizational characteristics, are likely to govern their cooperation by rules and legal guidance, not reflected in the theory above. In contrast, we are comfortable at this stage of conceptual development that the concepts capture the major influences on the participation of sample persons in household surveys on topics of relatively low salience to the respondent.

Our conclusions from this work fall into two major areas: (a) implications for the future research agenda in survey participation, and (b) implications for changes in survey procedures.

5.1 Implications for Research

A number of compliance principles are discussed, and their relevance to survey participation are posited. However, research is needed to determine whether and how these principles translate into practice in the area of survey participation.

Future research should focus on determining the existence of and importance of tailoring as a method of gaining cooperation to surveys. The multiple relationships in the model suggest that interviewers, especially those interviewing diverse subgroups, would with experience turn to tailoring methods. From the model we might deduce steeper learning curves for interviewers serving heterogeneous subpopulations than for those in more homogeneous areas. We might deduce that initial tactics of interviewers upon contacting a sample household would concentrate on "maintaining contact" or rapport-building than on seeking compliance. That is, there would be identifiable ordering of tactics used by interviewers within a contact interaction. Given the relative richness of cues in the face-to-face mode, we anticipate more tailoring there than in the telephone mode. Finally, we suspect that much of the manifestation of tailoring lies in the contrast evident among respondents, not contrasts within interactions with individual respondents. We believe that all of these aspects of tailoring are testable hypotheses and should shape the research agenda in the near future.

The theory asserts that there are identifiable parts of the interaction between interviewers and sample persons, that these are predictive of the participation decision. A key research issue is whether these parts are observable at all and whether they are observable by the interviewer involved in the interaction. Can the interviewer document these features of the interaction in order to study their role in the participation process? Are tape recordings of the interaction (see Morton-Williams, 1991) the only method to measuring the interaction?

The model directly posits statistical interactions among some of the variables. That is, the power of

one influence on compliance (e.g., crime levels of the sample area) may depend on levels of another variable (e.g., authority of the collection agency to request the survey information). A whole set of empirical questions have the form: do personal attributes of the respondent affect cooperation propensity, controlling for the effects of the nature of the survey request and the behavior of the interviewer? Survey methodologists know this as the question of whether a "hard core" of refusers exists in the population.

The model suggests a series of investigations exploring what traits of the interviewer might be compatible with the concept of tailoring. Relatively stable attributes on "need for cognition" and "flexibility" refer to the taste for diagnosing alternative courses of action and changing strategies frequently. One theoretical question is whether these behaviors are trait-based or learned by experience in the field. If the former it would be prudent to attempt recruiting and screening to identify interviewer candidates.

Finally, one important research item is the exploration of the role of efforts to seek cooperation and levels of measurement error. How do different compliance techniques affect later behavior of the respondent during questioning? Is there some desirability to changing tactics when the interview begins? For example, will appeals to authority at the point of gaining cooperation increase response errors on sensitive topics later in the interview?

5.2 Practical Implications

In addition to guiding the research agenda, if the theory is true, it has broad implications for survey design. First, interviewer training needs to instruct the interviewer in how to read cues about the best tactics to use in approaching particular sample persons. We expect that cues observable prior to contact (e.g., nature of the neighborhood, characteristics of the housing unit) can be taught more easily than those during the interaction with the sample person. In addition to reading the cues, the interviewer must be armed with techniques found effective in each of the situations identified.

Another implication of the theory is the wisdom of tailoring survey materials to specific attributes of the sample person. Promotional materials for the survey could be customized to different lifestyles. Information from commercially available data bases could be used to inform interviewers about the likely characteristics of people in sample segments. Circumstances surrounding initial refusals could be used to effectively tailor persuasion strategies for subsequent contacts, or to inform decisions about the allocation of resources to refusal conversion.

The ability to document key features of the interaction between interviewer and respondent may permit the estimation of response propensity functions in ongoing surveys. If these are successful prediction devices, they could be employed for post-survey adjustment procedures to reduce the bias of nonresponse.

These implications are in direct contradiction to the application of standardized procedures at the stage of the survey request. While standardization at the measurement phase is a basic tenet of the scientific method, it has no proven value at the cooperation phase. We suspect that much of the pre-packaged survey introductions interviewers are asked to deliver evolved from the misguided applications of the tenets of standardization to that part of the survey. Successful interviewers seem to learn that fitting the approach to the sample person is wiser.

Finally, we believe that the development and testing of theoretical models of survey participation will also lead to greater understanding of compliance behavior in humans. We have argued that survey methodologists have much to learn from the literatures of compliance, persuasion and helping behaviors. However, the benefit may be mutual. Attaining more general understanding of the influences on survey participation can help the social psychology of compliance break from the current paradigm that addresses a limited number of requests and acts of persuasion, while generally ignoring the impact of characteristics of the requestor.

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