DISCUSSION

Jason S. Lee, U.S. General Accounting Office
441 G Street NW, Washington, DC 20548

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To participate or not to participate in a survey? This decision is far less serious than Hamlet's dilemma, but its cumulative effect threatens practically all survey efforts. One measure of the scope of this problem is that Groves (1989), in *Survey Errors and Survey Costs*, dedicates two chapters--over one hundred pages--to the topic of nonresponse. This is more space than he gives to sampling errors or to measurement errors arising from interviewers, respondents or questionnaires.

It is well known that, of the two factors that contribute to nonresponse error--the amount of nonresponse in a given survey, and the survey relevant differences between respondents and nonrespondents--it is the second, typically unknown factor, that is the source of the survey researcher's predicament.

Groves and Couper, in their paper on sociodemographic correlates of survey participation, tell us that until recently the nonresponse literature has "not been guided by an integrated theory of survey participation." Indeed, it was only as recently as in a 1992 *Public Opinion Quarterly* article entitled "Understanding the Decision to Participate in a Survey" that Groves, Cialdini and Couper set out the broad outlines of such a theory. Clearly, the Groves and Couper paper presented today builds on this earlier work.

These authors' theory of survey participation--portrayed in Figure 1 of the Groves and Couper paper--specifies four major conceptual blocks: the social context, the survey design, the respondent, and the interviewer. Each conceptual block is composed of variables which, they hypothesize, influence the decision to participate in a survey. The authors posit that social context and survey design variables influence both respondents and interviewers, but do not themselves directly affect the decision to cooperate or refuse. In my opinion, this is good social psychological theorizing. Among others, Inkeles and Smith (1974), in their work on modernity, Kohn and Schooler (1983), in their inquiry into work and personality, and House (1981), in his writings on social structure and personality, have shown that macrosocial conditions influence personal attributes and behaviors by way of their impact on more proximate social conditions, that is, on interpersonal interactions. Thus, ultimately, it is during the interaction between the respondent and the interviewer that the decision is made whether to cooperate or to refuse.

To this model I would suggest the authors add an arrow from the respondent directly to the decision to participate. As Parsley shows in her paper, 82% of her interviewers agreed or strongly agreed that "No matter what I do, there are some respondents who will never participate." Clearly, the decision *not* to participate in a survey *can* be made entirely independent of the interviewer.

Both the Groves and Couper and Parsley papers can be discussed in light of this theory of survey participation, though neither one claims to test it fully. Both papers compare respondents and nonrespondents from government sponsored, national, face-to-face, household surveys using census match data and both estimate multivariate models of response using logistic regression.

Groves and Couper estimate response likelihood in six distinct surveys using variables from three of the four conceptual blocks from their theory. Initially, they use the social context block--measured with indicators of crime, crowding and social cohesion--to try to understand their most robust finding: namely, that survey refusals are consistently higher in urban areas. The authors conclude that "we failed to explain away the effects of urbanicity by the inclusion of these additional variables, and failed to find significant effects for the crime, density and social cohesion measures in the presence of urbanicity." Curiously, they proceed to state that "we nonetheless find somewhat consistent effects in the expected direction across surveys" and that colinearity among predictors conceals support for their hypotheses. Of these two assertions, the first is, at best, only weakly borne out by the data they present: only 4 out of 42 coefficients are both statistically significant and in the expected direction. Moreover, one statistically significant effect is in the opposite direction. The second assertion, regarding colinearity, is hard to judge in the absence of appropriate diagnostic information.

In the analyses that follow, Groves and Couper explore the respondent and interviewer conceptual blocks of their theory of survey participation. Their

most complete model, tested on four of the six surveys, includes urbanicity; household level respondent indicators; and measures of interviewer experience, confidence and behavior (see Table 12). The findings suggest that interviewer confidence and tenure promote cooperation, that social isolation and fear of crime inhibit cooperation, that people over 70 and under 30 are more likely to cooperate than people in the middle years, and that high SES respondents tend to cooperate less.

In the many tables Groves and Couper present in their paper they seem to alternate between trying to explain the urbanicity--nonresponse relationship and trying to discover consistent patterns of effects across surveys. In the end, however, both efforts are as much frustrated as they are achieved. Their final model shows that urbanicity remains a statistically significant response predictor in two of the four surveys. And although the authors report a number of intriguing if tentative results, one of the most consistent and striking patterns to emerge from their analyses is the *absence* of consistent patterns of effects across surveys.

Correlation among predictors may thwart their efforts, but another potentially confounding factor (which the authors acknowledge) is that a number of important survey design features vary across the six surveys. These features include: whether the survey was a one-time effort or whether it had a panel component, whether interviewing periods were as brief as 7 days or as long as 14 weeks, whether a secondary mode of data collection was used, how the respondent was identified once the household was selected, and whether the survey topic was as mundane as census forms and daily purchases or as engaging as health and crime victimization and drug usage. Considering that the authors hypothesize that survey design features affect both respondents and interviewers, yet in their cross-study comparisons these features are left free to vary, they might want to consider compiling respondents and nonrespondents from all six surveys and then including survey design variables in their models.

In Parsley's nonresponse analysis of the 1990 National Household Survey on Drug Abuse, the author tacitly joins the Groves and Couper model-building and theory-testing effort. By focusing on a single survey, she, in effect, holds constant survey design features. Although this limits the scope of the model, it eliminates the more serious misspecification problem discussed above.

Like Groves and Couper, Parsley develops response models using indicators of social context, respondents and interviewers. Unlike Groves and Couper, however, she avails herself of a number of person-level sociodemographic characteristics--such as age, sex, race, marital status, spanish origin, and citizenship--from the census match data. To these she adds numerous household-level respondent indicators and, initially, looks for simple group differences in response rates. She finds statistically significant differences in only 9 of 52 variables--a few differences are as large as 15 percentage points but most are between 5 and 10.

Before Parsley estimates response models, she pauses to examine differences in interviewers' mean response rates. She reports a number of statistically significant differences associated with various interviewer sociodemographic characteristics, expectations, experiences and behaviors. One of the most interesting findings in the paper is that a relatively small set of interviewer variables explains nearly a quarter of the variation in interviewer response rates. Of the six variables in this set, three are behavioral (and thus, presumably, can be modified, perhaps through training).

Parsley's final model (Table 8) contains only statistically significant variables measured at the person, household, block, and interviewer level. It is not clear whether it was estimated using only these variables or whether these variables are a subset of a much larger model that she estimated. Whatever the case, counting the variables listed in her first five tables, we see that only 7 of 52 respondent variables, 2 of 17 social context variables (measured at the block level), and 6 of 44 interviewer variables are statistically significant.

What do we learn from Parsley's model? We learn that some aspects of interviewers' experience, behaviors and expectations can have a positive influence on response. We see that Hispanic interviewers and interviewers with lower income are associated with higher nonresponse, although this may be due, at least in part, to nonrandom field assignments. We learn that males are less likely and Hispanics are more likely to respond. We also learn that as home value or monthly rent increases the likelihood of response decreases, that the elderly who live alone and home owners are less likely to respond, and that households with young children are more likely to respond. And finally, we learn that, net of all these variables, households in urban areas are still more than twice as likely not to respond. The urbanicity effect remains the largest one in the final multivariate model.

The Kosmin, Keysar, and Kulp paper examines item nonresponse using a model-free contingency table approach. The single clearest result of their analyses is that nonresponse on one item is highly associated with nonresponse on other items. The finding that cultural factors--such as political affiliation, religion, and education--are stronger predictors of nonresponse than structural factors--such as income, gender and age--may be an artifact of the item topics they selected. The authors correctly point out that more definitive conclusions await multivariate (rather than multivariable) analysis of their data. Nevertheless, a strength of this paper is that the authors draw attention to potentially complex interactions among predictors of item nonresponse.

The papers discussed here certainly contribute to the nonresponse literature. But much work remains. Regardless of *how* we try to reduce nonresponse error--through survey design and field procedures or by making post-survey adjustments--it is essential that we have a better understanding of the causes of nonresponse. The theory of survey participation set out in the Groves, Cialdini and Couper (1992) *Public Opinion Quarterly* paper needs to be tested and refined. The theory and the available data lend themselves to structural equation modeling with LISREL. Measurement models should be estimated with confirmatory factor analysis using the literally dozens of available indicators of the theory's four major conceptual blocks. Then the direct and indirect effects of the theory's latent constructs on the decision to cooperate or refuse should be estimated. These methods would capitalize on the multiple indicators available for each block of the theory, would negate the colinearity problem, and would remove various error components from the model estimates.

The theory of survey participation should also be tested on a variety of surveys. The high response rates and low number of statistically significant differences found in the Groves and Couper and Parsley papers should be comforting to many users of these important government sponsored surveys. But substantially lower response rates are more typical outside of government. Moreover, with more variation to explain in the dependent variable, the theory may be easier to test.

Finally, the absence of non-sociodemographic, person-level measures of the respondent should be noted. Although it is hypothesized in the theory that the respondent's knowledge of the survey topic, experience with surveys, affective state, and psychological predisposition are potentially important factors affecting survey cooperation, no such measures are available in the papers discussed here. This may be an important gap but it is not too surprising. If we could find nonrespondents and ask them, for example, how much they know about our survey topic, we would surely attempt to get them to complete a questionnaire too! But the fact that they refuse to participate is the problem in the first place. Thus, I fear that trying to get adequate psychological measures on nonrespondents may well leave us running in circles.

Note

The views expressed in this paper are those of the author and do not necessarily reflect the position of the U.S. General Accounting Office.

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