

DISCUSSION OF "AN EXPERIMENTAL COMPARISON OF
NATIONAL TELEPHONE AND PERSONAL INTERVIEW SURVEYS"

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By way of an introductory remark, I must say that I am very happy to see Bob Groves doing research on survey methodology and wish to congratulate him on his work. The topic of his paper is indeed an important one to the profession and industry.

Use of the telephone as a data collection instrument provides us with a quantum jump in productivity in terms of cost per bit of information collected. Consequently a knowledge of what else we might be gaining or losing by choosing telephone over personal interviews is important.

Ideally we would like data collected by phone interview to be better than data collected by the personal interview. But, in fact, even if we could conclude that telephone data is "just as good" as personal, it would be cause for a celebration.

From this report, I see that we are not this fortunate with respect to national surveys, for the message of this report is that at this time, we can not make such a clear-cut judgment. We hear that (i) telephone surveys cost less per interview and (ii) tend to produce a smaller sampling error than personal interview surveys--this is as expected--and (iii) that response differences between the two modes are minimal, which is fortunate or else we might be stuck with trying to decide which was more accurate.

The two response differences detected can readily be ascribed to our inexperience with the telephone mode. I like to think that by working on it, we can increase the satisfaction of the respondent with the telephone interview.

Let us look at the first item with a response difference: "The Frequency of Missing Data." Here Bob reports a higher incidence with telephone but also reports that this problem declined as the interviewers gained experience. The Wisconsin Survey Research Laboratory's experience is that a centralized phone operation allows for much closer supervision of interviewers and an earlier correction of procedural errors. Further, the low cost of a verification call allows us to routinely make post-interview calls on the respondent, as part of our editing process.

Turning to the second item, which I will label "fewer responses to open-end questions," the example cited -- 11 percent fewer phone respondents supplied three or more problems facing the country. Even though the probing on this question was well controlled, my suspicion is that timing is a problem. I suspect that in the absence of visual cues, the interviewer did not allow as much time for the respondent to respond on the phone as was done in the personal interview situation. As further support for this hypothesis, I note that this item has the highest interviewer intra-class correlation coefficient reported, approximately .07; indicating perhaps a higher than average sensitivity to inter-

viewer effect. More training on the timing of probes may well eliminate the 11 percent difference in response frequency.

In addition to these response differences, there are, of course, pieces of observational information which can not be recorded by the interviewer using the telephone mode, or by the sampler. A good example is the size of the place in which the respondent's housing unit is located. We can query the respondent for this information, but the information provided is likely to be less accurate than the observational information provided by the personal interview mode. In fact, as with anything else, the question used to gain this information will influence the quality of the information obtained.

Table 1 is a good illustration of this. In one Wisconsin telephone survey, we asked each respondent two questions, the first as to the approximate size of the population in their minor civil division (MCD) of residence, and the second as to the name of the MCD. Later the population size corresponding to the MCD named was coded. Table 1 shows the percent agreement between population size which resulted. Overall, approximately 20 percent of the responses disagreed.

TABLE 1

PERCENT AGREEMENT ON TWO METHODS OF
DETERMINING POPULATION SIZE OF PLACE OF
RESIDENCE BY REPORTED POPULATION SIZE

<u>Reported Population Size of Residence</u>	<u>Percent Agreement</u>
Less than 2,500	81
2,500 - 9,999	60
10,000 - 24,999	74
25,000 - 49,999	76
50,000 - 99,999	88
100,000 or over	93
Not ascertained	23

Now what about...(i) the population coverage provided by the sample--a combination of coverage provided by the frame and response rate, and (ii) what Bob has called $Deff_{int}$ i.e., the interviewer effect contribution to the variance?

With regard to the coverage problem, it is important to emphasize that Bob's results of a 90 to 93 percent frame coverage and 59 to 70 percent response rate can be improved when we are dealing with smaller areas. Bob has already pointed out that the closer to home, the better the response rate. This is consistent with our experience in Wisconsin, but in addition some states have better frame coverage than others. For example, Wisconsin's telephone frame coverage as estimated by personal interview survey is about 95 percent. This, with a response rate of say 80 percent, would give us an overall coverage rate of 76 per-

cent, so that at least for some areas, we can begin to get close to the overall coverage rates usually achieved by the personal interview mode.

But even for the national survey, the situation is a bit better than painted if our population of interest is adults residing in housing units. For example, from Bob's data on the number of adults in non-phone housing units, we can easily see that because non-phone housing units have fewer adults, the frame coverage rates for the adult population move up about one percentage point. This may seem small, but if we consider its value in terms of what it would cost to raise the response rate one percentage point, it is a handsome gift.

I think that the most disturbing part of Bob's report for me was the discussion of the contribution of interviewer effect to the variance of our estimates as measured by $Deff_{int}$.

The nature of the telephone operation is such that a substantially greater proportion of the interviewer's time is spent on interviewing than is the case for personal interviews; consequently the number of interviews produced by each interviewer is much larger on the average for telephone than for the personal mode. What is disturbing is that even though better control of

the interviewers in a centralized operation may lead to smaller interviewer intra-class correlations, the larger number of interviews per interviewer will tend to inflate the $Deff_{int}$.

If we want to reduce this, we have the choice of finding better methods of controlling interviewer effect or reducing the interviewer's work time. If we reduce the interviewer's work time too much, then it may not be worth the interviewer's time to work nor our time to train them. Of course, this may still be preferable to the confounding of the interviewer effect with location that takes place in the usual area probability sample.

In conclusion, I must say that I believe we have only scratched the surface in our development of telephone survey methodology, and we can expect further improvements to be forthcoming which will make this mode even more competitive with the personal mode. More methodological studies are necessary for this. They cost money, but in terms of what they will do for the productivity of the social sciences, I think it would be money well spent.

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