

Some Comments on Methodological Issues

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Many topics relating to the validity of the data from CES and CPS were raised during our two-day conference. The major issue is the length and complexity of the CES questionnaire. In my opinion these present sufficient barriers to response validity that methodological innovations can lead to only minor improvements without substantial reduction in length. The questionnaire poses a very heavy task demand on the respondent and on the interviewers. Because of the perceived time pressure, both interviewer and respondent tend toward a fast pace, with the respondent answering rapidly and often with little thought, while the interviewer is poised to check a box and rush to the next question. Serious consideration must be given to shortening and simplifying the questionnaire. What variable can be omitted, or what detail can be eliminated? Can a redesign be created with central topics in all questionnaires and modules included in sub-samples?

The respondent's job in surveys often is more difficult than researchers recognize. To respond adequately the respondent must:

Understand the question and comprehend its meaning as the researcher intended. For example: "Last week, did you have a job from which you were temporarily absent or on layoff?" The respondent must remember the definition of "last week;" the definition of "job" (which may be difficult for some respondent); what is meant by "temporarily absent" — "I took a couple of hours off to go to the doctor, does that count?" "The boss said work was slack and if I wanted Friday off it was OK. Is that a layoff?" The respondent needs to answer such questions him/herself or ask for clarification from the interviewer. Time and effort is required by the respondent in trying to grasp what is wanted.

Engage in cognitive processing of information. Recalling information, checking one's recall for accuracy, competence, and for the correct reference periods require careful thought and effort. This requires time and effort.

For adequate performance, the respondent needs to understand what is wanted, have the skills and procedures for retrieving and organizing the information, and be sufficiently motivated to perform the task conscientiously.

The papers sent to us in preparation for the conference demonstrated that these surveys share general survey problems of the decay in reporting over time and apparent failure to report some kinds of purchases. The simple explanation is that these events are forgotten. Forgetting implies that the information is no longer accessible. But suppose that respondents were promised \$500 if they could report those events accurately. The probability is that a large proportion would be reported and that the effect of time lapse on reporting would be significantly reduced. The implication is that such events are accessible if the individual puts forth the effort required. This leads to the conclusion (which is supported by some of our research) that reporting can be improved by making the task easier to perform and by getting the respondent to exert greater effort. Research to improve the quality of data needs to attend to both reducing task difficulty and to motivating the respondent to greater effort. The two are closely interrelated and interactive.

Some Comments on the Questionnaire and the Respondent Role

The present CES and CPS questionnaires presume a passive respondent role; that is, the respondent is a repository of information and the interviewer's task is to dig it out. There is little in this role prescription to excite or energize the respondent. To borrow from computer jargon, the questions should be more "respondent-friendly," sound less like an abstract from a statistical table and more like a topic in which the respondent can get involved. A productive role is that of a cooperative enterprise. The respondent and the interviewer are cooperating in important research in which accuracy of information is paramount and both share the responsibility for the success of the interview.

The focus of the respondent's role (as well as that of the interviewer) is on task performance, and techniques are designed to foster that role in preference to a personal friendship pattern that sometimes characterizes survey interviews.

For most people, being a survey respondent is a new experience. Respondent behavior can be improved by increasing their knowledge of the reporting task — what is expected of them and how to behave. This can be accomplished by adding instructions to the questionnaire. The following is a general description of the use of instructions to develop

the respondent role.

The idea behind the use of instructions is simple. To perform a task adequately, one needs to know what is expected: what the task is and how to perform it. If this is not known already, an efficient way to transmit this information for many tasks is through explicit, verbal instructions that clarify goals by specifying what is to be accomplished and by setting forth the criteria for good performance. Moreover, instructions clarify the specific actions involved in achieving the goals....(Another) function of instructions in the interview is to detail information. As is true for the goal of the interview, respondents typically are given very little information about how to answer questions adequately. Instructions about the operations needed for adequate performance include such things as carefully considering each question, being diligent in retrieving and organizing information needed for responding, and requesting clarification if a question is not understood. Instructions may also point out the importance of considering various frames of reference and taking all the time necessary to answer adequately....In addition to these general guides, instructions can be tailored to the needs of specific questions. Such instructions can clarify the objective of a question or suggest efficient ways to retrieve relevant information for a particular question." (Cannell, Miller, and Oksenberg. "Research on interviewing techniques." Chapter 11 in Leinhardt (ed.), Sociological Methodology, 1981. San Francisco: Jossey-Bass, 1981.)

The questionnaire thus becomes both a set of questions and specifications for respondent role behavior, and provides specific cues to assist the respondent in effective reporting techniques. Not only do instructions clarify and direct respondent performance but they appear to be important in motivating desirable respondent behavior.

The Interviewer Role

The inclusion of instructions in the questionnaire focuses the interviewer's role directly on the reporting task. Since both instructions and questions are to be asked verbatim, the interviewing behavior is more nearly standardized among interviewers.

Special attention is paid to feedback procedures. The combination of instructions to inform the respondent of what is expected and feedback to inform and reinforce good role behavior teaches role behavior. Examples of feedbacks that focus on the task include:

- "That's useful information for our research."
- "Thanks, that's helpful."

Feedback also helps to motivate good performance through its reinforcing properties.

Pace

Regardless of how good the questionnaire and interviewing technique are, their effectiveness is lost if the interview pace is too fast. When the interviewer thinks that the interview is longer than the respondent will tolerate, the tendency is to speed through the

questions. The effects are devastating to data quality. Respondents do not have adequate time for recalling information and, perhaps more serious, the impression is communicated by the interviewer that the goal is simply to complete the questions with little interest in accuracy or completeness.

The responsibility for too rapid a pace rests partly with the interviewer but more with the researcher. The interviewer must be provided with an instrument that can be completed in a reasonable time in a thoughtful, relaxed atmosphere.

Developing, Testing, and Evaluating

Large and complex surveys such as CES and CPS present many research issues to whet the appetite of methodologists. Several topics were discussed at our meetings arising from reports of field experiences; the reports raise the familiar issues of effect of lapse of time, telescoping, bounding effectiveness, self-proxy reports, etc. One can visualize a program of methodological studies on question wording, questionnaire design, and interviewing techniques directed at improving reporting of the major content variables.

A testing program might focus first on a few topics of special importance that appear to be poorly reported. Selecting variables that are likely to reflect a variety of response errors will permit results to be generalized to other variables of like type. A sequence of research states can be considered, beginning with some pilot studies to develop hypotheses for effective techniques.

1. Pilot studies – As mentioned at the meetings, investigations that encourage respondents to introspect and report their thoughts, frames of reference, perceptions, and comprehension would provide insights to enable the researchers to develop questions that reflect respondent's orientations. Through this procedure one may both simplify the reporting task and improve the quality of information reported. The outcome of these investigations is a set of questions or, more likely, more than one set of questions, reflecting hypotheses of effective methods for measuring the variable. The second stage involves experiments to test and compare the various procedures under field conditions.

2. Field experiments – The objective of these experiments is to test the methods and procedures developed in the pilot studies. No measures of validity are usually available, and

effectiveness is measured by testing hypotheses of probable direction of bias. If evidence is that the variable is likely to be under-reported, the criterion is "more is better." Two or more alternative procedures can be tested and compared. Experimental groups of 1-200 respondents are usually adequate if the variable is general in the population. In our studies we usually select blocks from Census tracts that are contrasting in variables which we think may affect reporting — age, educational level, for example. Within each block, addresses are randomly assigned to each treatment group. This is an efficient design for identifying major differences. Based on this study, a questionnaire can be prepared for larger-scale field testing.

3. Validity tests — While the criterion of "more is better" is reasonable for evaluating newly developed experimental techniques, it is not adequate to assume validity. More may not be better for some variables. Purchases of "prestige" items and behavior perceived as desirable may be over-reported. Moreover, while tests may demonstrate one procedure as being significantly better than another, it says little about its validity compared with "truth." A procedure may produce an improvement in reporting of 20 percent and still be 50 percent under the true figure.

The best validation is of course a comparison of reports in surveys with some record that can be presumed to be accurate. The purist will argue that in studies based on a sample from records, only under-reports can be measured. For many variables it seems probable that the direction of bias is failure to report rather than to over-report. While studies cannot provide estimates of the net survey bias, the under-reporting bias at least can be measured. For some variables, especially in CPS, the under-reporting hypothesis is less acceptable and one needs to consider special kinds of records which permit an assessment of both under- and over-reporting.

It is not feasible to attempt validation for large numbers of variables in one study. One can, however, select some important variables for which records are available for checking. The records may well not be representative of a meaningful population but they can produce useful estimates.

Where not available, a record set might be generated. It may be possible to convince

a store to keep records that can be used as a sample frame. From such studies one can make estimates of under-reports for the entire sample and can examine differing response biases by characteristics of respondents, self-proxy reporting, decay over time, and effects of social desirability on reporting.

4. Behavior coding pretest interviews – Diagnosing problems with survey questions by coding interviewer and respondent behavior is receiving growing attention. The technique is based on identifying behaviors that indicate the interviewer or the respondent is having a problem. The technique also is used to monitor interviewer performance, providing an opportunity for immediate feedback to correct interviewing errors.

Frequently difficulties with questions are manifested in the behavior of the interviewer or the respondent. Respondents may ask what the question or a word means, or may suggest an interpretation of a phrase. The problem may be signaled by a response which is not relevant to the intent of the question or which provides only a partial response, or by some other form of inadequate answer. Interviewers may need to engage in more "probing" activity to obtain an adequate response: they may repeat the question, explain, define, etc. Simply the number of exchanges between interviewer and respondent often indicates difficulties. Several interviewer-respondent exchanges to a question requiring only a "yes" or "no" response suggest confusion or misunderstanding. Awkward wording and complex sentence structure cause problems for the interviewer as well as for the respondent.

Coding systems exist that are readily adapted to any questionnaire. Numeric codes are designed for all major behaviors; for example, codes for question-asking: 1. asked exactly as written, 2. asked with minor changes, 3. asked with major changes. There are codes for respondent's request for clarification, inadequate responses, "don't know," etc.

Coding 50–100 interviews yields frequencies of behaviors by type for each question. Distributions are examined to identify questions with problems. The nature of the problem is often identified by studying the behavior patterns. The system is especially adapted to telephone interviews which are monitored on line. Feedback can be given to interviewers on their performance immediately following the interview. Analysis of problem questions are based on the same (but expanded) code system.

A Final Note

The material sent prior to the meeting included several methodological articles and memos prepared by BLS staff members comparing estimates from CES and CPS with other data sets. Other reports examined apparent under-reporting over time, and for a variety of topics. These studies make a valuable contribution to the survey methodological literature. They both replicate findings from other content areas and add new information.

In order for survey research to improve the quality of its data, methodologists need to share in each other's findings and hypotheses. I urge that more of BLS methodological studies be shared through journal publication.