

STANDARDIZING INTERVIEWER BEHAVIOR BASED ON THE RESULTS OF BEHAVIOR CODING

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“Two dangers threaten the world -- order and disorder” -- Paul Valéry

ABSTRACT

Interviewer and respondent behaviors were coded for a set of telephone interviews from the National Agricultural Statistics Service (NASS) Quarterly Agricultural Survey. The behaviors coded showed deficiencies in both the design of the survey instrument and its administration. Interviewers were often not administering questions uniformly and as they appeared in the instrument. Some of the non-standard interviewer behavior could clearly have adverse effects on the quality of the data collected. Some non-standard behaviors included interviewers' attempts to compensate for violations of conversational norms (Grice, 1975) and inappropriate answers from respondents. Others indicated areas where additional interviewer training is needed. Explicit consideration of conversational norms in questionnaire design will enable interviewers to adhere to the survey instrument more closely and administer questions more uniformly. Techniques such as behavior coding will then be more effective in showing where interviewers may be affecting data quality and need additional training. Several general conversational principles that should be considered in questionnaire design are proposed.

INTRODUCTION

Each year, the National Agricultural Statistics Service (NASS) makes over 2 million survey contacts with ranchers and farmers in order to estimate current agricultural inventory, production, and practices. In order to produce accurate State and National estimates, good information must be collected at the source -- during the survey interview. NASS survey data are collected primarily in telephone and personal interviews. Each interview is an interaction between two people, the interviewer (whose behavior is scripted) and the respondent. Traditionally, interviewers have been expected to follow the interview script in a standard fashion, reading the questions exactly as they appear in the instrument. More recently, the degree of standardization desired in survey interviews has been the subject of debate (see Beatty, 1995, for a discussion). Because no interaction is entirely predictable, strict standardization of interviewer behavior is not always appropriate. However, complete departure from the interview script - the extreme of non-standardization - is unlikely to produce consistent valid data. Extremes of both standardization and non-standardization are dangers threatening data quality.

While it has been argued that survey interviews are not conversations (Suchman and Jordan, 1991; Schaeffer, 1991), many of the types of assumptions made by conversational participants are also made by survey interview participants. These assumptions help the interviewer and respondent interpret and participate in the interaction. This includes knowing when to contribute to the interaction, interpreting what is said, and knowing what an appropriate response is. Although not equivalent, speakers in both conversations and survey interviews attempt to determine *intended* meaning from particular utterances (Clark and Schober, 1991) and build a shared meaning of the interaction. The intended meaning of an utterance is not always what is explicitly stated. (If asked “How many hours of television do you watch a week?” are you being asked about only yourself, or your family? Are you being asked about only in your own home or anywhere? Are you being asked televised shows only or video recordings too?)

Only a singular meaning is intended, even if not explicitly stated in the question.) A serious problem in survey interviews is that the interpretation of intended meaning is not always consistent either between respondent and interviewer or across respondents.

Grice (1975) suggested that conversational interaction is governed by implicit principles or conversational norms. Grice forwarded the general Cooperative Principle:

"Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged."
(Grice, 1975, p.45)

Within the Cooperative Principle, he posited four categories or conversational norms:

Quantity: Make your contribution as informative as required; do not make your contribution more informative than required;

Quality: Do not say what you believe to be false; do not say that for which you lack adequate evidence;

Relation: Be relevant and;

Manner: Be perspicuous; avoid obscurity of expression; be brief (avoid unnecessary prolixity); be orderly.

The goal of most survey questionnaire design is to produce an instrument which allows an interviewer to read to the respondent exactly what is written. However, interviewers often depart from the questionnaire script and administer the questions differently than they appear (in other words, in a non-standard manner). Because conversational norms are rules followed unconsciously in interaction, they may prompt non-standard behavior during interviews but are often neglected in questionnaire design.

The objective of this study was to examine the interaction between the interviewer and respondent to find where standard and non-standard behaviors occurred. In addition, information about why non-standard behavior occurred, how non-standard behaviors might affect data quality and possible ways to minimize them was also important.

METHODS

Interviewer and respondent behaviors were coded for a set of interviews from the NASS Quarterly Agricultural Survey (AS). The AS is conducted in every state except Alaska and Hawaii in June, September, December and March of each year. Information is collected about agricultural acres

operated, crop acreage and production, grain stocks and storage capacity, and livestock inventory. This information is collected from U.S. farmers and ranchers nationwide in list and area frame samples typically exceeding 70,000 agricultural operations each quarter. Data collection in NASS is decentralized with each of 44 State Statistical Offices (SSOs) collecting information primarily from respondents operating in their state. Data collection periods are quite short, typically two weeks long at the beginning of the month.

This paper reports the results of an in-depth analysis of sixty-five interviews tape recorded in two SSOs during the December 1993 AS. Trained behavior coders from the Survey Research Center at the University of Michigan coded interviewer behaviors for questions and question introductions. Behaviors were each classified as standard or non-standard. (See Canell, Lawson and Hauser, 1975 for a description of this type of analysis.) Behavior was coded as *standard* when the question or question introduction was read exactly as it appeared or with only a minor change that did not affect the question meaning. Behaviors were coded as *non-standard* in one of the following categories: 'major/biasing change', 'incorrectly skipped question', 'question read directly' and 'question read incompletely'. Interviewer probing behaviors such as 'neutral probe', 'directive probe', and 'failure to probe' were also coded.

For respondents, anything other than providing a codable answer to a question was classified as a non-standard behavior. Each non-standard respondent behavior was coded as one of the following: 'interruption', 'request for definition', 'qualified answer', 'uncodable response', 'elaboration' or 'don't know'. A more detailed explanation of the coding scheme may be obtained from the author.

RESULTS AND DISCUSSION

Respondent Behaviors

Over the set of all questions and question introductions coded, non-standard respondent behaviors were relatively rare, as shown in Table 1. Typically, the respondent is not expected to have any particular preparation for the survey interview task and is reacting to the behaviors (usually question asking) of the interviewer. Therefore, high non-standard respondent behavior for particular questions almost always indicates problems with either the questionnaire or its administration.

Table 1. Respondent Behaviors

Behavior	Questions and Question Introductions
	Frequency (%) n=2892
Interruption	2
Seek Definition	2
Uncodable Answer	4
Qualified Answer	1
Elaboration	7
Don't Know	1

Non-standard respondent behaviors included:

Non-standard behavior: Interruptions

Reason: Respondents often begin to answer as soon as they are able

Example: "Did you plant any sunflowers, flaxseed, safflower, canola, rapeseed, or mustard seed on this operation for harvest in 1993?" was interrupted with an answer during the list 35% of the time.

If a question seems complete (i.e., can be answered without additional phrases) respondents will often attempt to answer it at that point. This has been shown in other studies of interview interaction (Houtkoop-Steenstra, 1995, Oksenberg, Cannell, and Kalton 1991). Questions should be reviewed during development for this potential problem. One possible solution to this problem is to design the question to terminate at the likely interruption point and put the additional information into separate questions. Another solution is to structure the question so that the response options precede the question or to indicate that a list will be read.

Non-Standard Behavior: Requests for Definition or Clarification

Reason: Clarifying information is omitted by the interviewer

Example: "On December 1, how many acres did this operation own?" was followed by a request for a definition or clarification 25% of the time, usually when the list of types of land to include which precedes the question was shortened or omitted.

Interviewers should be knowledgeable about the question intent and answer requests for clarification or definitions. One potential questionnaire design solution to this problem is to specify clarifying information in the question. NASS also deals with this problem by following a question with a check question which verifies proper reporting. For example, in this question, the check question is "Does this include the farmstead, all cropland, woodland, pastureland, wasteland and government program land?"

Non-Standard Behavior: Uncodable Answer
Reason: Interviewer changes question so that requested answer is not codable

Example: Question appears as "How many acres of all pastureland are in this operation?" but is read as "Have any pastureland?" Respondent replies YES or NO, which is uncodable for the question as it appears.

Implications of these types of non-standard behaviors will be addressed below in the discussion of interviewer behaviors.

Interviewer Behaviors

In contrast to the low frequency of non-standard behaviors for respondents, non-standard interviewer behavior occurred quite frequently. The percent of standard and non-standard behaviors for questions and introductory statements to questions is shown in Table 2. (Introductory statements typically announce a change in topic or give specific reporting instructions.)

Table 2. Interviewer Behaviors

Behavior	Questions	Question Introductions
	Frequency (%) n=2200	Frequency (%) n=692
Exact Reading	28	15
Major Change	19	4
Skipped in Error	22	72
Incomplete Reading	22	9
Incomplete	1	0

Non-standard interviewer behaviors showed deficiencies in BOTH the design of the survey instrument and its administration. Some of the non-standard interviewer behavior could clearly have adverse effects on the quality of the data collected. Yet it is important to note that many non-standard interview behaviors were comparable to or an improvement on what appeared in the questionnaire.

A closer examination of the non-standard interviewer behaviors showed that interviewers were often compensating for inadequate questions which violated conversational norms (Grice, 1975). These violations have implications for both questionnaire design and interviewer training and will be listed and discussed below (more detailed examples from the AS may be obtained from the author).

Conversational Norm: Do not make your contribution more informative than is required (Quantity)

Non-standard Behavior: Interviewers often shorten the questions to omit unimportant information.

Example one: In a series of questions collecting information on specific crops, identical reference information describing what information should be reported is included in each question. Interviewers often omit this information when asking the questions. However, they often omit similar information that is not redundant, but critical for correct reporting.

For example, respondents are asked “How many acres of *specific crop* were planted for all purposes on this operation in *current year*?” Data are collected with identical individual questions for each crop. This is followed by a question asking about acres planted of ‘winter wheat’ for the next year. Often, the interviewers omitted the reference year in the questions, even when the reference year changed. The implication that this type of non-standard behavior has for questionnaire design is that identical reference information does not have to be included in every question; establish reference information for a series of questions and omit it from the following questions. Questionnaires can easily be designed this way. If reference information is dropped when it is redundant, changes in the reference information are more visible to the interviewers and more likely to be conveyed to respondents. The information that is critical and the objectives of the questions (and how they change throughout the questionnaire) should also be stressed in interviewer training.

Conversational Norm: Do not make your contribution more informative than is required (Quantity)

Non-standard Behavior: Interviewers skip introductory statements that do not require a response.

Example two: Information that is likely to cause reporting problems is often included in question introductions in the AS. These introductions provide additional information to the respondent regarding specific information that should be included or excluded from the answer to the question that follows. However, the introduction itself does not require any response and the question that follows can usually be asked without the introductory information. Interviewers skipped these introductions 72% of the time and read them incompletely an additional 9% of the time.

One strategy for minimizing this type of non-standard behavior is to stress in interviewer training that these introductions must be read to respondents. However, even when this information is read, respondents do not always report according to the instructions (Stanley, 1993a, 1993b). In NASS, question introductions often include specific examples of information to include/exclude in the following questions. Question introductions can be shortened if specific examples are replaced with the general concepts that they illustrate. For example, an introduction instructing respondents to include grain that “may have belonged to you or someone else, or been stored under a government program...” can be replaced with the general concept “regardless of ownership”.

Another strategy to reduce this type of non-standard behavior is to rewrite the information in introductory statements as questions that require a response from the respondent. This may take the form of a series of shorter more specific questions or follow up questions asking the respondent if they had included or excluded the specific information in their answer. (This format is currently used in some sections of NASS questionnaires, but is not a universal NASS design convention.)

Conversational Norm: Do not ask questions which are based on information which you do not know. (Quality)

Non-Standard Behavior: Interviewers add questions asking about presence or absence of particular items.

Example three: Interviewers add questions asking if the respondent grew a particular crop before asking the existing questions about crop acreages and production.

This type of non-standard behavior improves the flow of the interview and does not appear to have any effect on the data collected. Questions determining an item's presence or absence preceding any question collecting detailed information for the item can easily be incorporated into the survey instrument. In CATI instruments that automate question routing, the presence/absence question can be asked as a global question requesting a list of crops raised, followed by detailed questions only for those crops reported. (This should be followed up with a consistency check to ensure that the total reported crop acres have been accounted for.)

Conversational Norm: Do not ask questions when you already have the answer (Manner)

Non-standard Behavior: Interviewers sometimes skipped questions which respondents appeared to have already answered.

Example four: Interviewers were required to ask at least 2 questions about hogs (current presence of hogs and presence in the past quarter) for every respondent. Interviewers often assumed the answer to the second question and skipped it if the respondent answered that they did not currently have hogs.

In a conversation, participants make many assumptions and information may remain implied and not explicitly stated. However, in the survey interview, all assumptions should be explicitly verified. This is behavior that contradicts conversational behavior and therefore is something that should be stressed in interviewer training.

GENERAL DISCUSSION

It has been argued that because survey data collection interviews are not conversations, they will ultimately lead to problematic interaction (Suchman and Jordan, 1990). While this may be true in some instances, it is unclear whether this must always be the case. While some aspects of the survey interview resemble conversation, there are clearly differences between them (Schaeffer, 1991). Heritage and Greatbatch (1991) have suggested that interaction in some forms of talk, for example, the news interview, relies on different underlying norms from

conversational interactions. For example, in a news interview, one person (the interviewer) is 'allowed' to ask information seeking questions. Posing these types of questions is not an acceptable behavior for the interviewee. This is probably true of the survey interview as well. Norms that operate in everyday conversation as well as norms specific to interview interaction are both important to the survey interview.

The results of the behavior coding of AS interviews showed numerous questions and question sequences administered in non-standard ways. But non-standard behaviors are not universally bad. Often, they compensate for violations of conversational norms and do not appear to affect data quality. The flow of the interview interaction may be improved by non-standard behavior. Even though the frequency of interviewer non-standard behaviors was high in the 65 interviews examined here, they did not provoke a high number of non-standard respondent behaviors. Indeed, Belli and Lepkowski (1995) found that interviewer variance from a survey questionnaire was not correlated with the accuracy of the data collected in a survey gathering information about participation in Health Maintenance Organizations.

Knowing what parts of a questionnaire will produce non-standard behaviors without field testing with interviewers and respondents is often difficult. Behavior coding of sample interviews is one way to target specific questions for review and redesign. Once areas of the questionnaire that prompt a high frequency of non-standard behaviors have been identified, a study of the particular types of non-standard behaviors and their possible causes can be conducted. Beneficial non-standard interviewer behaviors can then be incorporated into the questionnaire design to increase consistency in questionnaire administration. Behaviors that threaten data quality can be addressed in additional interviewer training.

Although not all non-standard behavior is bad, it is much more difficult to decide which non-standard behaviors may degrade data quality when the overall frequency of non-standard behaviors is high. Simply demanding interviewer adherence to a survey instrument that violates conversational norms will not increase data quality. In fact, interviewer adherence to a problematic questionnaire has the potential to degrade data quality. Increased standardization in data collection can only be accomplished with a combination of interviewer training and questionnaire evaluation and revision.

Incorporating good non-standard behaviors into the questionnaire will make it easier for interviewers to administer the questions and transform many behaviors now considered non-standard into

standard behaviors. Interviewers can then focus on the respondent's behaviors and the data collected instead of on 'fixing' the questionnaire during the interview. If the questionnaire is structured so that its standard administration is easy, critical information on the questionnaire is more likely to be conveyed to the respondent.

With increased standardization, non-standard behaviors that may affect data quality are more likely to be spotted by supervisors and others focussing on quality control. This way, non-standard behavior will more readily show where interviewers may need additional training. Taking conversational norms and the way that interviewers and respondents interact in the survey interview into consideration in questionnaire design will make the interviews flow more smoothly and increase the quality of the data collected.

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