# Hidden Assumptions: The Use of Vignettes in Cognitive Interviewing

Eleanor R. Gerber, Bureau of the Census, Center for Survey Methods Research
Eleanor R. Gerber, Bureau of the Census, CSMR, WPB#1 Rm 433, Washington, DC.

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## Introduction

The answers given by respondents to survey questions arise out of complex cognitive processes which involve more than strategies of recall or the interpretation of specific vocabulary used in questions. Respondents also employ a wide-ranging pattern of social knowledge surrounding the specific content area on which the survey touches. This social knowledge is possessed by every respondent, and is learned not only by direct experience, but by general exposure to cultural models. It may be thought of as a set of expectations, both about what actually happens and what should happen, and implicit rules about when and to whom these expectations are applicable. These expectations form a major part of the background that the respondent brings to the interpretation of a particular survey question.

For example, when parents decide to list a child as 'living' with them despite the child's actual presence in a dorm, they are probably relying on a cultural interpretation of college students as not-quite-independent persons who are likely to return home after the college period is over. Some of their expectations may be more specific in nature: the quality of the relationship between the parents and the child probably also affects their desire to continue to list their offspring.

These factors are ideally known in advance by the writers of survey questions. But in instances where they are not, it becomes important to have a way of discovering what kinds of social knowledge is being applied to the interpretations of survey questions. However, respondents may not be able to directly express the criteria they are using to make these judgments. Complex cultural knowledge, such as the social network surrounding residence, is often not directly available to respondents, or they cannot put it into words. In anthropology, it is generally understood that much of culture is held out of an individual's awareness. This implicit knowledge is frequently taken for granted by respondents, and as such is not deemed worthy of discussion.

This paper examines the use of vignettes in cognitive interviews as a means of examining this implicit social knowledge. Our intent was to investigate a broad range of naturally occurring terms and concepts, and not just those which appear in the roster questions employed by the Census Bureau. The preparation of the vignettes, selected questioning strategies employed during the interview, and analysis of respondents' hidden social assumptions will be discussed.

As part of the Census Bureau's on-going attempt to improve coverage in the census and in surveys, a small-scale cognitive study, called the Cognitive Study of Living Situations, was designed to investigate respondents' concepts about residence. The overall aim of the research was to assess the fit between the residence terms and concepts used by respondents with those used by the Census Bureau. This fit, or the lack of it, is an important element in how well respondents are able to create rosters which contain the information which the Census Bureau is seeking. Household enumeration in the decennial census is governed by a complex series of rules, containing many specific instructions about who respondents are to include and exclude from their rosters. For example, they are supposed to include homeless persons staying with them on census day and live-in employees, and to exclude college students or household members who spend the week elsewhere while working. Our research was designed to examine how respondents respond naturally to situations like these. We were also interested in how respondents deal with highly mobile individuals who may be tenuously attached to their households, whose residence may be highly ambiguous. In addition, we were interested in respondents' understanding of terms used in the census questions.

Thirty respondents, including African Americans, Whites, and Hispanics, were recruited through community organizations and personal contacts in the Washington D.C. area and in Boston. Three ethnographers (including myself, Laurie Schwede of CSMR and Peter Hainer of Curry College,) carried out the English language interviews.

## Design of the Vignettes

The interview employed thirteen specially prepared vignettes which presented hypothetical residence situations. These vignettes served as the basis for discussion in an open-ended interview, generally about one hour in length.

The purpose of these vignettes was two-fold. They were designed to elicit substantive discussions of particular living situations, and to provide us with evidence of the way respondents use residence terms. The first aim was accomplished by choosing situations in which we believed that respondents might have difficulty in defining where a person lived. Many of

the vignettes are therefore about highly mobile persons and those who are tenuously attached to households. Other situations were selected because they were known to be associated with problems in Census enumeration: college students away from home, live in employees, persons moving between households and institutional settings, and doubled up households.

**1. Ethnographic sources.** These vignettes were culled, as much as possible, from ethnographic sources. The ethnographic basis of the vignettes was critical to the success of the research. By providing respondents with situations they recognize as "real", we were able to tap into the expectations and reactions which they would have in similar social circumstances. This increases our confidence that the way respondents reasoned during our interviews is similar to the judgments they make in reporting rosters in survey situations.

**2. Neutral vocabulary.** One aim of the study was to investigate the vocabulary which respondents naturally use in describing residence. Our goal was to compare the terms used by respondents with those used in census and survey questions. As a result, the vignettes were written to avoid residence terms as much as possible. For example, the characters were described as sleeping in a certain place or spending time with a particular person, rather than as "living" or "visiting" there. Prior ethnographic research (Gerber, 1990) had indicated features of behavior associated with residence, which we employed in the wording of the vignettes. For example, the location of a person's belongings, arrangements about mail, and contributions made to households are all cues used in assessing residence. We employed these in writing the vignettes in order to suggest residence in different places.

**3. Ambiguous situations.** The vignettes were deliberately written to be ambiguous, in that they suggest more than one place where a character might be considered to live. This was done in part to model the kind of complex or ambiguous living situations which are believed to cause difficulties in enumeration. It also serves to present respondents with a cognitive problem which they were asked to resolve, stimulating thought and discussion. Respondents frequently commented on this aspect of the vignettes, saying that they were "vague", or comparing them to puzzles. Although the interview was experienced as challenging by some respondents, we successfully interviewed respondents with varying levels of education and fluency in English. Only in one instance was an interview terminated because the respondent was unable to complete the task.

**Interview Questions**

The structured and unstructured probes used in the interviews will be described below.

**1. Structured probes.** The structured probes served to introduce specific Census based terminology about which we had a particular interest. These were "live", "household" and "usual residence", all of which occurred in the roster section of the 1990 Decennial Census. After a vignette was presented, we asked where a character lived, where their usual residence was, or if they were a member of a particular household.

We introduced the term "live" early in the interview. Since it is a term in universal usage (although people may define it differently) we did not think that it would interfere unduly with our attempt to collect naturally used residence terms. The use of "live" early in the interview proved to be important in training respondents in the task we had in mind. Many respondents required the focused probe, "Where does X live" in order to learn the task.

The remaining structured probes introduced the terms "household" and "usual residence", asked specifically where people should be counted in the Census, or were aimed at eliciting additional vocabulary.

**2. Unstructured probes.** Interviewers added many unstructured probes where necessary. These included standard think aloud probes, direct requests for meaning, and manipulation of the details of the vignette.

Typical think-aloud questions to elicit clarification and encourage talk were used, but were not the most important of our question strategies. We were not attempting to elicit responses which would be narrowly focussed on a specific question wording, but which would explore the ins and outs of the respondents' underlying understandings. This frequently required other, more direct questioning strategies.

One very productive questioning strategy was to directly ask about the meaning of a term. We asked the meaning both of the terms we introduced, and the terms which the respondent supplied. Direct requests for meaning were generally productive. They tended to be informal, rather than asking respondents for formal definitions. An example follows:

Q. What's moving? How do you know when somebody's moved?

A. Well, you mean in this particular story?

Q. Or just in general.

A. Well, I would say that they would normally have sold the home in the country, said they used to live in the country, he is now living in the city, or moved all of his things, sold his home in the country.

The respondent has offered us some important general features of the term: ownership, self-definition,

and the location of a person's belongings. These elements also occur in discussions of related residence terms.

It should be pointed out that respondents are not consistent in their use of terms. In another context (perhaps the next vignette), the respondent may offer responses which contradict their previous definitions. It was often useful to gently point this out to the respondent. This was only advisable if the respondent seemed to be generally comfortable with the task. If they were, they did not seem to mind having their inconsistencies pointed out. For example, the following respondent had previously offered definitions of "home" and "place of residence" in terms of "mailing address." This exchange occurred after a subsequent vignette:

Q. Where does Dennis usually live?

A. I don't know. You just tell me where he gets his mail at.

Q. But before you were saying that the mail had something to do with it.

A. I know. But he got two mailing addresses here. And you didn't say where he spending the night.

Pointing out the inconsistency not only elicits varied definitions, it also gives us a general idea of the order in which various definitional criteria may be applied. This respondent seems to turn to "spending the night" only when information about a mailing address is too ambiguous to help.

Manipulating the details of a vignette were also frequently useful in clarifying the respondents' reasoning. By changing the details, and asking if the respondent's answer was correspondingly changed, it is possible to determine which of several factors is critical to the answer given. For example:

A. Well, it seemed to me that if you had said he ate his meals and slept there, then I would consider that he lived there.

Q. ...if we said he eats at his wife's house, but he always sleeps at his mother's.

A. I'd say that's a weird arrangement.

Q. That's weird, but would you say that changed where he lived?

A. Well, if he slept at his mother's, I would consider that he lived at his mother's. On a permanent basis...if he just slept there occasionally, I would not consider that he lived there...

By separating the details of eating and sleeping, which the respondent had offered together, we are able to refine the respondent's definition of living somewhere. Sleeping is revealed to be more important than eating, and the respondent adds the factor of permanent vs. occasional to his definition.

Respondents easily learned from us that the

circumstances of the vignette could be changed, and supplied their own modifications. They attempted to supply a reasonable set of circumstances, drawn from their own social experience, which would account for the details under discussion. The respondent quoted above offers such a solution after his last comment:

A. I'd think [the mother]'s in very poor health and needed to have someone stay with her on occasion. It's hard to say from this description.

The details of situations that were offered by respondents can be further manipulated by the interviewer. In this exchange, the interviewer alters the circumstance associated with "occasionally" sleeping at the mother's house to a more long term association:

Q. What if he was there sleeping at his mother's house because his mother was ill, and let's say he had to do that for a year. Would that change what you are thinking?

A. Well, I don't know if I would consider that living with his mother, under those circumstances. He probably would consider that he was living with his wife and that he was obligated to take care of his mother...Not through choice.

In this instance, altering "occasionally" to "a year" does not change the respondent's judgments. This indicates that the "permanent" suggested in the previous reply must mean something to the respondent quite different than "a year". (In fact permanence is most often seen as describing the nature of a social attachment, and is not about time.) It also suggests elements of meaning which are important to this and other respondents in making residence judgments: self-definition ("he would say") and choice. These factors can also be seen to affect respondents' judgments in other contexts.

## The Analysis of Hidden Assumptions

One important aim of our analysis was to understand the underlying social knowledge which respondents use in judging residence. Several cues were particularly useful: the perceived relevance of particular details and respondents' questions to us.

**1. Perceived relevance of vignette details.** Because the vignettes included a number of elements, respondents were consciously or unconsciously selective in their responses. Certain details are found highly meaningful and are frequently mentioned, while others are virtually ignored. One such highly meaningful detail occurred in a vignette about someone who moves between her mother's and sister's places. We had included the phrase "But no matter how long she is away, she always returns to her mother's house," because it had occurred in our original ethnographic source. Many respondents quoted this phrase back to

us, and for them it seemed to be criterial in judging that the girl "lived" with her mother, no matter how long she was away. Another vignette was about a child whose mother has sent him to his grandmother's for safety and to go to school. We included a detail, again taken from the ethnographic source, about the mother providing money for his up-keep. Respondents often found this significant: the detail indicated to them that the arrangement had been formalized to some extent. They incorporated this assessment into their reasoning about where the child lived. In this case, the element indicated different things to different respondents. For some, it meant that the mother continued to be ultimately responsible for the child, and were therefore apt to place him as living with his mother. However, for others, the money meant that the mother intended the grandmother to be responsible, and saw the boy as living with the grandmother. Despite these different ultimate judgments, the reasoning in both cases involves a quest to identify the person with the primary responsibility for the child. In combination with data drawn from other vignettes, this helped us to recognize that socially recognized responsibility or custody is the most important element in respondents' residence judgments about children.

Vignette elements that were ignored were also useful. For example, we had indicated that two children were on their father's lease in one narrative. Respondents made residence judgments about the children based primarily on assumptions about the mother as a primary care-giver or supposed legal arrangements between the parents. Almost no one mentioned the lease spontaneously.

**2. Respondents' question to interviewers.** Another clue to the respondents' social assumptions lies in the questions they ask us. Sometimes, a respondent will indicate what they find relevant or important by letting us know when information is lacking. The following exchange between interviewer and respondent occurs immediately after the reading of a vignette about an elderly man who, after several recent admissions to a nursing home, plans to go to his granddaughter's house.

Q. Where does Lottie's grandfather live?

A. Where did he live before he went into the nursing home?

Q. We don't know that.

A. Then he only has two places of residence, the nursing home and with Lottie...Who pays the bills?...I think that would probably define his residence.

The two questions asked by the respondent define elements which are important to the respondent: the possible existence of a long term home, and financial responsibility. He appears to have taken the

interviewers remark "we don't know that" as a rejection of his search for a prior residence. Working within those parameters, who pays the bills becomes relevant. But the prior residence is still his first choice, which becomes evident as he continues:

A....I say, if Lottie pays the bills, I would say he lives with Lottie...He's moved from his former residence to the nursing home and then Lottie's will be his next residence. Unless he has to go back to the nursing home. If the old home is still sitting there waiting for him to return that would be his home. I don't feel that I have enough information here.

The questions asked by this respondent indicate that the situation provided by our vignette is an incomplete or insufficient match with his social world. Cooperative respondents are likely to attempt, as this one does, to work within the parameters that we lay down. An awareness of respondents' questions can be useful in indicating how they are naturally inclined to view the situations we present to them.

## The Effects of Hidden Social Assumptions on Respondents' Judgments

The detail which respondents read into our brief narratives often serves to reveal the social assumptions they make about the situations we present. The demographic characteristics, motivations, and relationships they visualize to fill in our incomplete stories all make a difference in how respondents resolve the residence puzzles the stories pose. Frequently, these seemingly non-residence related assumptions are what control the judgment about residence. The following section describes the effects of age, gender, marriage, the quality of relationships, and expectations about social roles and social institutions.

**1. Age.** The assumed age of the characters is often important. In the vignette (mentioned above) in which a girl moves between her mother's and sister's places, the most usual assumption is that she is very young. In those instances, it is clear that her mother's place, to which she "always returns", should be considered her home. But if she is thought to be of an age to support herself, the situation changes. Then she is likely to be seen as a person with problems. She is then sometimes seen as "living with family" who serially try to care for her. In a few instances, she is even seen as "homeless."

**2. Gender.** Although our vignettes did not provide an exact match of circumstances with only a change in gender, several male characters were also presented as being highly mobile, or associated with different households. It is a general impression that respondents were less likely to see male characters as belonging to the places with which they were associated. That is to

say, they were more likely to see them as "homeless", or as "doing street time" than the female character described above.

**3. Marriage.** Respondents often needed information or made assumptions about the existence of marriages. This factor was often very powerful in affecting their judgments about residence. For example, in the vignette where a man's mail is described as going to both his wife's and his mother's place, the exact state of the marriage was critical information. If respondents see a separation or divorce as the explanation, the character's residence is described as "in transition", and they are likely to ask how many nights he is spending in each place. But if the marriage is still in effect, they tend to place him with the wife, even though this creates a cognitive problem about his motivations. For example:

Q. Where does Dennis usually live?

A. From that story, I would say he would live with his wife...

Q. Why are you laughing?

A. Because basically they run around on their wives and they were afraid because some of their credit card bills will get home, so they let all the mail go to their mother's.

Other data indicate that marriage and kinship have a strong influence in judging to which household an individual belongs.

**4. Quality of relationships.** In the previous example, and in other passages quoted above, it is evident that respondents take the quality of a person's relationships and personal motivations into account when they make residence judgments. This is particularly true in assessing the residence status of non-related persons. Lodgers and boarders are often seen as being in impersonal, economic relationships with their landlords, and in those instances they may not be included as "household members". When non-related persons are seen as in cooperative relationships (centering on mutual contributions to up-keep of the residence or common activities) they may be included. As one respondent told us "they become like family."

**5. Social role.** Respondents' expectations and knowledge about social roles often form part of the hidden assumptions they bring to bear on residence judgments. This is particularly evident in two vignettes based on situations known to cause difficulties in enumeration: live-in employees and persons moving between long term care facilities and households. The case of live-in employees is perhaps clearest. Our vignette describes a housekeeper "who sleeps at her employer's place from Monday to Friday" and spends weekends with her family. Although some respondents

were willing to decide the housekeeper's residence on the basis of time, for many she "only works" at the employers. This disqualifies the employer's place primarily because it is unlikely to be permanent over a long period of time. For example:

Q. Where does Alberta live?

A. I'd have to say with her family...because once again I feel like she's living with these people she's working for...for the time being because that's the situation she's in with this job, right now but it might not always have been or always will be that same way."

However, when respondents see servants as being "almost like members of the family", they are more likely to see the housekeeper as belonging to her employer's household.

Some of the role expectations which affected residence judgments were connected with ideas of proper behavior and life-style. We have already described how respondents frequently assumed that the grandfather in the nursing home must have had a prior residence of his own. This rests on the expectations people have about grandfathers and the lives they must have lived in order to achieve their respected old age. This became clear when one Hispanic respondent (interviewed in English) heard the word "grandfather" translated into "abuelo." Hearing the word in his native language suddenly clarified his previously tentative response:

Q. Grandfather, what is that in Spanish, 'abuelo'?

A. Abuelo has to have a place! Yes, he's an older guy, he has a place.

Q. So it sounds funny to talk about him living with his granddaughter?

A. Yes, yes. I'm saying, maybe he's staying in there and somewhere in the country, because if he don't got no house, what did he did when he was young?...Just have sex and have kids and don't think about a house, you know.

The respondent seems here to be reasoning from a social assumption that "grandfathers" are socially responsible people, and must be assumed to have lived in such a way that they have permanent residences. This, or a similar logic, probably controls the response given by several other respondents that the grandfather's "usual residence" is "at home 'til he got sick."

Other life-styles sometimes carry the assumption of the existence of another place, even if the degree of respect attached to it is less. One of our vignettes describes a man who spends two nights a week with his child and the child's mother, and might have another child elsewhere. To many respondents he seems "homeless", or something approaching that: "just jockeying from position to position, so it doesn't seem

like he's homeless but basically he is." However, some respondents read a third place, belonging to the character himself, into the vignette:

A. Well, I could picture that he probably has an apartment or something that he rents, and um, stays there most of the time.

This is based on an evaluation of the difficulties of the man's life-style:

A...He'd probably be with himself, really, in his own apartment. I know I would if I had three four women like that. You know.

(One respondent who took this approach pointed out that if he had enough money for multiple women, he must have money for a place of his own.)

This tendency to make assumptions about the existence of other places may have effects on real rosters. In the 1990 Census, individuals "with no usual home elsewhere" were supposed to be counted at the place where they were found on Census day. However, respondents who lack specific information about highly mobile people may tend to assume the existence of a valid residence, based on other aspects of the individual's life-style. Presumably, this would make them less likely to include such mobile persons on their rosters as having "no usual home elsewhere."

**6. Social institutions.** Respondents import their knowledge and expectations about other governmental or bureaucratic functions into their residence judgments. One of their most important hidden assumptions is that Census rules and definitions are the same as those they are familiar with from other agencies. This may explain why respondents are sometimes willing to say that certain individuals "live" with them, but do not believe that they are supposed to be counted with them in the Census. For example:

A. Let me think about this again. The dependency defines the household for the purposes of the IRS. If my son came back...he was living at home for awhile and working. I would say he is a part of my household, but actually he is just living there. I think that in the legal sense, it would just be my wife and myself. If the census people came by, he would be, well, I guess it would be his home, but he is not part of our household. He uses our address, but he is not an owner, not a dependent, he files his own tax return."

This indicates that despite a tendency to think his son was living with him, despite believing it is his home, he might not include his son as a member of the household for Census purposes. This clearly is based on an assumption that the census and the IRS are interested in the same unit, which is thought to have a legal basis. The same respondent remarked, in another context: "It's the overall pattern of her legal relationships that define what her residence is."

The hidden assumption that residence has a legal aspect defined by social authorities like governments and banks is rather common. It is an important element in residence judgments. Probably no other assumption has a greater effect on the actual rosters which respondents provide in the census and surveys. The assumption that the Census Bureau is interested in some form of "legal residence" affects respondents' basic understanding of what we are asking.

## Conclusions

This paper has described a means of uncovering the hidden assumptions which respondents apply in making residence judgments. The use of ethnographically based vignettes, combined with flexible questioning strategies including the manipulation of vignette details, reveal much of the social knowledge which respondents may use in making these judgments. This social knowledge has a powerful effect on respondents' assignment of individuals to living places. The assumptions respondents hold about age, gender, the quality of relationships, kinship, and particular social roles and institutions, all influence residence judgments. This suggests that the creation of rosters is strongly influenced by personal, social, and demographic characteristics.

The question remains of whether real rosters in census and survey environments would be similarly affected. The evidence presented here shows that understandings of terms used in census questions are affected in this way. Vignettes about situations known to be associated with coverage problems demonstrate that respondents make assumptions about them which do not parallel Census rules. This suggests the possibility that these hidden social assumptions may have effects on coverage.

The interviewing methods used in this study went beyond the testing of specific survey questions. We did not concentrate primarily on question interpretations, and probed for meaning of terms not included in the vocabulary of the questions.

The flexibility and depth of the interview format allowed us to explore which aspects of a situation were critical to a respondent. This technique of interviewing is more focused than a traditional unstructured anthropological interview, but it is less focused than a standard cognitive think-aloud interview. It is this combination which allows the respondents' social understandings to emerge in a relatively complete way, while providing an indication of how these assumptions will affect their responses to census questions.

## Bibliography

Gerber, Eleanor R. 1990 "Calculating Residence: A Cognitive Approach to Household Membership Among Low Income Blacks. Report prepared for the US Bureau of the Census.