

"WHO LIVES HERE?": THE USE OF VIGNETTES IN HOUSEHOLD ROSTER RESEARCH

Eleanor R. Gerber, Tracy R. Wellens, and Catherine Keeley, U.S. Bureau of the Census
Eleanor R. Gerber, Center for Survey Methods Research, Statistical Research Division, U.S. Bureau of the Census

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Introduction

Standard procedures for conducting household-based surveys require obtaining a list of household residents. These lists, called rosters are used for complete enumeration of the household, for randomized selection of respondents, and for establishing the eligibility of certain household members for particular questions. However, since rosters are one of the first parts of the survey encountered by respondents, they are likely to have a role in creating the over-all context in which the respondent interprets the survey. For example, in self-administered census questionnaires, roster pages often contain titles, explanations, and other cues which respondents can use to form expectations about the task ahead.

In addition, rosters have been used to convey specific information to respondents about who should be regarded as a household member. Researchers cannot assume that the household definitions they require analytically will be used naturally by respondents. Respondents may adopt household definitions encountered in other contexts, like tax regulations or school district rules. In addition, respondents' own culturally-based intuitions about who should be considered a household member may not correspond to the survey's intentions. Such culturally-based household definitions have been shown to be different from census-based household membership rules (Gerber, 1994). One approach for correcting such "errors" in rostering is to present rules for respondents to follow in creating roster lists. (This approach has been used in the decennial census.) However, the effectiveness of the presentation of rules in written form is not well-understood. In completing a roster which contains rules, it seems likely that respondents will rely on a combination of the rules provided, and their own definitions about who should be considered a household member. Hence, in designing a roster, it would be useful to know the extent to which respondents use the specific information which is provided to them.

Providing rules may be considered "necessary" might be when the rule is counterintuitive, but respondents are able to notice and follow it. However, other possibilities exist. Providing a certain rule may be "unnecessary" if respondents would naturally respond correctly, either because it seems intuitively correct to list persons according to that rule, or because they are able to reason out the correct answer from other information on the questionnaire.

Another ambiguous condition potentially exists. A rule might be considered necessary because respondents' intuitions lead them to a response which does not follow the rule, but putting the rule on the questionnaire is unsuccessful in altering respondent's behaviors. In that case, respondents will arrive at the wrong answer, regardless of whether or not a specific rule is provided. The current paper presents the results of a preliminary attempt to find a method of evaluating the rules presented on decennial census questionnaires in these ways.

A method which seemed applicable to this evaluation was the use of vignettes. Vignettes are brief narratives, generally no more than one or two sentences long, which contain elements of social situations and actions in which researchers are interested. Since residence rules in the decennial census are often stated in terms of such social situations, it was a logical step to evaluate the use of rules by creating vignettes. The vignettes allowed us to ask respondents if they thought an individual in a particular situation should be listed on a particular type of census roster, and to explore their reasons for this judgments. Vignettes have been applied to diverse subject areas, including crime (Wolfgang, et al, 1985,) and social standing (Rossi, et al, 1974.) Vignettes have also been noted as a means of examining respondents' use of category labels and their classification of the kinds of events which should be reported in a survey (Forsyth and Lessler, 1991.) Vignettes have been used to evaluate respondents' understanding of terms used in particular survey questions (Martin and Polivka, 1995.) The current research also employs vignettes in a design intended to evaluate aspects of a questionnaire. The research was designed to examine the relationship between the nature and form of the information provided to respondents on rosters, and specific judgements about the inclusion of certain kinds of persons on particular rosters.

The major aim of our research is to assess the information necessary to present to respondents in order for them to create rosters in conformity with residency rules in the decennial census. We have been primarily seeking to find evidence about whether presenting the rules affects respondent behaviors. In the following discussion, we have looked at certain of our vignettes which provide instances where we think an effect of stating census rules has or has not taken place.

METHODS

1. Vignettes: Thirteen vignettes were written for use in this research. They represented a variety of situations

which were connected with specific residence rules which appeared on one of the roster treatments we investigated. For example, our vignettes included descriptions of a college student and military personnel stationed away from home. These represent situations in which individuals are often included in roster lists contrary to census rules. The vignettes also included boarders, doubled up families, and live-in-employees (who are thought to be excluded from roster lists, contrary to census rules.) Many of the vignettes represent situations in which census rules diverge from respondents' natural concepts of residence (Gerber, 1994.) The vignettes also included some situations which were more consonant with respondents' natural residence concepts, and for which a rule was included in some roster treatments. Typical of such situations was the rule to include persons "temporarily away" from the household on a business trip. The vignettes also included date-specific information, since all census questionnaires include information about Census day.

2. Rosters. Five rosters were included in the research. These included two rosters which have been used in other census data collections, and three experimental rosters which were developed for this and related research. The rosters varied in the amount, wording and format of the information presented. In addition, some rosters present the same information more than once. Since only a small number of respondents completed each roster, this analysis does not examine the differences in respondent behavior which may be caused by these differences in format, wording and reiteration.

Instead, we have chosen to look at presence or absence of information about the rule on particular rosters, and to examine responses to vignettes in these terms. For analysis purposes, the rosters were grouped into "rosters that contained information about a particular Census rule" and "rosters that did not." These roster groupings varied by vignette because each roster presented differing amounts of vignette-relevant information. It is important to note that different wordings and formats of the rules were used, and therefore respondents exposed to different rosters did not see the same cue to each rule.

3. Qualitative interviews. Vignettes were administered upon completion of cognitive interviewing concerning one of the five rosters. Respondents were randomly assigned to roster conditions. After the cognitive interview was completed, respondents were instructed that we were going to ask a series of questions about whether persons in certain situations should be included on a census form, such as the one he/she had just completed. The order of presentation of the vignettes was randomized. Instances where respondents could not make a choice have been treated as missing data. After giving us each judgment, the respondent was then asked to provide an explanation of his/her reasons for making this judgment.

4. Respondents. For these interviews, we attempted

to recruit respondents from the kinds of households where census coverage might be problematic. We attempted to find respondents from households containing at least 3 adults, one of whom was not related to the others. (Not all of the respondents' households met this criterion.) In total, 58 interviews were conducted.

5. Content analysis. A content analysis was conducted for the reasons which were given for each judgment. The first reasons offered by respondents has been used in the current analysis. The codes allowed us to distinguish "correct" from "incorrect" reasons, according to census rules. Average percent agreement across coders was about 80%.

The reasons elicited from respondents fell into five major topic areas. These included 1.) mention of census rules and procedures, 2.) the amount of time spent at a residence, 3.) the general location of the residence, 4.) mention of the degree of permanence of the residence, and 5.) mention of family relationship.

FINDINGS

Table 1 presents the percent of right answers to vignette questions according to whether or not the roster contained the specific rule the vignette was designed to test. Vignettes are presented in order of least-often to most-often correct overall. In Table 1, rosters which present information about the census rules (in all wordings and formats) have been grouped and compared to all rosters which do not present information about the rules. The number of cases vary slightly because of missing data. Because of the small number of cases, the results represent tentative conclusions. Results will be discussed in terms of vignette difficulty and the effects of presenting information about census rules.

1. Vignette Difficulty Table 1 suggests that some vignettes were relatively difficult for respondents and some were relatively easy. At one extreme, a vignette was answered correctly by only 25% of all respondents, while at the other extreme, one vignette was answered correctly by 98% of all respondents. It seems probable, therefore, that the subject matter of the vignettes had a strong effect on respondents' success in answering them.

In order to assess the effect of the subject of the vignette on respondents' ability to answer correctly, it is worthwhile to compare the three vignettes which were answered correctly by less than 50% of the respondents with the four vignettes answered correctly by 85% or more. These two groups of vignettes correspond closely to intuitive residence rules for respondents (which they tend largely to get right) and counterintuitive rules (which they tend to get wrong.) In the following two sections, we are concerned with total right and wrong answers to each vignette, and examine the subject matter of the vignettes in comparison with what is known about respondents' natural understandings about residence. Differences in right and wrong answers which may result from presentation of the

rules are discussed in Section 4, below.

2. Answers to Counterintuitive Vignettes. The three difficult vignettes which respondents tend most to get "wrong" (according to census residence rules) are shown at the top of Table 1. They describe of a "commuter worker" who spends 4 days a week away from his home in another state, a live-in housekeeper who goes home on weekends, and someone's mother in a nursing home on a trial basis. The vignettes and the correct answers to them are presented below. (The numbering of the vignettes represents their order in Table 1, below.)

1. *Craig and his wife have a house in Pennsylvania. Craig's job is in Washington, D.C. so he stays with his mom in D.C., Monday through Thursday of the week.*

Where should Craig be listed on a census form?

Correct answer: Washington, D.C.

2. *Maria is a live-in housekeeper for the Smiths during the week, but spends weekends with her husband and children at their apartment.*

Where should Maria be listed on a census form?

Correct answer: with the Smiths

3. *Carolyn's mom normally lives with her; however, on April 1st, she has placed her mom in a nursing home on a trial basis for the next three months.*

Should Carolyn put her mom on her census form?

Correct answer: no

According to Census residence rules, individuals in the first two situations should be counted at the places where they "live and sleep most of the time," regardless of their social connections in other places. In the case of the nursing home, the rule is governed by the kind of facility in which the person is to be found on Census Day. Enumerations take place at facilities where individuals are "in the care and custody" of others. Regardless of the expected length of stay, individuals in such "group quarters" facilities are not supposed to be included on the census forms of the households to which they are socially connected.

The content analysis of the respondents' reasons for their judgments indicates why these vignettes were so frequently answered incorrectly. About 85% of respondents who incorrectly assigned the commuter worker mentioned his permanent home or address, or family relationship. About 70% of those assigning the live-in employee incorrectly mentioned the same reasons. Incorrect assignments in the nursing home vignette mentioned that the situation was only temporary, or that the individual had not been at the nursing home long enough to be considered out of the household.

These responses are consonant with respondents' own beliefs and understandings about residence. In the Cognitive Study of Living Situations (Gerber 1994), longer vignettes covering these situations were used to elicit the natural residence concepts. In general, respondents reacted to these work-related and group quarters situations by

searching out what they could regard as the most permanent residence to which the target individual was socially attached. This was often described as "home" or as a person's "permanent address." Where an individual currently stayed played a role in these deliberations, but was often contradicted by strength of these other attachments.

The three difficult vignettes in the current research all describe strong social attachments (i.e. family homes to which the individuals do or may soon return). Census rules that place these characters elsewhere are counterintuitive for respondents. Respondents' natural residence concepts specifically discount work-related residences as legitimate residences. Economic ties attaching a person to a residence are seen as transitory and not to be trusted. The two vignettes in this research which respondents most tended to answer incorrectly involve residences "just for work."

3. Answers to Intuitively Easy Vignettes. The two easiest vignettes both involve situations in which an individual is temporarily absent from an established place of residence. These vignettes are found at the bottom of Table 1. They include a husband on a business trip (who should be recorded on the household's census form) and a 2-week visitor with a clearly stated alternate residence (who should be excluded from the roster by Census rules.) Census day for the vignettes quoted below was April 8:

13. *Sandy's husband, Peter, left on a business trip on March 15 and won't return until April 30th.*

Should Sandy list Peter on her Census form?

Correct answer: yes

12. *Mary stayed with her friend Sue for the first 2 weeks in April and then returned to her apartment in Seattle.*

Should Sue list Mary on her census form?

Correct answer: no

The business trip and vacation vignettes were answered correctly by nearly all respondents (97% and 87.5% of respondents, respectively.) Census forms often provide reminders to include "persons temporarily away", and business trips are used as a specific example. Census rules governing those temporarily present in the household have to do with whether or not the "visitor" has another home elsewhere. According to this logic, the visitor in the vignette should not be counted because she clearly has a residence of her own, and not because her presence is short term. Most of the respondents who answered vignette 12 correctly mentioned the temporary nature of the stay, or its short duration. Therefore, the vignette is intuitive to respondents, but for reasons which do not exactly parallel the census rule.

Respondents were equally successful in finding the right answer to a vignette describing an individual who "rents a room" in the residence:

10. *Dave rents a room at the Johnson's house.*

Should the Johnsons list Dave on their census form?

Correct answer: yes

Census forms often contain reminders or rules to include roommates, housemates and boarders, because previous research has shown that non-relatives are disproportionately omitted from the census (Ellis, 1994.) Natural residence concepts include the idea that rent establishes one's rights as a permanent resident.

Thus, answers to the easiest vignettes in this study show responses which are consistent with their natural intuitions about residence. In general, it appears that when answering our vignettes correctly or incorrectly, respondents rely heavily on their own intuitions about residence. Where the census residence rules agree with these intuitions, respondents tend to follow them easily (and answer our vignettes correctly.) Where respondents' intuitions and census residence rules diverge, respondents tend to err.

4. Respondents' Use of Information Provided on the Census Form. Despite respondents' reliance on their own residence concepts, there is evidence that they also attempt to use the information presented to them. Our content analysis included a category in which respondents specifically mention Census rules and procedures as explanations for their answers. Such explicit explanations were rather rare, and affect responses substantially for only one vignette:

4. Sergeant Jim is stationed in Alaska while his family has stayed behind in Maryland. Should Jim's wife put him on her census form?

Correct answer: no.

Although this vignette was answered correctly 56% of the time, the content analysis suggests that "correct" answers relied substantially on respondents' recall of census rules, evidence of respondents' attempt to incorporate information provided on the census form into their residence judgments.

All census forms provide a date to which respondents are intended to refer. The date is intended to provide guidance for households and persons who move near census day, and for the listing of individuals with no usual place of residence. No equivalent for Census Day exists in respondents' own intuitive concepts. Therefore, we can assume that mention of this concept has been influenced by the information provided on the questionnaire.

Answers to the following vignette rested on respondents' awareness of Census Day. It involves a roommate who moved in two days after Census Day (and therefore should not be included on the form.):

7. Kathy's roommate moved in on April 10.

Should Kathy list her roommate on her census form?

Correct answer: no

Both correct and incorrect answers to this vignette were explained with references to the Census Day date. Close to 90% of the correct answers use the concept of

Census Day; about half of those judging incorrectly did the same thing. The explanations offered by respondents for incorrect answers indicate that some of them could not recall the exact date on the form. Others did remember the exact date, but assumed that a two day difference in dates was too small to matter. This vignette again indicates the respondents' attempts to incorporate the information provided to them in their judgments, although they may reason from that information in unanticipated ways.

Citing residence rules or Census Day in their explanations provides direct evidence that respondents utilize information provided to them on the roster. However, respondents may have been influenced by the presence of this information, but were unable to express this. The content analysis is therefore likely to understate the overall effects of the rules. In order to assess the influence of the rules on respondent behavior, it is necessary to compare the numbers of correct answers for each vignette when the rules are presented and when they are not.

5. Evidence of Census Rules Affecting Responses. These tentative findings suggest some support for the hypothesis that presenting specific rostering rules to respondents affects their residence judgments. It should be noted that none of the specific comparisons are statistically significant¹. However, an interesting trend seems to emerge. First, rosters which contained information about census rules resulted in more correct responses for 8 out of the 13 vignettes. Improvements due to the inclusion of census rules seemed to vary in terms of the difficulty of the vignette. For the difficult vignettes, it appeared that rosters which contained information about census rules resulted in more correct responses. In contrast, for the easy vignettes, providing information about census rules resulted in fewer correct answers. Those vignettes which were in the middle range (that is neither particularly easy nor difficult) seemed to benefit from the inclusion of census rule information.

Four vignettes showed a positive gain of 10 percentage points or more. Given our small sample sizes and the potential instability of our findings, we have decided to limit our discussion to several examples. It is interesting to note that two of these are vignettes which respondents answered correctly the least. These are the commuter worker and the live-in employee vignettes, discussed above. For the former vignette, 20% of respondents answered correctly when the rule was not presented, and increased to 30% with the rule. The latter vignette was answered correctly by 29% of respondents without the rule, and by 40% of respondents with the rule. This indicates that

¹ None of these differences are statistically significant at the 90 percent level of confidence using Fisher's Exact test. This test is robust for small sample sizes.

although respondents are primarily influenced by their own intuitions in answering these counterintuitive vignettes, there may be a small benefit attached to presenting respondents with information about the rule.

The two vignettes which showed the largest percentage gain in correct answers between the "with rules" and "without rules" conditions involved institutional living situations. The nursing home vignette shows a difference of 27% between the "with rules" and "without rules" groups, and a vignette about prison shows a 16% improvement between the two groups. The nursing home vignette was presented above. Two additional group quarters vignettes showing percentage gains in correct answers are presented below:

5. *Mary's daughter Alice has been away at college and has three more years until graduation.*

Should Mary put her daughter on her census form?

Correct answer: no.

8. *Doug's wife, Jane, is in prison for 2 years.*

Should Doug put Jane on his census form?

Correct answer: no.

The group quarters vignettes all describe family members in situations which would be regarded as somewhat contradictory in respondents' natural concepts: the target individuals in these vignettes "belong" to the household by kinship but are physically away. Such situations may be seen as complex and therefore problematic. Perhaps an awareness of this complexity makes respondents more likely to look for guidance in the census form.

Another trend is evident in the lower portion of Table 1. The five vignettes which were answered most correctly (by 78% or more of respondents) all show decreases in correct responses when information about the rule is presented. In two of these five instances, the decreases are fairly substantial. These are vignettes about renting a room and about a short term visitor. The renter vignette showed an 18% decrease and the visitor vignette a 15% decrease when the rule was presented.

It should be noted that these two vignettes were among the easiest for respondents to answer correctly and were consonant with their beliefs. One possible hypothesis to explain the decrease in the percentage of correct answers is that respondents regard the presentation of rules which they already "know" as redundant. They may therefore tend to reinterpret these rules in order to make sense out of them. Such redundancy results in the reinterpretation of questions in conversations (Grice, 1975) and has also been demonstrated to affect survey responses (Schwarz, 1995). In this context, we suggest that such redundant information does not occur between interlocutors, but instead between a taken-for-granted idea and a version of that idea presented on a questionnaire. Respondents may be reinterpreting the questionnaire version as new information because they cannot understand why anyone would bother to mention

something as self-evident as their own intuitive idea. If such decreases in correct answers for highly intuitive rules were to prove significant, they would indicate that providing certain rules is unnecessary or even detrimental. The possibility that information presented to respondents may be wrongly interpreted or confusing should be kept in mind.

CONCLUSIONS:

This analysis shows the potential of vignettes to evaluate the usefulness of information provided to respondents in self-administered questionnaires. Although the conclusions drawn from this research must remain tentative, evidence exists for respondents' use of both their own intuitions and information provided on the questionnaire.

These results also suggest a way of evaluating which rules are necessary to present to respondents, and which are not. In particular, it may be unnecessary to present rules if respondents are able to supply correct responses whether or not the rule is presented. In the census context, these data suggest that respondents do not need to be reminded to include permanent household members who are temporarily away, or not to include temporary visitors as household members. This method can also suggest which rules respondents will be unable to follow whether or not it is presented. The commuter worker rule is an example. Such rules may be easier to change than to get respondents to follow. Other rules (such as the rules about group quarters) may be worth presenting, even though improvements seen here are not statistically significant. This research suggests two additional avenues of research. First, although we utilized different rosters which presented the rules in different formats and with different wordings, we have not been able to evaluate the effects of these changes in rule presentation. An evaluation of this nature would be necessary to decide if some wordings or formats of a rule perform better than others. Second, additional research will be necessary to discover the effect of the actual composition of respondents' households on their ability to respond correctly to information provided on the questionnaire.

REFERENCES

- Ellis, Yukiko. 1994. "Categorical Data Analysis of Census Omissions." DSSD 1990 REX Memorandum Series #PP-10. Washington, D.C.: Bureau of the Census.
- Forsyth, B. and J. Lessler. 1991. "Cognitive Laboratory Methods: A Taxonomy". In Paul P. Biemer et al., eds. Measurement of Survey Error in Surveys, Wiley, New York.
- Gerber, E. 1994. "The Language of Residence: Respondent Understandings and Census Rules." Final Report of the Cognitive Study of Living Situations. U.S. Bureau of the Census, Center for Survey Methods Research.
- Grice, H. P. 1975. Logic and

conversation. In P. Cole and J. L. Morgan, (Eds.), Syntax and Semantics, 3: Speech Acts, pp.41-58. New York, Academic Press.

Martin, E. and A. Polivka. 1995. "Diagnostics for Redesigning Survey Questionnaires: Measuring Work in the Current Population Survey." *Public Opinion Quarterly*, 59:547-567.

Rossi, P. H., W. A. Simpson and C. E. Bose. 1974. "Measuring household social standing." *Social Science Research* 2:169-90

Schwarz, Norbert. 1995. "What Respondents Learn from Questionnaires: The Survey Interview and the Logic of Conversation" *Survey Methodology Program Working Paper Series, #3*. Institute for Social Research, University of Michigan, Ann Arbor.

Wolfgang, M. E., R. Figlio, P. Tracy and S. Singer. 1985. "The National Survey of Crime Severity." U.S. Department of Justice, Bureau of Justice Statistics, June, 1985.

TABLE 1

Vignette Number	Percent Correct*			% Difference
	Without the Instruction	With the Instruction	Total Correct	
1	20	30	25	+10
2	29	40	36	+11
3	37	64	44	+27
4	50	59	56	+9
5	53	63	60	+10
6	60	72	70	+12
7	67	73	72	+6
8	70	86	74	+16
9	80	77	78	-3
10	100	82	85	-18
11	90	86	87	-4
12	100	85	87.5	-15
13	100	97	98	-3

*The number of cases on which these percentages are based are small, from 54 to 58 cases per vignette. Individual cells vary from 9 to 46 cases.