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CATI/CAPI Questionnaire Design:
Person-based vs. Topic-Based, A Literature Review

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Abstract

Household census and survey questionnaires are nearly always designed to gather a standard set of information about all members of the household. Usually the information is obtained from one person who acts as the "household respondent." At a minimum, this set includes basic demographic information such as sex, race, date of birth, marital status, origin and relationship to a designated reference person. However, the set may include virtually the entire data volume anticipated from the survey, e.g., income information, social programs participation, labor force situation, health status, criminal victimization events, etc. The question for the survey designer is: What is the best way to structure the survey instrument to capture the information that a household respondent is going to provide about him/herself and the other household members? That is, is it better to ask all questions about one person before proceeding to the next person (the person-based approach), or is it better to complete one topic for all persons and then proceed to the next topic (the topic-based approach)? This paper provides a review of the literature on this topic.

Keywords: person-based, topic-based

August 11, 1995

MEMORANDUM FOR   Lawrence McGinn
                 Chief, Continuous Measurement Staff

From: Elizabeth Martin
                 Chief, Center for Survey Methods Research
                 Statistical Research Division

Subject: Literature Review Regarding Person- vs. Topic-Based Questionnaire Design

Attached is the literature review that you requested regarding research having been conducted using CATI/CAPI questionnaire design and comparing person-based with topic-based question flow. The literature revealed little that even touched on the subject and nothing that gave a definitive answer.

We would be very interested in working with you to develop a research project to investigate the optimum mode of asking repetitive questions of respondents using CATI/CAPI. One research idea we had was to do split panel test of three panels. One panel would have a design asking roster information in a topic-based flow. The second panel would be the person-based panel. The third would be a combination of the two structures, i.e., asking certain questions which seem to go together, such as names and relationships, in topic-based form and the other questions in person-based format. We'll schedule a meeting in a few weeks to discuss possible next steps.

If you have any questions regarding the literature review, please contact Laurie Moyer on 457-4894.

Attachment

cc: D. Fisher (CMS)
     D. Griffin (DSSD)
     M. Ramos (ESMD)
     S. Miskura (SRD)
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CATI/CAPI Questionnaire Design: Person-based vs. Topic-based
A Literature Review

by Laureen H. Moyer

1. Introduction

Household census and survey questionnaires are nearly always designed to gather a standard set of information about all members of the household. Usually the information is obtained from one person who acts as the "household respondent." At a minimum, this set includes basic demographic information such as sex, race, date of birth, marital status, origin, and relationship to a designated reference person. However, the set may include virtually the entire data volume anticipated from the survey, e.g., income information, social programs participation, labor force situation, health status, criminal victimization events, etc. The question for the survey designer is: What is the best way to structure the survey instrument to capture the information that a household respondent is going to provide about him/herself and the other household members? That is, is it better to ask all questions about one person before proceeding to the next person (the person-based approach), or is it better to complete one topic for all persons and then proceed to the next topic (the topic-based approach)?

For self-administered paper questionnaires, the issue can be trivial. The display is often a grid/matrix consisting of questions along one axis and persons' names along the other. The display and instructions may imply a person-based or a topic-based question flow, but ultimately the respondent can choose for him/herself how to answer the question set. Also for interviewer-administered paper questionnaires, such as those for demographic data collected on a control card (sometimes called a household roster or docket), the display and instructions are designed to dictate the question flow. However, it does not restrict the interviewer from recording the information in whatever order the respondent reports it -- nor does it necessarily restrict the interviewer in the choice of how to request it. With a paper form, the full array of to-be-answered questions is in visual display, and, as such, is a visual stimulus to the form-filler. This visual stimulus may override the designer's intended question flow and lead the form-filler to choose his/her own question/answer flow.

When the data collection instrument is a CATI/CAPI[1] questionnaire the design variables change, limiting the choices for the form filler. There are still visual and vocal stimuli for the interviewer (screen views and bleeps from the computer and replies from the respondent). But for the respondent, the stimuli are only vocal. The respondent can not even see the physical questionnaire as s/he can during a paper questionnaire personal interview. (The exception is a CAPI interview when the respondent can be shown the

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[1]CATI = Computer-assisted telephone interviewing
CAPI = Computer-assisted personal interviewing

screen by the interviewer). This change of visual stimulus provides another consideration for the questionnaire designer.

Because survey costs and data quality demands are high, it is important to determine the mode of interview that provides the best buy. The "best buy" would be the data with the lowest error rate, and with an interview that is most efficient and cost effective. Data needs and the best use of the interviewer's and respondent's time are a goal of all surveys, but especially for surveys designed for large samples and which will continue over the long term. Mistakes in the planning may have to be tolerated for some time before they can be altered. When a survey also is designed for CATI or CAPI, the cost of the professional programming time is a significant factor. Designing a working questionnaire instrument is difficult and time consuming enough without having to re-do the instrument after determining that the interview flow goes against what would be a more natural answering schema or even that the instrument obstructs the free flow of information.

For a survey planned for CATI/CAPI what would be the best question flow design for the long term? Would there be better data quality if the questions were asked person-based or topic-based? What guidance does research literature offer on how an interviewer-administered -- and especially a computer-assisted interviewer-administered -- questionnaire should be structured when a grid format seems the most efficient way? Would a forms-based matrix approach be the viable solution? It is the goal of this search of the literature to discover if there has been research that authenticates the use of one mode or the other, person-based or topic-based question flow, and its effect on CATI/CAPI survey data.

2. Methodological Considerations

A. Data Collection Mode

Personal interviewing, telephone interviewing and CATI/CAPI can all use the grid/matrix schema as the interview structure. The questionnaire can be self-administered or interviewer-administered; it can be paper or CATI/CAPI software. When reviewing the literature, determining what research dealing with grid/matrix design is relevant to a long-term CATI/CAPI survey is important. Findings relevant to paper self-administered questionnaires may not be relevant to CATI interviewer-administered instruments.

The survey currently being considered for CATI/CAPI interviewer-administered adoption is the Continuous Measurement Survey (CM). Because it will be interviewer-administered/CA, research on how this collection mode combination affects data obtained with a grid structure is of particular interest. However, there is little that has been written about the topic of person-based vs. item-based at all, much less in regards to CA interviewing, a survey mode that has only been available since 1970.

To accommodate the substantial difference in the modes, it seems appropriate to organize the search results into three major categories: self-administered/paper, interviewer-administered/paper, and interviewer-administered/computer-assisted (CA: CATI or CAPI).[2] Section 3, the literature review itself, is organized into these three areas.

B. Measurement Variables

Within the various collection modes there are other methodological differences that should be noted.

• The data can be rather simple, something that a respondent can easily retrieve from memory, such as name, age, race, sex and household relationship of each family member. Or, the data can be complex data sets regarding events in family members' lives, e.g., hospital and doctors' visits in the last two weeks (Cannell et al. 1987).

• In addition, the outcome variables for measuring the research results vary between studies. For example, for Bates (1993a) the variable was item non-response; for Catlin and Ingram (1988) the variable was "discrepancies" (edit failures).

It is difficult to compare results when the variables used in the studies differ, but it is useful to look for general indicators of good and bad techniques that are consistent across studies.

3. Literature Review

A. Self-administered/paper

• A sampling question of the Student Records Questionnaire of the Schools and Staffing Survey (SASS) was not eliciting the quality of data that the survey designers had anticipated (Jenkins and Ciochetto 1993). The original grid was 25 questions along the horizontal axis with space for 25 students' names in leftmost column (vertical axis). The sampling question was item 18. Attachment A is an example of items 1-18, student's name through the sampling question. Attachment B is the test design used by the administrators. A similar design was tested with the teachers.

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[2]For the scope of this paper, self-administered computer-assisted (CASI) surveys will not be covered. Although limited, there is some literature on this mode of data collection. I found no information regarding grid or matrix structure for data capture in this mode, however.

During the research the original form (Attachment A plus the additional grid questions 19-25) was self-administered during a cognitive interview. The administrators and the teachers were observed. The administrator/teacher could opt to complete the grid person- or topic-based. Both administrators and teachers had difficulties with the complexity of the large grid. The test forms (Attachment B) were in clustered design, that is, the questions for one student were located together on a page (or two pages), then the respondent would go to the next student's set. The mode was entirely person-based. It no longer was in grid form.

The results of the test of cluster design were not conclusive, but they did indicate that person-based design was an easier technique than the grid design for the teachers and administrators to use. The researchers recommend that additional work be done to determine if the data are "better" when the grid becomes person-based.

• In her report on the 1992 Simplified Questionnaire Test, Bates (1993a) compared five designs of the short form Decennial Census questionnaire. Attachment C is the control, the traditional census design in which the grid allows the respondent to complete the form either person- or topic-based. Attachment D is an example of the clustered design which grouped each person's questions in an "individual space form."

Bates found that all three questionnaire versions containing the clustered design had lower item non-response rates than the grid design.

• In the research conducted on the long form items of The Appeals and Long Form Experiment (ALFE), an "individual space form" was compared to the control design (1990 census questionnaire) and a hybrid design (Attachment E). The clustered design had a lower item nonresponse rate than either the control or hybrid design (Bates 1993b).

In summary, it appears that the grid design is not as effective a data collector as the clustered (person-based) design in self-administered paper questionnaires when a data set is being collected about individual persons. The grid structure is too complex for many respondents.

B. Interviewer-administered/paper

In this mode the only reference found regarding grid structure research was the comparison of the Detroit Area Studies (DAS) and Religion in Detroit Survey (RID) questionnaire designs (Sanchez 1992). They both used a grid structure containing children's names and demographic characteristics. Attachments F and G, respectively, show the grid for DAS questions G11 and G12, and the tested redesign. The redesign produced much better item response rates and more correct data than the original design. The decidedly more person-based design may have

contributed to the improved data collection. However, the major reason for the improvement seems to be the new layout of the items. The improvement of these items' response rate and correctness when completed probably had more to do with redesigning the format of these particular items than the alteration of the grid structure. In conclusion, although the research initially seems to demonstate that person-based in a more clustered design provided better results, the improvement really has more to do with layout changes, and adds little to the person vs. topic debate.

C. Interviewer-administered CATI (or CAPI)

• A sample of the National Health Interview Survey (NHIS) was conducted to compare face-to-face paper interviewing to computer-assisted telephone interviewing. One of the changes integrated into the CATI interview was to obtain all the household roster and health information for one person before going to the next person. Previously on the paper version, household rossster plus core health data were asked for all household members before going to the detailed health sections. There was a break in the person-based flow causing two "topics" of data, roster and then the detailed health data. As expected, there was a lower skip error rate in the CATI interviews, but, in addition, the person-based technique of obtaining all information on one person at a time was cited as one of the reasons for the reduced error rate (Cannell, Groves, Miller and Thornberry 1987; Miller 1995).

• In order to determine the effect of CATI on the Canadian Labour Force Survey (LFS), researchers compared the data "discrepancies"[3] to determine whether CATI or paper interviews delivered the best results (Catlin, Ingram and Hunter 1988; Catlin and Ingram 1988). The paper interview used both a household "docket" (control card) and a questionnaire. The paper docket was a matrix design and could be completed either person-based or topic-based depending upon the task orientation of the interviewer or respondent. The CATI docket was structured person-based but with limited branching. It contained limited skip patterns and edits, because the docket data do not require them. In contrast, the main questionnaire was designed to obtain labor force information for individuals in the household. The CATI design asked essentially the same information in a more structured way. There were more probe questions which the interviewer was obligated to complete in order to continue through the interview. The researchers compared the results of CATI and paper interviews separately for the docket and the main questionnaire.

In some months the Labour Force main questionnaire discrepancies for paper were twice and as high as three times the rate for CATI. As with the Health Interview

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[3]Discrepancies were defined as incidents of edit failure. Both inconsistencies in the data and blank items are included in the rate. "Don't know" and "refused" count as blank.

Survey results above, the findings are what would be expected because of the CATI control of skip patterns in the instrument. However, the docket errors rates were not significantly different between CATI and paper: the range of errors for paper was 0.4 to 0.7 percent, and for CATI 0.6 to 1.0 percent. This seems to indicate that person-based versus topic-based is not a significant problem in data collected in household control card matrices. The problem may appear when the skip patterns and data recall become more complex, as they do when the labor force question set is asked for each working age person in the household. This cannot be verified, however, because of the CATI control of branching and skips in the question asking.

In summary, both the Cannell et al. and Catlin et al. research seem to indicate that there is improvement in data collection of complex data sets when person-based design is used. However, because CAI person-based was not tested against CAI topic-based, conclusions can not be drawn on the real effect of the question structure on the response. Appropriate research, that is, person vs. topic within CAI, has yet to be done.

• The other literature that relates to the subject of person- vs. topic-based and CATI provides information discussing screen design. House (1985) advocates using the same good rules of paper questionnaire design, i.e., the result of the design should be a survey tool that will engage the respondent, will solicit respondent interest, will collect needed information in an unbiased manner, and will minimize respondent burden.

4. Conclusion

In the three design approaches for which this search of the literature was undertaken (self-administered/paper, interviewer-administered/paper, interviewer-administered CATI/CAPI), the results do not clearly define the best mode of collection for data sets that frequently are displayed in a matrix. Except for Catlin et al. work with the Canadian Labour Force Survey docket, the other research results all indicated that person-based seems to produce better results. In the Canadian work the docket data capture seems not to vary whether the mode is person- or topic-based. However, when the more difficult part of the interview, i.e., where the skip patterns were complex and respondents needed to "really think" to arrive at their answers, the results were significantly better. But this was probably more because of the branching capability of the CATI question flow and edit than because of the change from topic- to person-based mode. The specific results of a design change from topic- to person-based from the Canadian study were not obtained and, therefore, do not support the findings of the other researchers. More importantly, because there has been no comparison of CAI topic-based vs. CAI person-based formats, the research has not been focused on the real issue of computer-assisted interviewing effect with these formats.

In 1986 Nichols and Groves reported in their status report on CATI that evaluations of "form-based" CATI systems had not appeared as yet. "Form-based" CATI systems contain the entire questionnaire or segments of the questionnaire on the screen. "Form-based" provide interviewers more flexibility on how they enter data. A grid or matrix design would be considered a "form-based" screen design, as would the "clustered" data in the Bates and Jenkins and Ciochetto paper schemas.

The use of pop-up screens as additional attributes of CATI/CAPI systems are offering additional dimension to the person- vs. topic-based question. The grid will have more than one layer in order to expand the options of the interviewer as s/he needs to display portions of the grid. Attachment H is an example of a pop-up screen displaying control card matrix information (Connett, Mockovak and Uglow 1994). "Form-based" is even more polished in appearance in Shank's example (Shanks 1994). See Attachment I.

Questionnaire design reaches another level with "form-based." House cautions to use the same good rules in design. The rules are important now as a new era of CA questionnaire design begins. When paper and CATI questionnaire design began, the effect of the visual presentation to respondent and interviewer was not considered to be as important as the data demands. With more and more data available from cognitive interviews, we are beginning to learn how the questionnaire display affects response. It is an important opportunity to use cognitive research results to guide us in the design of CATI and CAPI instruments. We cannot assume that designs that work for self-response paper questionnaires would also work for CATI/CAPI instruments.

Is perhaps "person-form-based" ("clustered design") the best solution to the question of person- vs. topic-based? Is it a moot point for data that are easily accessible in respondents' memories but relevant when the data recall requires some "real" thinking? There has been little work documented regarding person-based vs. topic-based for CATI. The CATI work done by Cannell et al. on the National Health Interview Survey indicates that, on CATI, the person-based interview seems to improve data quality. However, Catlin et al. found that the results seemed to vary depending on the difficulty of the question. There is not enough evidence one way or another to be sure since the studies were in two modes--paper and CATI. Additional research is recommended in comparing topic-based and person-based, and also clustered design for person-based and topic-based CAI instruments. Guiding the future design of CATI/CAPI instruments to both serve data needs and the ease of the interview seems adequate reason to investigate these collection modes.

STUDENT 1's NAME

1. What is this student's current status at this school?

015

1 ☐ Enrolled   4 ☐ Expelled

2 ☐ Suspended   5 ☐ Transferred

3 ☐ Other   6 ☐ Dropout/Chronic Truant
specify _____   (See definition below)

    7 ☐ Deceased

| **Continue with Item 2** | **GO TO NEXT STUDENT** |

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2. Is this student male or female?

016

1 ☐ Male

2 ☐ Female

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3. What is this student's race/ethnicity?

017

1 ☐ American Indian or Alaskan Native

2 ☐ Asian or Pacific Islander

3 ☐ Hispanic, regardless of race

4 ☐ Black (not of Hispanic origin)

5 ☐ White (not of Hispanic origin)

4a. Excluding homeroom, study halls, and free periods, is this student currently taught by John Jones ?

020   1 ☐ Yes   2 ☐ No

b. Does John Jones teach multiple subjects to this student all or most of the day?

                              Skip to Item 5a

021   1 ☐ Yes   2 ☐ No

Skip to Item 5a

c. Excluding homeroom, study halls, and free periods, please list the classes that John Jones teaches this student and the number of times per week that each class meets.

Class name	Meetings per week

Definition

Dropout/Chronic Truant -- An individual who has not been in school for 4 consecutive weeks or more and is not absent due to accident or illness.

3

5a. Excluding homeroom, study halls, and free periods, is this student currently taught by Sandra Schultz?

022 1 ☐ Yes ⟶

2 ☐ No ⟶

b. Does Sandra Schultz teach multiple subjects to this student all or most of the day?

Skip to Item 6a

023 1 ☐ Yes ⟶

2 ☐ No ⟶

Skip to Item 6a

c. Excluding homeroom, study halls, and free periods, please list the classes that Sandra Schultz teaches this student and the number of times per week that each class meets.

Class name	Meetings per week

6a. Excluding homeroom, study halls, and free periods, is this student currently taught by Katherine Morris

024 1 ☐ Yes ⟶

2 ☐ No ⟶

b. Does Katherine Morris teach multiple subjects to this student all or most of the day?

GO TO NEXT STUDENT

025 1 ☐ Yes ⟶

2 ☐ No ⟶

GO TO NEXT STUDENT

c. Excluding homeroom, study halls, and free periods, please list the classes that Katherine Morris teaches this student and the number of times per week that each class meets.

Class name	Meetings per week

Please fill one column ➡ for each person listed in Question 1a on page 1.	Last name		Last name		Last
	First name _____ Middle initial		First name _____ Middle initial		

2. How is this person related to PERSON 1?

Fill ONE circle for each person.

If **Other relative** of person in column 1, fill circle and print exact relationship, such as mother-in-law, grandparent, son-in-law, niece, cousin, and so on.

START in this column with the household member (or one of the members) in whose name the home is owned, being bought, or rented.

If there is no such person, start in this column with any adult household member.

■

If a RELATIVE of Person 1:

Husband/wife	Brother/sister
Natural-born or adopted son/daughter	Father/mother
	Grandchild
Stepson/ stepdaughter	○ Other relative ⬑

If NOT RELATED to Person 1:

○ Roomer, boarder, or foster child	○ Unmarried partner
○ Housemate, roommate ■	○ Other nonrelative

If a

If N

3. Sex
Fill ONE circle for each person.

○ Male   ○ Female   ○ Male   ○ Female

4. Race
Fill ONE circle for the race that the person considers himself/herself to be.

If **Indian (Amer.)**, print the name of the enrolled or principal tribe. _____⟶

If **Other Asian or Pacific Islander (API)**, print one group, for example: Hmong, Fijian, Laotian, Thai, Tongan, Pakistani, Cambodian, and so on. _____⟶

If **Other race**, print race. _____⟶

Column 1:
○ White
○ Black or Negro
○ Indian (Amer.) (Print the name of the enrolled or principal tribe.) ⬎
[_____]
○ Eskimo
○ Aleut

Asian or Pacific Islander (API)
○ Chinese ■	○ Japanese
○ Filipino	○ Asian Indian
○ Hawaiian	○ Samoan
○ Korean	○ Guamanian
○ Vietnamese	○ Other API ⬎
[_____]
○ Other race (Print race) ⬏

Column 2:
○ White
○ Black or Negro
○ Indian (Amer.) (Print the name of the enrolled or principal tribe.) ⬎
[_____]
○ Eskimo
○ Aleut

Asian or Pacific Islander (API)
○ Chinese ■	○ Japanese
○ Filipino	○ Asian Indian
○ Hawaiian	○ Samoan
○ Korean	○ Guamanian
○ Vietnamese	○ Other API ⬎
[_____]
○ Other race (Print race) ⬏

5. Age and year of birth

a. Print each person's age at last birthday. Fill in the matching circle below each box.

b. Print each person's year of birth and fill the matching circle below each box.

a. Age	b. Year of birth	a. Age	b. Year of birth	a.
[ ][ ]	*1* [ ][ ][ ][ ]	[ ][ ]	*1* [ ][ ][ ][ ]	

Column 1 — a. Age: 0 ○ 0 ○ / 1 ○ 1 ○ / 2 ○ 2 / 3 ○ 3 ○ / 4 ○ 4 ○ / 5 ○ 5 ○ / 6 ○ 6 ○ / 7 ○ 7 ○ / 8 ○ 8 ○ / 9 ○ 9 ○

Column 1 — b. Year of birth: 1 ● 8 ○ 0 ○ 0 ○ / 9 ○ 1 ○ 1 ○ / 2 ○ 2 ○ / 3 ○ 3 ○ / ■ 4 ○ 4 ○ / 5 ○ 5 ○ / 6 ○ 6 ○ / 7 ○ 7 ○ / 8 ○ 8 ○ / 9 ○ 9 ○

Column 2 — a. Age: 0 ○ 0 ○ / 1 ○ 1 ○ / 2 ○ 2 / 3 ○ 3 ○ / 4 ○ 4 ○ / 5 ○ 5 ○ / 6 ○ 6 ○ / 7 ○ 7 ○ / 8 ○ 8 ○ / 9 ○ 9 ○

Column 2 — b. Year of birth: 1 ● 8 ○ 0 ○ 0 ○ / 9 ○ 1 ○ 1 ○ / 2 ○ 2 ○ / 3 ○ 3 ○ / ■ 4 ○ 4 ○ / 5 ○ 5 ○ / 6 ○ 6 ○ / 7 ○ 7 ○ / 8 ○ 8 ○ / 9 ○ 9 ○

6. Marital status
Fill ONE circle for each person.

○ Now married	○ Separated
○ Widowed	○ Never married
○ Divorced	

○ Now married	○ Separated
○ Widowed	○ Never married
○ Divorced	

7. Is this person of Spanish/Hispanic origin?
Fill ONE circle for each person.

If **Yes, other Spanish/Hispanic**, print one group. _____

Column 1:
○ No (not Spanish/Hispanic)
○ Yes, Mexican, Mexican-Am., Chicano
○ Yes, Puerto Rican ■
○ Yes, Cuban
○ Yes, other Spanish/Hispanic
(Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.) ⬎
[_____]

Column 2:
○ No (not Spanish/Hispanic)
○ Yes, Mexican, Mexican-Am., Chicano
○ Yes, Puerto Rican
○ Yes, Cuban
○ Yes, other Spanish/Hispanic
(Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.) ⬎
[_____]

FOR CENSUS USE ⟶

Bates, N. (1993). The 1992 Simplified Questionnaire Test: Item Non Response and Telephone Debriefing Evaluation (U.S. Census Bureau 1993 Annual Research Conference)

with any adult household member.)
have no other home and are staying here on April 1

PERSON 1

NAME _____
(Print)   Last   First   Jr

1. What is this person's sex?
☐ Female
☐ Male

2. What is this person's date of birth?

Month   Day   Year

(It is important to answer both Questions 3 and 4)

3. Is this person of Spanish/Hispanic origin?
☐ No, not Spanish/Hispanic
☐ Yes, Mexican, Mexican-Am., Chicano
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, other Spanish/Hispanic *(Print group)* → _____

4. What is this person's race?
☐ White
☐ Black or Negro
☐ American Indian *(Print name of enrolled or principal tribe)* → _____
☐ Eskimo
☐ Aleut
☐ Chinese
☐ Japanese
☐ Filipino
☐ Asian Indian
☐ Hawaiian
☐ Samoan
☐ Korean
☐ Guamanian
☐ Vietnamese
☐ Other Asian or Pacific Islander *(Print race)* → _____
☐ Some other race *(Print race)* → _____

PERSON 2

NAME _____
(Print)   Last   First   Initial

1. What is this person's sex?
☐ Female
☐ Male

2. What is this person's date of birth?

Month   Day   Year

(It is important to answer both Questions 3 and 4)

3. Is this person of Spanish/Hispanic origin?
☐ No, not Spanish/Hispanic
☐ Yes, Mexican, Mexican-Am., Chicano
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, other Spanish/Hispanic *(Print group)* → _____

4. What is this person's race?
☐ White
☐ Black or Negro
☐ American Indian *(Print name of enrolled or principal tribe)* → _____
☐ Eskimo
☐ Aleut
☐ Chinese
☐ Japanese
☐ Filipino
☐ Asian Indian
☐ Hawaiian
☐ Samoan
☐ Korean
☐ Guamanian
☐ Vietnamese
☐ Other Asian or Pacific Islander *(Print race)* → _____
☐ Some other race *(Print race)* → _____

PERSON 3

NAME _____
(Print)   Last   First   Initial

1. What is this person's sex?
☐ Female
☐ Male

2. What is this person's date of birth?

Month   Day   Year

(It is important to answer both Questions 3 and 4)

3. Is this person of Spanish/Hispanic origin?
☐ No, not Spanish/Hispanic
☐ Yes, Mexican, Mexican-Am., Chicano
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, other Spanish/Hispanic *(Print group)* → _____

4. What is this person's race?
☐ White
☐ Black or Negro
☐ American Indian *(Print name of enrolled or principal tribe)* → _____
☐ Eskimo
☐ Aleut
☐ Chinese
☐ Japanese
☐ Filipino
☐ Asian Indian
☐ Hawaiian
☐ Samoan
☐ Korean
☐ Guamanian
☐ Vietnamese
☐ Other Asian or Pacific Islander *(Print race)* → _____
☐ Some other race *(Print race)* → _____

FORM **DA-1C**
(1-7-92)

Please turn this page over to continue completing this form

	PERSON 1	**PERSON 2**

1. Please fill one column for each person listed in Question 1 on page 3. Begin with the household member (or one of the members) in whose name the home is owned, being bought, or rented.

PERSON 1:
Last name
First name | Middle initial

PERSON 2:
Last name
First name | Middle initial

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2. What is this person's sex?

Person 1:
- ☐ Male
- ☐ Female

Person 2:
- ☐ Male
- ☐ Female

3. What is this person's marital status?
Mark (X) ONE box for each person.

Person 1:
- ☐ Now married
- ☐ Separated
- ☐ Widowed
- ☐ Never married
- ☐ Divorced

Person 2:
- ☐ Now married
- ☐ Separated
- ☐ Widowed
- ☐ Never married
- ☐ Divorced

4. How is this person related to person 1?
Mark (X) ONE box for each person.

If Other relative of person in column 1, mark (X) and print exact relationship, such as mother-in-law, grandparent, son-in-law, niece, cousin, and so on. ➔

Person 1:
This information is not needed for Person 1.

Person 2:
If a RELATIVE of Person 1:
- ☐ Husband/wife
- ☐ Natural-born or adopted son/daughter
- ☐ Stepson/stepdaughter
- ☐ Brother/sister
- ☐ Father/mother
- ☐ Grandchild
- ☐ Other relative ⤵
  [_____]

If NOT RELATED to Person 1:
- ☐ Roomer, boarder, or foster child
- ☐ Housemate, roommate
- ☐ Unmarried partner
- ☐ Other nonrelative

5. What is this person's age and year of birth?
a. Print each person's age at last birthday.
b. Print each person's year of birth.

Person 1:
a. Age [ ][ ][ ]   b. Year [1][ ][ ][ ]

Person 2:
a. Age [ ][ ][ ]   b. Year [1][ ][ ][ ]

6. Is this person of Spanish/Hispanic origin?
Mark (X) the "No" box if **not** Spanish/Hispanic.

If **Yes, other Spanish/Hispanic**, print one group. ➔

Person 1:
- ☐ No (not Spanish/Hispanic)
- ☐ Yes, Mexican, Mexican-Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, other Spanish/Hispanic (Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.) ⤵
  [_____]

Person 2:
- ☐ No (not Spanish/Hispanic)
- ☐ Yes, Mexican, Mexican-Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, other Spanish/Hispanic (Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.) ⤵
  [_____]

7. What is this person's race?
Mark (X) ONE box for the race that the person considers himself/herself to be.

If **Indian (Amer.)**, print the name of the enrolled or principal tribe. ➔

If **Other Asian or Pacific Islander (API)**, print one group, for example: Hmong, Fijian, Laotian, Thai, Tongan, Pakistani, Cambodian, and so on. ➔

Person 1:
- ☐ White
- ☐ Black or Negro
- ☐ Indian (Amer.) (Print the name of the enrolled or principal tribe) ⤵
  [_____]
- ☐ Eskimo
- ☐ Aleut

Asian or Pacific Islander (API)
- ☐ Chinese
- ☐ Japanese
- ☐ Filipino
- ☐ Asian Indian
- ☐ Hawaiian
- ☐ Samoan
- ☐ Korean
- ☐ Guamanian
- ☐ Vietnamese
- ☐ Other API ⤵
  [_____]
- ☐ Other race (Print race) ↗

Person 2:
- ☐ White
- ☐ Black or Negro
- ☐ Indian (Amer.) (Print the name of the enrolled or principal tribe) ⤵
  [_____]
- ☐ Eskimo
- ☐ Aleut

Asian or Pacific Islander (API)
- ☐ Chinese
- ☐ Japanese
- ☐ Filipino
- ☐ Asian Indian
- ☐ Hawaiian
- ☐ Samoan
- ☐ Korean
- ☐ Guamanian
- ☐ Vietnamese
- ☐ Other API ⤵
  [_____]
- ☐ Other race (Print race) ↗

Bates, N. (1993). The appeals and long form experiment (ALFE): The long form item nonresponse evaluation. Washington, DC: Bureau of the Census.

G6. INTERVIEWER CHECKPOINT: CHILDREN

(SEE PREVIOUS PAGE, G2 AND G4)

1. R IS RAISING OR HAS RAISED CHILDREN

2. R HAS NO CHILDREN BUT PLANS TO HAVE
   CHILDREN ---> TURN TO PAGE 69, G25

3. R HAS NO CHILDREN, AND DOES NOT PLAN TO HAVE CHILDREN
   OR IS UNCERTAIN ---> TURN TO PAGE 66, G21

G7. "Now I would like to get some more detailed information about the child(ren)
you (have raised/are raising). Could you please tell me their first names,
starting with the oldest? [ENTER NAMES IN GRID. REPEAT G8-G12 FOR EACH
CHILD.]

G8. Is the (1st, 2nd, etc.) a boy or girl?

G9. In what year was (he/she) born?

G10. Is (he/she) living with you?

G11. In what religion (was _____ raised/is _____ being raised)?
Is it Protestant, Catholic, Jewish, some other religion, or none?

(IF PROTESTANT): What specific denomination is that?

G12. (BORN IN 1972 OR BEFORE): What is (his/her) religious preference now?
Is it Protestant, Catholic, Jewish, some other religion, or none?

(IF PROTESTANT): What specific denomination is that?

G7. CHILD'S NAME (BEGIN WITH ELDEST)	G8. SEX	G9. YEAR OF BIRTH	G10. LIVES WITH R?	G11. RELIGION RAISED IN / G12. CURRENT RELIGIOUS PREFERENCE — PROTESTANT DENOMINATION	CATHOLIC	JEWISH	OTHER (SPECIFY)	NONE
1ST				G11.				
				G12.				
2ND				G11.				
				G12.				
3RD				G11.				
				G12.				
4TH				G11.				
				G12.				
5TH				G11.				
				G12.				
6TH				G11.				
				G12.				
7TH				G11.				
				G12.				

MORE THAN SEVEN CHILDREN: USE EXTRA CHILD SHEET.

Figure 1. The DAS questionnaire design for questions G11 and G12

Sanchez, M.E.   (1992).   Effects of Questionnaire Design on the Quality of Survey Data.
Public Opinion Quarterly, 56, 206-217.

Figure 2. The RID questionnaire design for questions G11 and G13

Sanchez, M. E. (1992). Effects of Questionnaire Design on the Quality of Survey Data.

Public Opinion Quarterly, 56, 206-217.

FIGURE I

FIGURE 5

From:
Shanks, J. Merrill. (1994). "Evolution vs. Revolution in Computer-Assisted
    Surveys: Trends and Issues Concerning the Next Generation of CASIC
    Technology." Proceedings from the Annual Research Conference, U.S.
    Bureau of the Census, pp. 681-696.