

STUDY SERIES  
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**Cognitive Test of the 2006 NRFU:  
Round 2**

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Report Issued: August 30, 2006

*Disclaimer:* This report is released to inform interested parties of research and to encourage discussion. The views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

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### **Abstract**

The Decennial Management Division (DMD) contracted the Statistical Research Division (SRD) to conduct pre-testing on the Non-response Follow-up (NRFU) instrument to be used in the 2006 Census Test. This report summarizes the findings and recommendations of Round 2 of this pretest. The results and recommendations in this report will inform the upcoming 2008 Census Dress Rehearsal and the 2010 Census. Four members of the SRD staff conducted 16 cognitive interviews in the Greater DC Metropolitan Area in February and March of 2006. Based on the results of this round of testing, this report highlights the key issues and recommendations. In general, respondents tended not to read the Residence Rules flashcard, sometimes expressing uncertainty about whether or not they should use it. A more detailed and iterative set of Residence Rules questions would eliminate the need for this flashcard. The overcount question tended to produce errors because it had no specific reference date. Among respondents who identified themselves as of Hispanic, Latino or Spanish origin (and even for those who did not), the statement “for this census, Hispanic origins are not races” was difficult to comprehend, either because respondents misheard the question, or they could not understand why these origins were not considered races. Details on these problems and proposed recommendations are found in the report.

## Cognitive Test of the 2006 NRFU: Round 2

**Testing Agency:** Census SRD  
**Test Date:** February and March 2006  
**Principal Investigator:** Jennifer Hunter Childs  
**Evaluation Type:** Cognitive Test  
**Pre-Testing Mode:** M-CAPI  
**Sponsor:** Census DMD

**Survey Title:** NRFU  
**Survey Year:** 2006  
**Universe:** Population  
**Field Mode:** M-CAPI  
**Documentation:** Summaries, Audio-tapes, Final report

The Decennial Management Division (DMD) contracted the Statistical Research Division (SRD) to conduct pre-testing on the Non-response Follow-up (NRFU) instrument to be used in the 2006 Census Test. This report summarizes the findings and recommendations of Round 2 of this pretest. The results and recommendations in this report will inform the upcoming 2008 Census Dress Rehearsal and the 2010 Census. Results from Round 1 are reported in Hunter (2005).

### Method

From February to March, 2006, 16 interviews were conducted by staff from SRD<sup>1</sup>. In the 2006 Census Test, the NRFU instrument was fielded using a mobile-computer assisted personal interview instrument operated on a hand held computer (HHC). For this round of cognitive testing, the actual HHC was used for interviewing.

### Participants

Sixteen people living in Maryland, Virginia and Washington, DC served as respondents. Fourteen respondents were female, and two respondents were male. Respondents had a variety of living situations that included unrelated roommates and larger families. Table 1 shows the racial composition of these respondents, based on the self-reported responses to the race question in the instrument.

Table 1: Racial Composition of Interview Respondents:

Race/Hispanic Origin	Count
White or Caucasian	4
Black, African American, or Negro	4
American Indian or Alaska Native	1
Asian	1
Some Other Race	6
<b>Total</b>	<b>16</b>

### Protocol

The protocol for the cognitive interviews combined verbal reports with retrospective probes. Respondents “thought aloud” while answering the questions, reporting any difficulty they might

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<sup>1</sup> Interviews were conducted by the authors. Lorraine Randall was instrumental in recruiting and setting up the interviews.

have had in answering or understanding any of the questions. Interviewers followed each question with a series of probes. The interviews concluded with an additional set of retrospective probes, including a series of vignettes designed to explore respondents' understanding of the residence rules.

## Results

The results are organized with a section on general observations, including information on how respondents perceived the reference date for this instrument, the use of potentially sensitive terminology (the term "household"), and usability problems noted with the instrument, followed by the question-by-question analysis.

### General Observations

#### *Reference Date*

Respondents tended to think about dates only for the questions with dates in them. While this tendency, in most cases, did not produce any problems, one way to ensure that future respondents do not have problems is to introduce the date early in the interview. This introduction could be in the form of a preamble meant to orient the respondent to the fact that all questions should be answered with April 1<sup>st</sup> mind. For example, we could move the introduction to the POP count question to a place earlier in the interview, orienting the respondent to the date.

**The census must count every person living in the United States on April 1, 2010. The remaining questions in this interview will be about the people living or staying here on April 1<sup>st</sup>.**

This preamble also might eliminate the need for repeating the date across questions.

#### *Usability*

As recommended in the Round 1 Report (Hunter, 2005), we again suggest using an auto-fill feature for the type of housing unit fill (house/apartment/mobile home). This would allow the interviewer to select one of these descriptors from an earlier screen and use it as the fill for later questions. It would reduce screen clutter, and we believe it would help to teach the interviewers to read questions exactly as they are worded on the screen.

We also encourage continuing to provide the option to fill in same last name, as is implemented in the current NRFU instrument. On the 2006 instrument, there is an empty box for typing in a last name, but if you select the down arrow adjacent to the box, you find previously entered last names for this case. This feature greatly speeds up the interview and reduces respondent frustration; therefore, we recommend it for future NRFU instruments.

Also, consistent with Round 1 findings (Hunter, 2005), the topic-based repetition of the question stem for the date of birth, race, origin, and ancestry questions seemed to elicit frustrated reactions from respondents. We again recommend using the stem only once and using "how about..." or "and what about..." for each remaining person on the roster.

Finally, backing-up was a feature that did not work consistently across the instrument. For questions that were more than one screen deep, the “back” button at the bottom of the instrument jumped the user back to the question for the previous person, which was not necessarily the last screen on which the user entered data. A combination of “more” and “back/next” buttons made navigation backwards and forwards quite difficult. These difficulties should be considered when developing future NRFU instruments.

### Usual Residence

**Is this (house/apartment/mobile home) a vacation home, seasonal residence, held for occasional use, or does someone in this household usually live here?**

#### *Findings*

Most respondents used the term “usually live here” to answer this question. A few respondents answered by using the term “permanent residence” or “residence.” Previous versions of the question put the term “usual residence” at the beginning of this question. Re-arranging the categories by putting the most likely answer last made it easier for people to remember the correct response category and comprehend the gist of the question. Respondents understood that this question was asking about “how people use the home.”

Respondents did not demonstrate problems with the terms “vacation home” and “seasonal residence.” However, as in Round 1, some respondents were unsure of what “held for occasional use” might mean. One respondent even indicated that if she thought it might apply to her, she would have needed to ask for clarification.

#### *Terminology*

We probed on the term “household,” since it is used in the Usual Residence question, but not in the POP count or Gathering Roster questions. The word “household” was sometimes interpreted as only family or nuclear family. Although the term is used to determine usual residence, it did not cause problems in these interviews.

#### *Recommendations*

Since few respondents knew what “held for occasional use” meant, and how it might be different from a vacation or seasonal home, the question could eliminate this phrase and read as follows:

**Is this (house/apartment/mobile home auto-fill) a seasonal or vacation home, or does someone in this household usually live here?**

However, “Held for occasional use” can remain as a part of the enumerator’s response set, so that enumerators can select that option when necessary.

## POP Count

**The census must count every person living in the United States on December 1, 2005.**

- **We want to count people where they usually live and sleep.**
- **For people with more than one place to live, this is the place where they sleep most of the time.**

**How many people were living or staying in this (house/apartment/mobile home) on December 1, 2005?**

### *Findings*

Similar to findings from Round 1, one of the main problems observed here dealt with use of the flashcard. The interviewer handed the respondent the flashcard prior to reading this question, pausing just long enough to hand over the card, and then continued reading the bullets and the question. Most respondents either barely skimmed the card or did not read it at all. During the debriefing on this question, one respondent explicitly expressed confusion over whether or not she was supposed to have read the card during the interview. Although it did not change anyone's answers in this test, when they finally did read the flashcard, respondents seemed to understand it. When answering for the vignettes, some respondents applied the rules from the flashcards and some respondents did not.

Respondents were split pretty evenly on whether "most of the time" or "usually" encompassed more time. The phrase "living and sleeping" seems to have conveyed the appropriate meaning. Respondents thought this phrase was intended to mean where a person physically lives.

There were a couple of respondents who did try to remember if a visitor was staying there on Census Day. Although no one counted any visitors in these cases, it was not clear if they would have counted a visitor if that person had been there on Census Day.

Respondents expressed the tendency to think about the entire year or the entire month of December when answering this question. This broad consideration may have resulted from the particular reference day used in this test (December 1, 2005). There were also some issues with crossing the year (asking about 2005 when the interview was conducted in 2006) for a reference day, which would not likely occur with the April 1 reference day. For example, one respondent did not include her baby who had been born after December 1, 2004 but before December 1, 2005. She mistakenly thought we were asking about 2004. We think these are artifacts of the testing situation and the artificial reference date.

The 3<sup>rd</sup> Include bullet stated, "People staying here temporarily on December 1<sup>st</sup>, 2005 who had no other permanent place to live." Most respondents correctly understood this residence rule. One respondent reported that this rule actually applied to herself. However, she included herself without actually reading the flashcard and only noted this situation during the debriefing.

### *Interesting cases*

One respondent was renting the place at the reference address, but was technically living and sleeping at her daughter's house on Census Day. She answered the questions about whether she or someone in the household lived there on the reference day by saying "yes" - entering the non-proxy path (probably incorrectly), but then said zero to the POP count question (correctly, we think). On April 1<sup>st</sup> she "lived," or held a lease, at the reference address, but was actually "living and sleeping" at another place. She answered the POP count question to accurately reflect her living situation. This situation caused a problem in the handheld computer because of the inability to enter a zero to the POP count screen. This respondent also expressed some confusion over whether or not someone who was admitted at a general hospital should be excluded according to the Exclude list. We think she correctly did include her daughter at the second address, who was admitted in a general hospital on Census Day.

In one roommate household, a respondent noted that college students should not be included, and took this to also mean a college student living at her residence while attending college (she was away from her parents' house). This situation was complicated by this roommate's recent move out of the household. When asked the POP count question, the respondent mentioned the college student roommate, and noted that the card said not to count that person. The respondent later reported that the college roommate had moved out the same day the respondent moved in, which happened to be on the Census Day. It was unclear whether this respondent excluded the roommate because of the flashcard or because this roommate had moved out on the Census Day.

One respondent correctly left her brother, who was away at college, off the roster because she saw the college student instruction.

Another respondent left her baby off the roster because she was thinking of the previous year. We think this is due to having the reference date cross the year, though, and an artifact of the contrived reference date.

One respondent correctly included her baby, who was born 3 days before the Census Day, even though she hadn't come home from the hospital yet.

### *Recommendations*

- Use a series of shorter questions to convey residence rules in an interviewer-administered instrument (see Appendix A for an example).
- If a flashcard is used, script the introduction and instruct the interviewer to allow time for the respondent to read it.

### Gathering Roster

**What is the name of each person who lived or stayed at this (house/apartment/mobile home) on December 1, 2005? Start with the name of one person who owned or rented this (house/apartment/mobile home).**

### *Findings*



None of the respondents failed to report themselves on the roster in this round, but one respondent asked if she should include herself. In this case, her question was about whether or not she actually should be counted at that residence. She counted herself in the household count question, but claimed to be staying there only temporarily. This respondent did decide to include herself. Another respondent hesitated before including herself, because she initially thought she was supposed to list the other people, in addition to herself, who were staying at that residence.

Two respondents mentioned part-time residents before answering, but ultimately decided not to include these people on the roster. In both cases, the part-time residents were listed with the undercoverage question. We think these people would have been counted at the other residence, but it would be worth a follow-up interview to verify this assumption.

Most respondents did attend to the instruction to start with the owner/renter. One respondent questioned if she should start with the landlord or the “main person on the lease.” She eventually correctly decided to start with herself. It is worth noting that the instruction to start with the owner or renter worked fairly well in this cognitive test because the interviewer ALWAYS read this statement. However, in a behavior coding analysis of the 2004 NRFU, which used identical question wording, Hunter and Landreth (2005) found that in about a quarter of all cases the enumerator asked the respondent to start with him or herself, rather than starting with the owner or renter.

Most respondents did not give middle names or middle initials. This is consistent with findings by Norris (2005) that in the 2004 Census Test NRFU, middle initial was missing in about 80% of all cases in the Queens, NY test site and was missing in about 40% of all cases in the Georgia test site. Most respondents said they would give middle initial if they were specifically asked to provide one, or if they were asked for “full” name. A couple of respondents gave a nickname for a roommate. In one of these cases, the respondent did not know the roommate’s real name. In another case, the respondent indicated that his roommate does not “go by his real name.” Also, one respondent mentioned that her family is Hispanic and has 2 last names, only one of which they use when filling out official forms because there is not enough room to write in both last names.

Finally, the data entry for this screen took a very long time. Most respondents started rattling off names, while the interviewer had to ask them to slow down for data entry. One respondent expressed frustration with this slow process.

### *Recommendations*

- In non-proxy interviews, it is much more natural for the respondent to list him or herself first, even if he or she does not own or rent the house. This ordering not only eliminates the risk of the respondents leaving themselves off the roster, but also eliminates the need to ask or verify with whom the enumerator is speaking (this is an item in the NRFU that was not tested in this pretest). A separate question can be added to determine the reference person for the relationship question.
- We recommend adding a scripted probe for middle initial and asking for full name.

## Undercount

**We do not want to miss any people who might have been staying here on December 1, 2005.**

**Were there any additional people staying here that you did not include, for example:**

**Children, such as newborn babies or foster children?**

**Relatives, such as adult children, cousins or in-laws?**

**Nonrelatives, such as roommates or live-in baby sitters?**

**People staying here temporarily?**

**If yes, What is the name of the person who lived or stayed at this place but is not already on the list of names?**

### *Findings*

In the previous round of testing, this question tended to pick up guests or visitors who were staying at the address on Census Day. For some respondents, this question was asking about more of a “de facto” residence, that is different from the “de jure” rules for defining residency in the POP count question. However, this problem was not as prominent in this set of interviews. No one in this round of testing listed these visitors on their roster, although some respondents thought “people staying here temporarily” included visitors or houseguests. Some respondents did recognize that we did not intend to gather these visitors’ names.

There were a few cases where respondents seemed irritated at the long list of probes, and they interrupted the interviewer. If the respondent answers “no” prior to hearing the response options, this could cause the interviewer to stop reading the remaining options on the list, therefore not allowing the respondent to hear all the options that may apply to different household members.

A couple of respondents had defensive reactions to this question, as they interpreted the question to be looking for people who were not being truthful in their answers to the earlier count and roster questions. This finding is also consistent with respondents’ reactions during the Round 1 testing of the Spanish interview.

### *Interesting cases*

One respondent added his girlfriend, who visits every other weekend, with this question. He called her a “regular visitor.” Another respondent added her roommate’s boyfriend – in the 4<sup>th</sup> category as someone who was “staying here temporarily” – because he stays approximately 1/3 to 1/2 of the year with them. She was not able to give much more information than his nickname. The first case probably would not be necessary to followup, as the girlfriend clearly lives in another state. The second case is probably worth following-up, because the boyfriend stays as much as half the year at that residence.

Also, a respondent who was confused about the reference year considered her baby at the baby probe, but continued to say “no,” still thinking we were asking about 2004.

Another respondent correctly included a roommate who lived most of the time at her boyfriend’s house, but kept the respondent’s residence as her “official” address. However, this respondent listed this roommate with the very first probe (about children), because she caught onto the

question stem about other people who might be living or staying here. She said “yes” at the first opportunity. This premature response is not a problem unless each category is intended to be indicative of the type of person it may flag. This respondent knew the roommate’s first name but did not know the last name. As a side usability issue, the interviewer could not figure out how to enter DK in the last name field.

Another respondent said “no” to this question, but later mentioned that his two children stay with him every other weekend. He chose not to include them in this question because they live with their mother most of the time. He stated that they only stay with him 4 days a month, so he did not think that was enough to warrant saying “yes” to this question.

Finally, one respondent mentioned that there were no other people staying temporarily other than herself and her brother, whom she had included earlier on the roster. In this case, it was clear that the interviewer did not need to add anyone else to the roster.

#### *Recommendations*

- This question is a good candidate for a series of shorter questions that combines the residence rules presentation and the coverage questions (See Appendix A for an example).
- “People staying here temporarily” should be removed, as it has the potential to bring in visitors with usual homes elsewhere.

#### Tenure

**Is this (house/apartment/mobile home)**

**Owned by you or someone in this household with a mortgage or loan?**

**Owned by you or someone in this household free and clear (without a mortgage or loan)?**

**Rented for cash rent?**

**Occupied without payment of cash rent?**

#### *Findings*

All of the respondents were able to answer this question. Again, as in Round 1, respondents had trouble with the term “rented for cash rent.” When it applied to their tenure situation, respondents were able to determine correctly that this was the appropriate answer. However, respondents often did so through process of elimination. Because this phrase includes a specific type of payment (“cash rent”) the question seems to exclude paying by check or any other means. Approximately half of the respondents probed on this term found it awkward. Most respondents felt that “rented” would be less confusing and felt that “rented” meant the same thing as “rented for cash rent.”

One possible problem with this question is the complexity and length of the response options. Round one testing revealed that some people need to have the question repeated, most likely because they could not remember all of the options once the enumerator finished reading the question. No one in this round of testing requested repetition, although two respondents did say “the first one” or “the third one”, when referring to the response options. They could not remember the exact wording, but were still able to correctly identify renter or owner status.

Another problem with this question that may not be addressed in this type of testing is interviewer behavior. Previous interviewer observations and behavior coding on the 2004 NRFU questionnaire suggest that nearly two-thirds of the time, interviewers do not appropriately ask this question (Hunter and Landreth, 2005). Interviewers tend to ask it in a “yes/no” format, which leads to respondents incorrectly answering the question or having difficulty answering the question. Using an active voice and a somewhat shorter question may help curb this behavior. The following recommendation is the text currently used in the ACS CATI/CAPI instrument, and is compliant the Mode Consistency Guidelines (dated May 3, 2006).

*Interesting case*

One respondent, who lived with her parents, incorrectly selected “owned free and clear,” although she clearly indicated that her mom, the reference person, had “just refinanced” their house. This error seems to be based on a lack of understanding of mortgages and refinancing.

*Recommendation*

**Do you or someone in this household own this (house/apartment/mobile home) with a mortgage or loan, own it free and clear, rent it, or occupy it without paying rent?**

Relationship

SHOW FLASHCARD

**ARE YOU/IS NAME related to PERSON 1?**

**YES - Which one of these categories best describes how YOU ARE/NAME IS related to PERSON 1?**

**NO - Which one of these categories best describes YOUR/NAME’s relationship to PERSON 1?**

*Findings*

For some respondents, the question “Which one of these categories best describes how YOU ARE/NAME IS related to PERSON 1?” resulted in order reversal problems. For instance, when Person 1 was the respondent’s mother, the respondents would say “that’s my mother” instead of “I’m her biological son.” This error seems to be particularly common when the respondent is not Person 1. This question will result in measurement errors to the extent that enumerators record the incorrect response rather than repeating the question or inferring the correct answer from the respondent’s response. Other respondents started answering the question in relation to themselves (not the reference person), despite the interviewer correctly asking the proper direction.

Some respondents skipped the first part of the question “ARE YOU/IS NAME related to PERSON 1?” and responded to the second part of the question with a detailed relationship. This comes naturally when respondents realize that after the initial yes/no question, they will be asked for a detailed relationship based on the options on the flashcard.

A couple of respondents had never heard of the term “parent-in-law” and instead chose “other relative” for mother-in-law or father-in-law.

Almost all respondents used the relationship flashcard and found it to be helpful. Some used process of elimination to determine the relationship category into which household members fell. A couple of respondents were looking for “son” or “daughter” to be listed on the flashcard without the additional descriptors. One respondent commented that she wouldn’t have specified “biological daughter” had it not been on the card.

### *Terminology*

For most respondents, “related” meant “to have a blood or marital tie.” A few respondents made the distinction between being related and being family. One respondent said that husbands and wives are family, but not related. Three respondents thought that spouses were not related, and several respondents pointed out that they were related, but by marriage. Those who thought husbands and wives were not related based related status on the spouse’s blood relationship before marriage. It was more ambiguous whether in-laws are related, with only six respondents saying that they were. Some respondents classified fiancées as “other relative.” Whether or not they were considered related depended on their closeness to the family. Almost all respondents thought that boyfriends and girlfriends were not related, although one respondent said that having a baby can make boyfriends and girlfriends related. In this sense, boyfriends and girlfriends were thought to be closer and more connected with the birth of a baby. Foster children and foster parents were classified as not related by most respondents. Three respondents did think that they were related, with one respondent saying that they were related “by paper.” While not all respondents were asked if adopted children were related to their parents, those who were asked thought adopted children were more likely to be considered related than foster children. Two respondents thought that adopted children were not related to their adoptive parents.

Not all respondents knew what a foster adult was. Respondents tended to think this term described a mentally challenged person or an older adult who is under the care of household member who receives monetary assistance for this care. This is consistent with our definition.

For most respondents, “roomer” and “boarder” were terms much less familiar than “housemate” and “roommate.” Some respondents did not know the terms “roomer” and “boarder” at all. Those who did know them interpreted these terms as implying a more distant relationship than “housemate” or “roommate” implied. Respondents interpreted “roomers” and “boarders” to be someone who merely pays rent and could be a foreign exchange student or someone down on their luck. Housemates and roommates are thought of as more of a part of the household and could actually be on the lease. Other respondents thought these terms meant the same thing.

Some respondents interpreted “unmarried partner” to mean a boyfriend or girlfriend, while other respondents thought that it only referred to homosexual couples. In the four cases when respondents interpreted “unmarried partner” to mean “gay partner,” they classified boyfriends, girlfriends, and fiancées in the “other nonrelative” or “other relative” category. One respondent indicated that homosexual, unmarried partners who consider themselves to be related in the same

way as husbands and wives may find the placement of unmarried partner under the “nonrelative” category offensive.

### *Usability Issues*

Interviewers encountered usability problems when attempting to back up through the relationship categories for a given household member. Hitting the back button brings the enumerator back to the relationship question for the previous household member, and not to the previous list of relationship categories. This problem did not lead to data entry mistakes in these interviews, but did increase the time of the interviews. This has the potential to dissuade interviewers from correcting a relationship when a respondent reports two people are not related, and then chooses the husband/wife category from the card.

### *Recommendations*

- Remove the “Is NAME related to NAME?” screener question
- Consider and test an adaptation of the fill-in-the-blank question. The new version of the question could take the form  
**Please fill in the blank using the options provided on the card. Person x is Person 1’s \_\_\_\_\_.**
- Change “Parent-in-law” option to “Mother-in-law or Father-in-law.”
- Consider changing “unmarried partner” to “boyfriend or girlfriend,” which could be more likely to include both gay and heterosexual cohabiters.
- If the first recommendation is not accepted, make it easier to back up within the relationship question without skipping to the answers for the previous person.

### Gender

**ARE YOU/IS NAME male or female?**

### *Findings*

While this question was awkward or uncomfortable for interviewers to ask, respondents did not have any difficulty answering the sex question. A couple of respondents laughed when the question was asked and one told us “Don’t ask me how I came up with my answer.” While none of our respondents expressed that they were offended by the question, reducing the uncomfortable nature of the question may increase respondent cooperation. However, we recognize the question is sometimes necessary to ask because the respondent’s or other household members’ sex could be ambiguous based on appearance or name only.

### *Recommendations*

- Change the sex question to an “ask or verify” option. Give the enumerator the option of verifying the sex of household members.

## Date of Birth and Age

### **What is YOUR/NAME'S date of birth?**

**DK- What was YOUR/NAME'S age on December 1, 2005? If you don't know the exact age, please estimate..**

**For the Census, we need to record age as of December 1, 2005. So, just to confirm – NAME was/ You were AGE on December 1, 2005?**

### *Findings*

For many respondents, the date of birth and age questions were challenging for both retrieval and calculation. Only five respondents knew the dates of birth and ages of all household members. For the remaining respondents, while some knew the date of birth and age and were able to report them without reflection, others knew little or only partial information about the date of birth and age of other household members. Nearly half of the respondents had to estimate or guess the age of at least one of their household members. Five respondents expressed that they did not know either the date of birth or age of at least one household member, and therefore did not provide a guess or estimate. Several factors contributed to greater success in answering these questions. These included small household size, being present for the birth of the household member, and being related to the household member.

With the date of birth question, a number of respondents could remember the day and month of birth, but not the year. Six respondents knew only day and month for at least one household member. Some attributed knowing the day and month to the fact that they celebrate birthdays with the household member or know that they have to buy them a gift for that date. In two cases, the respondent knew only the month of a household member's date of birth.

Parents who were interviewed knew the dates of birth of their children and grandchildren, but were less sure about this information for their sons- and daughters-in-law. Similarly, respondents had an easier time remembering the dates of birth and ages of their biological parents than those of their stepparents. In households with unrelated roommates, respondents had less knowledge of the date of birth of other household members than in related or partner households. In these cases, respondents sometimes estimated date of birth by working backwards, using estimated age and birthday (if known) to calculate year of birth. Other estimation methods included respondents calculating age from date of birth and estimating either age or date of birth or both in relation to the respondent's own age.

Some respondents expected to be able to report age in months for babies less than a year old. In one case, a respondent encountered some confusion when calculating the age of a newborn as of December 1, 2005. This problem was compounded in this test because the reference dated crossed over a year (i.e., asking about 2005 when the interview was conducted in 2006).

The series of date of birth and age questions does not make allowances for estimated or guessed responses. If a respondent provides a complete date of birth, the NRFU instrument calculates the age of the household member and asks the respondent for confirmation. If a respondent does not know the date of birth or provides only partial information, he or she is asked to provide the age

of the household member. If the respondent doesn't know the age, they are asked to estimate it. After age is provided, a confirmation screen asks the respondent to confirm the age. For respondents who guess or estimate age, the confirmation question seems to require them to commit to an answer of which they are unsure. This made respondents very uncomfortable.

#### *Recommendations*

- Need to indicate to interviewers that the respondent should provide any information they have for date of birth, even if it is partial.
- If respondent does not provide a date of birth or only provides a partial date of birth and is asked to provide age, do not ask respondent to confirm age.

The next section describes the results from the series of questions on Hispanic origin, race and ancestry. During the interview, the interviewer asked these three questions without interruption for all persons in the household, and the probing was retrospective. We do not offer recommendations for these questions because the series has already been changed for the 2008 Dress Rehearsal.

#### Hispanic origin

#### **ARE YOU/IS NAME of Hispanic, Latino or Spanish origin?**

#### *Findings*

Four of our respondents reported themselves as being of Hispanic origin. The Hispanic respondents were from El Salvador (3) and Costa Rica (1).

Respondents were able to provide information about whether or not they identified with a Hispanic origin. However, some respondents, on first hearing the question, appeared to believe that the question structure was asking them with which one of the terms they identified. This question structure was not particularly problematic for non-Hispanic respondents, who were able to answer "no" or "none of those", but was puzzling for some of our small number of Hispanic respondents. These respondents' answers indicated that they were processing the terms to decide which one they preferred. One respondent rejected the term "Hispanic" as incorrect and insulting, and stated her preference for "Latina." Another respondent did not hear any difference between the term "Hispanic" and the term "Spanish" and thought they were redundant. Another apparently parsed the terms into two-word segments, like Hispanic-Latino and Spanish-Latino, and therefore, was not sure what they meant.

These responses may indicate that this question is cognitively somewhat more difficult for respondents in an interviewer-administered instrument than in a self-administered instrument, where the answer categories of "yes" and "no" are visible to respondents. The cognitive difficulty would be greatest for respondents who find the choices confusing or redundant. If Hispanic respondents choose a preferred term for response, and answer, for example, "Latino," this would still be considered an adequate answer.

Respondents differed somewhat in their definitions of the three terms. In general, respondents saw Spanish origin as the term having the broadest range of meaning. Respondents sometime



gave “Hispanic” and “Latino” specific geographical referents. For example, “Hispanic” was seen as relating to Central America and Latino as relating to all of South America. At least one respondent indicated the belief that Latino might refer to people of Portuguese background, such as people from Brazil. Some non-Hispanic respondents thought that the terms meant the same thing, and some were not sure of what they meant, although they thought they must be different in meaning for anyone to whom they applied. These findings are similar to cognitive findings for the MO/MB questionnaire (Gerber and Crowley, 2005.)

### Race Question

**What is YOUR/NAME’S race? You may choose one or more races. For this census, Hispanic origins are not races.**

- White or Caucasian**
- Black, African American, or Negro**
- American Indian or Alaska Native**
- Asian**
- Native Hawaiian or Other Pacific Islander**
- Some other Race**

### *Findings*

Table 1 shows respondents’ self-reported race classifications. Respondents reporting as Some Other Race included Hispanics, a multiracial respondent, and a respondent from the Middle East who did not feel comfortable with any other category.

In general, these respondents defined race primarily in terms of skin color. This definition was sometimes followed by an attempt at a geographical definition, such as, “where your ancestors came from originally.”

As in previous cognitive research, White and Black respondents had little difficulty in choosing races. However, the question was more difficult for others. The Hispanic respondents did not see themselves reflected in this set of categories, and all eventually opted for “Some Other Race.” A North African respondent had difficulty with the question, since she thought of herself as African American, but had been told by friends that it was inappropriate for her to say so. A multiracial respondent was looking for a term meaning “multiracial” and settled for “other” when she did not find it.

“Some other race” was not entirely acceptable to some of these respondents, who felt it carried the connotation of not being as important as or included equally with other people. One respondent referred to it as “a trashcan” category.

In this question, two sentences followed the question stem. The first sentence read “You may choose one or more races,” followed by the statement “For this census, Hispanic origins are not races.” There is some evidence that the sentence in the middle (“You may choose one or more races”) is not as salient as the material that surrounds it. There is evidence that nine of the current respondents failed to hear or notice this sentence. In fact, some were quite surprised when the

cognitive interviewer re-introduced the statement in the retrospective probes. Several of the respondents who were looking for ways to indicate more than one race in their backgrounds later indicated that they had not heard that phrase. A few of these respondents had discussed different races when talking about their background, but then opted for only one category. Other respondents spontaneously looked for a category such as “mixed” or “multiracial,” and thought there was no way for them to indicate this; therefore, they opted for Some Other Race. For example, a respondent said she would have chosen Asian and White instead of Some Other Race if she had heard the middle sentence earlier. The problem seems to be inattention to and lack of retention of the instruction, and not a lack of understanding. Once respondents have heard the instruction, they have no difficulty interpreting it. It seems likely that the medial position of this instruction makes it particularly difficult to capture. This effect may have been exaggerated by the confusing nature of the instruction that follows, which we discuss below.

The second instruction following the race question was “For this census, Hispanic origins are not races.” This instruction was designed to encourage respondents who identify as Hispanic to choose one of the races the Office of Management and Budget (OMB) officially recognizes. This instruction failed to function as planned. The instruction was very noticeable for respondents, who sometimes commented on it even before we had probed about it. However, it was mostly noticeable to respondents because of the confusion it caused. They commonly reacted to the assertion that “Hispanic origins are not races” by indicating that they disagreed, or could not make any sense of the statement at all. Twelve of our 16 respondents indicated difficulty in interpreting the statement. For example:

“...It means, phfwa, well, I mean, that was deep, I’m not sure what it means.”

Some of these respondents commented on the instruction by asserting that, in fact, Hispanic origins are races:

“Is Hispanic origin a race? Yeah, guess, if you call the other things a race, African American. I don’t see why not.”

A few respondents did seem to understand the statement as intended. They did not see Hispanic origin as a race, and believed it was a nationality or a culture. Others believed that “Hispanic” was not a race because Hispanic people were of more than one race:

“Not a race...Hispanic people are many races, and mostly a mix of a few, but it’s definitely not equivalent to a race because you can get Latino people in all types of colors and flavors.”

Interestingly, some respondents who agreed with the instruction were Hispanic themselves. However, this did not mean that they were willing to mark one of the five defined OMB races as a result of this belief. In fact, all four Hispanic respondents used Some Other Race, whether or not they agreed that “Hispanic origins are not races.”

Another potentially troubling misinterpretation of the instruction arose in only one case, and involved mishearing the term “races.” The respondent in this case apparently believed that the interviewer had said “For this census, Hispanic origins are not racists.” This led to a complex misunderstanding in which the respondent insisted that Hispanic people were “just like we are”

and should not be considered racists. Although this interpretation was rare, it is worth pointing out that the terms “races” and “racists” are phonologically similar.

### Ancestry Question

#### SHOW FLASHCARD

**People in the United States are from many countries, tribes and cultural groups. What is YOUR/NAME’S ancestry or tribe? For example, Italian, African American, Dominican, Aleut, Jamaican, Chinese, Pakistani, Salvadoran, Rosebud Sioux, Nigerian, Samoan, Russian, etc.**

#### *Findings*

Interviewers administered the ancestry question with both a full reading of the text and by presenting a flashcard. The flashcard presented the full text of the question, but did not include the answer spaces.

One issue of concern to us was the usefulness of the flashcard. When asked, most (10 of 16) respondents said that they felt the flashcard was helpful to them. This finding was consistent with our impression that respondents generally looked at the card. Respondents tended to read along with the interviewer while he or she administered the question. A few respondents felt that the flashcard was not particularly helpful, because, as one respondent said, the question was “simple.”

The term “ancestry,” in combination with the country-level examples, generally functioned to elicit country of origin answers, such as Egyptian/Lebanese, American, Salvadoran, Nigerian, Costa Rican, Irish, and Danish /Indian. The term “tribe” elicited a specific tribal designation, Lenni Lenape, from our single American Indian respondent. Although people define ancestry most commonly in terms of countries or nationalities, respondents offered a few non-specific designations, such as Black, Native American, and Caucasian.

Some respondents indicated difficulties in comprehending the ancestry question. First, some respondents thought the question was too long, finding it difficult to comprehend. (One respondent was moved to scream politely on hearing it for the first time.) In addition, the phrase in the introductory sentence, “People in the United States are from many countries, tribes, and cultural groups” could be problematic. One respondent thought that the “many countries” idea referred to the fact that people could be of more than one race. The concept of “culture” was also puzzling for a few respondents. One immigrant pointed out that people “change cultures,” so it was hard to interpret the questions intent. Another respondent’s primary association to the term was “hip hop culture.”

The question on the flashcard does not show multiple answer spaces, and the question text does not refer to the number of possible answers. Thus, when answering this question respondents in the NRFU receive somewhat different information than respondents who receive a mail-out questionnaire. This mode inconsistency might affect the completeness and specificity of their answers. For this reason, we asked respondents how many answers they thought it was possible to give to this question. Of the 11 respondents who provided this information, 7 thought it was

possible to give more than one answer, 3 thought it was only possible to give one answer, and 1 respondent was unsure. A few respondents gave more than one ancestry for themselves or for another household member, but in the majority of cases, respondents provided only one response.

The examples in the ancestry question proved somewhat problematic. A few respondents interpreted the long list of examples as a pick list, and altered or confined their responses to what they saw on the card. In one instance, the respondent apparently misinterpreted the “etc.” following the list of examples, and thought that he was supposed to choose this as a category for household members who did not fit the other listed ancestries.

There is some evidence that respondents find the examples unfamiliar. This is particularly true of the American Indian example, “Rosebud Sioux.” Respondents often commented spontaneously that they had never heard of that ancestry. The format of the examples, which placed the term “Rosebud” at the end of one line and “Sioux” at the beginning of the next line, seemed to exacerbate this problem. If the respondent saw only “Rosebud” they found this structure extremely puzzling.

#### *Usability Issues*

We noted some difficulties in entering ancestry information in the handheld computer. If a respondent chooses the response of “American,” the automatic function on the dropdown list supplies the term “American Indian,” after the interviewer types only a few letters. This auto-fill could lead to enumerator errors when the enumerator quickly selects this option without careful reading. Interviewers also had difficulty finding the “Don’t Know” option, since the automatic function does not supply the abbreviation “DK.”

#### Overcount

**<Do you/Does NAME>sometimes live or stay somewhere else**

- To attend college?**
- To be closer to work?**
- While in the military?**
- To stay at a seasonal or second residence?**
- For a child custody arrangement?**
- While in jail or prison?**
- While in a nursing home?**
- For another reason?**

#### *Findings*

The instrument instructs the interviewer to read each response option in full for the first person in the household. For other household members, the interviewer simply asked the question stem. If the respondent said “yes,” the interviewer asked the respondent to select the appropriate option. In these instances the interviewer often had to re-read the response options because the respondent could not remember the list of options. This indicates that the list is too long.

The main difficulty with this question is a vague and undefined reference period. The lack of reference period often led to respondents to include events that have happened throughout their lifetime. Some respondents thought about the past year, while others thought about the entire time they have been living at that residence. Only a few respondents indicated thinking about the time around Census Day. For example, a respondent selected “to attend college.” He was thinking as far back as 10 years ago, when his roommates did attend college. He thought it was asking if they stayed away (not with their parents) while attending college.

In addition to the vague reference period, this question also lacks a quantifying criterion for amount of time and frequency implied within the term “sometimes.” The amount of time respondents considered necessary for living or staying somewhere else varied. For some respondents, spending a few days a month in some other location was a sufficient criterion for answering “yes” for this question. For other respondents, this criterion was based on a much longer period of time.

Finally, “for another reason” proved to be problematic for respondents, prompting them to include any reason for staying at another place other than their primary residence. Many respondents chose “for another reason” to indicate short stays away. However, some did report real coverage situations in this category. In situations where a person is rostered with the Undercoverage question, the respondent often chooses “for another reason” to indicate that person’s permanent address. Eliminating this category would make it more difficult to flag this person as a possible non-resident.

#### *Interesting cases*

One respondent reported “yes” for herself and her brother, indicating that they both sometimes travel for work. Neither the respondent nor the brother had a permanent address elsewhere, but both sometimes travel for up to half the year on business trips.

Another respondent pondered, but winded up reporting that he stayed somewhere else “for another reason,” accounting for time spent at a girlfriend’s place. It was not clear that he had a specific time period, or girlfriend, in mind. He was just reporting the possibility that this would happen. Another respondent chose “for another reason” for a roommate who stays most of the time with her fiancé at another address.

Another respondent chose “to stay at a second or seasonal residence” in reference to a roommate, because the roommate sometimes stays at a parent’s house. This respondent also responded “yes” for herself because if she had a boyfriend she would probably stay there some of the time.

A respondent from another roommate house responded “for another reason” for her roommate who goes on business trips (always stays in hotels); “to stay at a second residence” for herself staying with her parents or boyfriend (2-3 nights a week); and “to be closer to work” for the roommate’s part-time live-in boyfriend (this is his other place to live; he spends 3-4 nights at each place).

Another respondent selected “for work” for the adults and “for another reason” for the children because they go back to her home country (where she owns a business) for several weeks out of

the year. The baby has not gone yet, but will go. In this case, she is answering based on future intent. This respondent did struggle with how to report for the children – because it is not their work, but they travel with the parents. She was trying to be very comprehensive and include even relatively short stays away.

Another respondent chose “to attend college” for two of his roommates, he was thinking as far back as 10 years ago when his roommates did attend college. He thought it was asking if they stayed away (not with their parents) while attending college. He chose “another reason” for himself and his girlfriend for the time they spend at her residence (that is her permanent residence; he only stays there every other weekend or so).

In general, it is evident through these case examples that respondents interpreted this question in vastly different ways. Some of these situations would warrant follow-up interview, and some would not. Unfortunately, it is not possible to distinguish these two situations from each other based on the answers to this question.

### *Recommendations*

- Create a series of questions for interviewer-administered instruments that combine information collected in this question with information collected and presented in the residence rules and undercoverage questions. (See Appendix A for an example)
- Incorporate a reference period into the question stem. Consider using “in the past year.”
- Use a flashcard for interviewer-administered in-person modes if the full response set is maintained.
- Consider using age filters to probe about only age-relevant possibilities.

## **Review Screen**

### *Finding*

In some interviews we asked the respondent to look at and verify the review screen. The only issue noted here was with the term “Ref Per” that is used to identify Person 1. Respondents did not know what this meant.

### *Recommendation*

We recommend not having anything for the relationship identifier of Person 1. The respondent does not need to know that we refer to this person as the Reference Person, or as Person 1.

## References

Gerber, E., and Crowley, M. (2005). *Report on Cognitive Testing of a Shortened Sequence of Hispanic Origin, Race and Modified Ancestry Questions: Content Development for the 2005 National Content Test*. Unpublished internal report.

Hunter, J. (2005). *Cognitive Test of the 2006 NRFU: Round 1*. U.S. Census Bureau, Statistical Research Division Report SSM2005/07. <http://www.census.gov/srd/papers/pdf/ssm2005-07.pdf>

Hunter, J. E., and Landreth, A. D. (2005). Behavior coding analysis report: Evaluating bilingual versions of the non-response follow-up (NRFU) for the 2004 Census Test. Unpublished report.

Norris, S. (2005). 2004 Census Test Evaluation Report #4: Data quality in the use of the hand held computer for nonresponse followup enumeration during the 2004 census test. Unpublished report, September 14, 2005.

## Appendix A

Example of how we could customize the  
Residence Rules and Coverage Questions for a CAPI interview

**4. We need to list people living or staying (here/ at this house/apartment/mobile home) on April 1<sup>st</sup>, 2006. We want to list people where they usually live and sleep. For example, college students and armed forces personnel should be listed where they sleep most of the time.**

If non-proxy interview:

**{ Let's start with you, what is your name? Who else was living or staying here most of the time on March 1<sup>st</sup>? Anyone else }**

**{ Get names }**

If proxy interview:

**Who was living or staying here most of the time on March 1<sup>st</sup>? Anyone else?**

**{ Get names }**

**5. We do not want to miss any people who might have been staying here around April 1<sup>st</sup>. Were there any additional people that you didn't mention, for example:**

**Babies?**

**Foster children?**

**Any other relatives?**

**Roommates?**

**Anyone staying on April 1<sup>st</sup> who had no other permanent place to live?**

**Anyone who you don't think of as part of your household, but stays here most of the time?**

**Yes – What is that person's name? Anyone else?**

**No - Continue**

**6a. {Were you/ any of the people you mentioned} living away at college?**

**Yes – if more than one person in household - Who?**

**No**

**b. {Were you/ Was anyone} living away for the military?**

**Yes – if more than one person in household - Who?**

**No**

**c. On April 1<sup>st</sup>, {were you/ was anyone} in a place like a nursing home, mental hospital or correctional facility like a jail or prison?**

**Yes – Who?**

**No**



At the end of all Person-level questions

15. **FILL(Just to make sure everyone is counted in the right place, OR You have already told me FILL NAMES sometimes stay(s) somewhere else.)**

Ask only for people who answered No to 6a, b, and c:

**<Did NAME> sometimes live or stay somewhere else to be closer to work, to stay at a seasonal or second residence, to stay with another relative or for any other reason?**

For next person:

**How about NAME?** (Did NAME sometimes live or stay somewhere else for any of those reasons?)

If yes, **For which reason - to be closer to work, to stay at a seasonal or second residence, to stay with another relative or for any other reason?**