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2013 Census Test Cognitive Interview Report

Michelle Smirnova
Paul Scanlon¹

¹ National Center for Health Statistics

Center for Survey Measurement
Research and Methodology Directorate
U.S. Census Bureau
Washington, D.C. 20233

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2013 National Census Contact Test (NCCT) Cognitive Testing Report

In an effort to reduce costs and increase self-response, the Census Bureau is conducting a series of research projects and tests throughout this decade to explore alternative modes of contacting respondents and collecting data. One of the first tests to support this planning effort is the 2013 National Census Contact Test (NCCT). The 2013 NCCT will inform 2020 Census testing and planning. The intent is to research and validate the quality of administrative record files that contain alternative contact data, such as phone numbers and emails, which could help the Census Bureau connect with individuals and households to encourage self-response. This report outlines the results and analysis of twelve in-person cognitive interviews that were conducted in August of 2012 in the Washington DC metropolitan area in order to test these contact methodologies and the associated questionnaire to be used in the test in early 2013. This study sought to verify whether the questionnaire developed for the NCCT would be successful in eliciting phone numbers and email addresses to validate against the Alternate Contact Frame.

Introduction

In an effort to reduce costs and increase self-response, the Census Bureau is conducting a series of research projects and tests throughout this decade to explore alternative modes of contacting respondents and collecting data. One of the first tests to support this planning effort is the 2013 National Census Contact Test (NCCT).

The 2013 NCCT will inform 2020 Census testing and planning. The intent is to research and validate the quality of administrative record files that contain alternative contact data, such as phone numbers and emails, which could help the Census Bureau connect with individuals and households to encourage self-response.

For the actual 2013 NCCT, the Census Bureau will initially contact sample households by sending them an advance letter, which states the purpose of the data collection and includes the statement that the 2013 NCCT is mandatory. Several days after conducting the mailout, the Census Bureau call center staff will contact sample households by phone to conduct the interview. The NCCT will be conducted over the phone using a Computer Assisted Telephone Instrument (CATI) with 40,000 respondents between January 7, 2013 through January 25, 2013. This survey collects some of the same basic information as Census 2010—whether the housing unit is rented or owned, the names of everyone living in the household and some basic demographics, including, age, race, Hispanic origin, relationship, and sex. The survey will also ask for the contact information of each household member, such as cell phone numbers and email addresses, as well as questions associated with the use of these communication methods. The questionnaire requests email addresses and telephone numbers from the respondents to be later matched to a vendor data list (the “administrative record file”) as well as to the Master Address File (MAF), a national inventory of living quarters addresses compiled and maintained by the Census Bureau. Finally, the interview contains a question intended to gauge respondents’ attitudes regarding the collection of Global Positioning System (GPS) coordinate data from a respondent’s mobile device, such as cellular phone or tablet, made available through technology referred to as “location-based services.”

Before the implementation of this test, twelve in-person cognitive interviews were conducted with respondents in the Washington DC metropolitan area to pretest the questions referred to above. This study sought to verify whether the questionnaire developed for the NCCT would be successful in eliciting phone numbers and email addresses to validate against the Alternate Contact Frame.

This report outlines the results and analysis of the in-person cognitive interviews that were conducted in August of 2012 in the Washington DC metropolitan area in order to test these contact methodologies and the associated questionnaire to be used in the test in early 2013.

Cognitive Interviewing

Cognitive interviewing is a qualitative methodology that offers the ability to understand the cognitive process behind answers to survey questions. There are a variety of cognitive interviewing techniques—some concurrent to the survey administration and others that are

retrospective, and ask questions about the process at the very end. The 2013 NCCT cognitive test employed a combination of concurrent and retrospective probing. Probes were semi-scripted and intended to cover certain pre-identified topics, but also allowed the interviewer the flexibility to follow unanticipated problems that surfaced. The goal of this method is to best understand what the respondent was thinking when answering and how s/he interpreted the meaning of the question. This information is used to help the researcher identify which questions could benefit from revision and how they might be revised.

Cognitive interviews are often focused on three of the four stages of the cognitive process model - respondent comprehension, information retrieval, and response (Cannell, Miller, and Oksenberg, 1981; Tourangeau, Rips and Rasinski, 2000). The most common probes used in cognitive testing are paraphrase and meaning probes, which elicit comprehension issues and process probes that elicit retrieval problems (Willis, 2005). Response issues are often observed by watching the respondent attempt to categorize their answers onto the available response categories. Judgment issues, i.e., when the respondent comes up with the appropriate response in their mind, but chooses a different answer based on sensitivity or social desirability, may go undiscovered in cognitive interviews because these issues may persevere in the cognitive interview despite attempts to generate rapport with the respondent (see Willis, 2005 for noted difficulties with sensitive questions). In NCCT, we were particularly interested in how respondents may use evasive strategies (e.g., silence or partial responses) when requested information was perceived to be sensitive or private. Interviewers probed on these issues, asking a combination of direct factual, attitudinal and hypothetical questions. Our focus was primarily on retrieval and response stages of the cognitive process model, though in some situations, focus was also on the comprehension stage.

Methods

Email and phone call strategies were used in this study during the recruitment process. We were provided an administrative records list by a commercial vendor (see p. 5) that contained phone numbers and email addresses associated with 500 particular household addresses in the Washington DC metropolitan area. Recruiters used this list to contact potential respondents and request their participation in the study. Potential respondents were informed that the in person interview would take approximately one hour to complete and that they would be reimbursed \$40 for their time. The out-of-service, no-answer and refusal rates for the list of 500 household address listings were incredibly high and therefore proved unsuccessful in yielding a substantial number of respondents for cognitive interviews. Although there are a number of factors that may have contributed to the non-response for this list, over half of the email addresses and phone numbers were inaccurate—either the email bounced-back or the dial-tone or message indicated that it was a disconnected or out-of-service number. This may give us some insight into the quality of the particular administrative data list used in this study.

Following an initial attempt to call respondents, the recruitment team emailed the same respondents using the same lists. The call and email script are attached in Appendix A. The outcomes of these calling and email attempts are documented in Table 1 and Table 2.

Table 1. Outcome of Attempts to Recruit Respondents by Telephone

	Out-of-Service	No Answer	Left Message	Refusal	Fax	Scheduled	Total Called
Recruiter 1	33% (66)	11% (21)	34% (69)	11% (22)	3% (5)	2% (4)	187
Recruiter 2	24% (12)	46% (23)	10% (5)	12% (6)	8% (4)	0% (0)	50
Recruiter 3	46% (32)	10% (7)	25% (28)	10% (7)	1% (1)	3% (2)	70
Total	36% (110)	17% (51)	33% (102)	11% (35)	3% (10)	2% (6)	307

Table 2. Outcome of Attempts to Recruit Respondents by Email

	Email Bounceback	Email Total
Recruiter 1	54% (109)	202
Recruiter 2	60% (85)	142
Recruiter 3	48% (119)	248
Total	53% (313)	592

The initial list of phone numbers and email addresses yielded extremely low response rates; therefore, we revised the recruitment strategy to include Craigslist.com advertisements and broader geographical areas. Despite these necessary modifications, the zip codes targeted for respondent recruitment remained diverse in their demographic and economic characteristics, as measured by Census Bureau programs, and there was able to yield a diverse set of respondents for cognitive interviews.

Our recruiters posted an advertisement on Craigslist.com requesting participants in a Census Bureau study for which they would be compensated \$40. These respondents called our recruitment line and responded to a set of screening questions in which we asked for their full

address. Based upon this information, we conducted a reverse look-up to find all the cell phone numbers and email addresses that our commercial vendor had listed for the particular household address. We used this information at the end of our cognitive interviews, during the verification stage. Specifically, we pulled out a list of phone numbers and email addresses that was associated with their address and compared it to the roster of phone numbers and email addresses that was constructed during the interview. The interviewer inquired about any discrepancies between the two lists to better understand the quality of the administrative data we have on file for various household addresses.

Twelve interviews were conducted throughout the Washington, DC metropolitan area. More detailed information of demographics can be found in Table 3.

Table 3: Summary of demographic characteristics of respondents (N = 12)

<u>Gender</u>	<u>Total</u>
Female	8
Male	4
<u>Age</u>	
Under 40 years	7
40 years and over	5
<u>Race</u>	
White	5
Black	5
Asian	1
Hispanic	1
<u>Education</u>	
High School or Less	1
Some College	4
College Degree	2
Graduate Degree	5

Results

This section includes a question-by-question analysis of all those survey questions that posed some difficulty for respondents or for which there were interesting findings that may be relevant to the administration of 2013 National Census Contact Test. Only those questions that produced confusion or misreports during cognitive testing are included in this section. For the full questionnaire, please refer to Appendix B.

1. *May I speak with someone at least 15 years old who lives here and knows about the people in this household? Would that be you?*
 - a. *Yes*

- b. *No – Ask to speak to this person. If such a person is not home, Thank the respondent and hang up.*

Respondents did not think this question was appropriate. Several indicated that unless the caller immediately identifies her/himself as a representative of the Census Bureau calling on behalf of “an important study being conducted by the Census Bureau,” that they would probably hang up. The Census Bureau call centers have a standard script they use when calling respondents to participate in surveys. This script informs respondents that they are calling on behalf of the Census Bureau and that their privacy and confidentiality will be protected if they choose to participate. This standard script was not included in the cognitive testing, but we believe that if it had been included, these concerns would not have been voiced.

- 2. *Hello, I’m (your Name) from the U.S. Census Bureau. We are doing research to make it easier for people to respond to the Census. In the past, for the Census, we have mailed most households in the United States a paper census form and visited people who did not respond which cost a lot of government money. In an effort to reduce cost, we are researching alternative ways of contacting people.*

Your responses to these questions are protected by law under Title 13 of the United States Code. This is the same law that protects your privacy. No one outside the Census Bureau will see your answers. This interview will take about 7 minutes to complete.

Respondents thought that this introduction was unnecessarily wordy. If we could reduce the length of the opening statement, it might reduce break-offs early in the phone call.

- 12. *Does anyone in this household share a cellphone?*
 - a. *Yes - Who shares a cellphone?*
 - b. *No*
 - c. *Don’t know*
 - d. *Refusal*

Respondents generally understood that this question was referring to a physical device. When probed as to what specifically this question was asking, most respondents said, “It is asking whether two people share a phone.” Only two people thought that this may refer to a calling plan, but also thought it meant the same device.

- 13. *FOR EACH YES (person that has their own phone or shares a phone):*
 - a. *Do you/does NAME use the cell phone for texting?*
 - i. *Yes*
 - ii. *No*
 - iii. *Don’t Know*
 - b. *Do you/does NAME use the cell phone to access the internet?*
 - i. *Yes*
 - ii. *No*
 - iii. *Don’t Know*

c. *What is your/NAME's cell phone number?*

____-____-_____

These questions were not particularly difficult for respondents to answer, though some were reluctant to provide the cellphone number for other people. This was particularly true in households with tenants or roommates. We prompted respondents to look in their cellphone (if they had it with them) if they could not recall the phone numbers of other household members from memory, but some respondents maintained that they did not have the number of the other person in their household. It is unclear whether they did not have this information or whether they felt it inappropriate to disclose someone else's personal information. Other cognitive tests have revealed similar findings that respondents are hesitant to provide contact information for other people (see Childs and Smirnova, 2012). All respondents except for one offered their own cell phone number.

16. *Are there any other phone numbers for this household, perhaps a work phone number or an additional line?*
- a. *Yes <go to question 17>*
 - b. *No <go to question 18>*
 - c. *Don't Know <go to question 18>*
 - d. *Refusal <go to question 18>*

All respondents understood this question. When asked for an example, most were thinking of another line that might be used to operate a business out of a home, but one person said "maybe a 'magic jack' or something like that where you can plug in another line?" There were multiple respondents who used Skype and GooglePhone, but none of them had a separate number for that line. One respondent explained that, "I just do [Skype] through my internet."

18. *Are any of these cell or landline numbers unlisted or unpublished?*
- a. *Yes*
 - i. *Which ones?*
 - b. *No*
 - c. *Don't Know*
 - d. *Refusal*

A number of respondents were unsure whether their numbers were unlisted or unpublished, but assumed that they would have to take some action in order to make them unlisted or unpublished. One respondent said, "that means you have to pay someone money to take your number out of a phonebook or other listings, and living on a fixed income, I know we do not do that." Another said that, "I do not think we are listed in the phonebook, but I don't think we did anything to make that happen." Similarly, another person said that "I Googled myself and couldn't find my number, but I don't think I am unlisted or unpublished everywhere. Really I am just not sure." One respondent questioned, "If these numbers are unlisted, then how would you be able to contact me?" She seemed worried that the Census Bureau was being "sneaky."

This question did cause a number of respondents to think aloud about telemarketers and “spam calls.” One respondent said that she had not actively unlisted her numbers, but that was because she did not receive many unwanted calls. She and others indicated that they would consider taking the time to un-list the numbers if this amount noticeably increased. Returning to this topic at the end of the interview, respondents largely indicated that they would not consider calls from the Census Bureau to be unwanted “spam,” though their caller IDs would have to show that the call came from the Census Bureau for them to be sure. Another respondent, for instance, never picks up calls from people she does not know, but answered the recruiting call because her caller ID indicated the call came from Census Bureau Headquarters.

It might be worth noting that this question was perceived to be more sensitive than many of the other questions in this survey. If it is not a necessary item, we would recommend its omission.

20.

e. What are your email addresses?

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

- f. About how often you check your email (insert response in lines above).*
- g. Let’s look at the addresses that you provided. Which ones of these are work email addresses? Personal or home addresses? (Circle H or W) Do you sometimes check work email at home? Home email at work?*

Some respondents willingly provided all of their email addresses, while others were more reluctant. Some said explicitly, “the one that I give out is...”, or “the one I will share with you is...” or “my main address is...,” phrases indicating that there were other addresses that the respondents did not feel comfortable sharing with the Census Bureau because they were personal, or perhaps because they did not check them frequently. One respondent said that, “I have lots, but only one that I will give you. I like to divide my life, one email address is for old friends, one is for my non-profit work, and another is for the neighborhood. My husband is the same. I will give you my ‘public’ emails.” Respondents varied in their rationales for providing limited lists. Some would tell us the domain of the other email addresses they had, but did not want to provide the exact address.

21. What is NAME's primary email address or addresses?

_____ @ _____ . _____
_____ @ _____ . _____
_____ @ _____ . _____

22. How often do you think NAME checks address <1-3>?

- a. Most days
- b. Most weeks
- c. Occasionally
- d. Don't Know
- e. Refusal

Similar to the findings in regards to willingness to share cellphone numbers, respondents were reluctant to provide the email addresses of other members of their household. Respondents could easily provide details of how often others in the household checked email and whether they did so from home or from work, but still did not provide the address. Younger respondents tended to check email both at home and at work whereas older respondents tended to have some email addresses they checked at home and others they checked at work. As an example, one respondent indicated that it was not difficult to recall whether her daughter and tenant use their phone to text or email because, "I live with them. My daughter texts more than I would like her to, but I do not let her use the phone for the internet. And I coordinate dinner and other things with [tenant] so I see how often she uses her email address and how often she responds or uses her phone." In addition, not all respondents had the ability to answer at least the first part of this question. Another respondent did not have her tenants' emails, because she interacts with them either in person or over the phone. She guessed that they (both in the mid-20s) check their email everyday, but was not familiar enough with their habits to say this with confidence. A third respondent noted that she was sure she did not know all of her daughters' email addresses, "I know their phone number because I pay for them, but I'm sure they have emails I don't know about."

23. As mentioned earlier, in the past the Census Bureau has mailed most households in the United States a paper census form and visited people who did not respond which cost a lot of taxpayers' money. In an effort to reduce cost, we are considering alternative ways of contacting people. One such way would be to contact people directly on their cell phones. How would you, personally, feel about the Census Bureau calling you on your cell phone? Would you be

- a. strongly in favor of,
- b. somewhat in favor of,
- c. neither in favor nor against,
- d. somewhat against, or
- e. strongly against it

Most respondents understood this question. There was concern among a number of respondents about how many minutes would be spent responding to such a survey on their cellphone. In these cases, they argued the Census should find a way to pay for the minutes; otherwise, they should only call a landline or send an email. Two of the older respondents (55 and 72) were very opposed to being contacted via their cellphones, arguing that the phone call might come at an inappropriate time: “you could call me in the car” or “when I am in the market, in a store, or sometime when I cannot respond to a survey.” They believed this would be inappropriate, ineffective and possibly dangerous. Further, one older woman initially interpreted the question as asking about a text message; she was opposed to receiving either a phone call or a text message on her cell phone. She explained, “this costs us a lot of money when you text us. And the screen is too small anyway; we could not fill out the form on the screen.” When asked, “what if this question meant we would call you,” she replied, “I don’t want you to call me on my cellphone because that will also cost me money. To conduct that survey over the phone it would take 20 minutes and that is expensive for people who do not use their cellphone that often. It costs money per text messages and I also think it encourages bad behavior on the road while driving.” She still seemed a bit confused after our discussion, but I think this was likely due to her strong opinions about text messages and the Census Bureau contacting respondents via their cell phones.

Other respondents appeared to understand this question to mean that the next decennial census would only use cell phones to contact the populace. One respondent said, “I don’t use my cell phone, so you would miss me. Just use paper.” Another indicated that she was worried she would not be counted, but if the cell phones were just used to follow up the normal mail questionnaire, she would be fine with it.

24. *Another way of contacting people would be for the Census Bureau to text you a link to complete your census form. How would you personally feel about the Census Bureau texting you a link on your cell phone? Would you be*
- a. *strongly in favor of,*
 - b. *somewhat in favor of,*
 - c. *neither in favor nor against,*
 - d. *somewhat against, or*
 - e. *strongly against the Census Bureau texting you?*

There was only a slight confusion among respondents in regards to this question, though we believe that this was due to respondents’ strong opinions towards text messages and hasty responses before the completion of the question. Most respondents were opposed to the Census Bureau texting them. One said that “I only use text messages with friends,” while others said that they never texted and that they would not know what to do with a text, they would probably delete it if they were able to read it at all. A number of respondents were similarly concerned about the cost, one respondent explains,

R: “As long as you aren’t texting me each individual question in like 20 texts and asking me to text back. I think this is a great idea. Is that what you will do? Text each question?”

I: “No, we would just text you the link.”

R: “My only concern is for those people who do not have unlimited texting plans. Like I have an unlimited plan, but my daughter does not. If the text becomes a financial burden to the respondent then that would be bad. But if the Census can pay for it or negotiate something with the provider and let the people know that they are not paying for it, then I think this should work well.”

Another respondent was against this strategy explaining that,

R: “There is no reason to switch media, if you text me a link you are creating an extra step, just email me. That way I can fill out the form. I hated filling out the form in 2010. By 2020, paper will be completely outdated; everything will be online. You should do it that way but don’t mess with our cellphones.”

A way to clarify that we do not plan to text message respondents the entire survey, question by question, might be to add the language “text you a link to complete your census form online,” this would convey that the text message would be used to direct respondents who have smartphones to an online form. Those who do not have smartphones could manually type in this address to a web browser on a computer.

Similar to the cell phone question above, some respondents repeated their fears that this new technology would cause the census to overlook people who do not text:

R: “I never turn my phone on. If you text me, I won’t see the form. The Census should count everyone, and I think if you do this, then you’ll miss a large part of the country that does not text.

I: “What if this was just one way out of many to contact individuals?”

R: “I would be strongly in favor then. As long as I know I can be counted some way.”

25. *Another way of contacting people would be for the Census Bureau to email you a link to complete your census form. How would you personally feel about the Census Bureau emailing you a link on your cell phone? Would you be*
- a. *strongly in favor of,*
 - b. *somewhat in favor of,*
 - c. *neither in favor nor against,*
 - d. *somewhat against,*
 - e. *or strongly against the Census Bureau emailing you?*

Those respondents without a smartphone (and even some of those with one) found this confusing and often thought it was repeating the question before it (Q24). An example of this confusion is expressed in the exchange below:

R: “Isn’t that the same thing as texting? If you are emailing my cellphone? If you directly email my email, I’d be all for it, but not my cellphone.”

I: “What if we meant emailing your email address?”

R: “Then I would be OK with it. That is how I handle most of my business related matter.”

I: “Would you question its legitimacy?”

R: Yeah, I would. But I would go to the site first to make sure it is official.”

Another respondent who is in favor of emailing said,

R: “You are already sitting in front of the computer, you are in the mindset. You can click on the link and continue with the process. I think this will give a higher response rate. This is the way 2020 will be done.”

I: “Would you trust the link or would there need to be something to make you trust it? “

R: “It would be trustworthy if it was from a .gov email address and a campaign announcing a multimedia campaign strategy. The Census would have to make it clear that this was how they planned to conduct the 2020 Census. I think there are several options for how this could work for people. First would be for the Census to issue everyone an email address to use for the system. This is the only way, unless you would buy the email addresses, you don’t plan to do that, do you?”

I: “We are unsure what we will do at this time.”

R: “Well, then, the second option would be to get information from the IRS.”

I: “Would you be comfortable with this?”

R: (laughter) “Oh yeah, it is government sharing with the government (laughter) and besides I’m semi-retired, so I have nothing to hide, I don’t make anything.”

Even those that did understand that an email sent to an account appears on both their smart phones and their computers indicated that they would prefer to fill out the form on their computers. For instance, one respondent said,

R: “You could email me on my cell phone I guess, but I don’t see why I wouldn’t fill it out on my computer. My computer obviously has a larger screen, and it’s easier to type on. I guess I could use the cell phone to fill it out anywhere, but I think I would just wait until I got home and do it on my laptop.”

We suggest that the “on your cellphone” part of this question be dropped.

26. In order to count people in the right place, the Census Bureau need detailed geographic information. To assist in our efforts to increase the accuracy of the census and potentially

save a lot of taxpayers' money, we could get some of your geographic information from cellphone providers. Would you be willing to allow the Census Bureau to obtain geographic information from your cellular provider?

- a. Yes*
- b. No*
- c. Don't Know*
- d. Refusal*

This question yielded very unfavorable responses. Although respondents replied differently based upon their interpretation interpreted “geographic information,” most respondents were opposed to the general idea. Those who interpreted it as “GPS or tracking information,” were opposed to the Census Bureau collecting such information from cellular providers. Those who thought “geographic information” referred to a billing or mailing address were generally in favor, though only five respondents interpreted the question that way. Some excerpts from respondents’ rationale include:

R: “That makes me very uncomfortable, especially with the recent changes with facebook and Google privacy policy. I don’t use Google maps because then they are able to get my location, I don’t like the idea that they know where I am. I assume that you would ask my provider to look at the towers that get pinged most frequently or which tower was used when I was on the phone with Census or when I was filling out the form. This is creepy. The government knows my social security number and that is OK, but they do not need to know where I am at all times. If you were just asking for my billing address from the phone company, then that would be OK.”

Another exchange:

R: “No. I don’t like having the cellphone company have that much control over me to say where I am. I thought that meant tracking. Most people tend to think of how I can pull up Google maps which tracks your location and then that would be the geographic information.”

I: “What if geographic information meant your billing address?”

R: “I might be more favorable in that sense.”

However, some respondents were more favorable:

R: “Yes. Of course, there is so much sharing already and this is critical data. When I ask her what she thinks is meant by “geographic information,” she replies that it is “where I live, where my phone is registered, my billing address, you can glean a lot of information from this. Of course I do not want you to know where I am at all times, but that information is OK.”

Others were unsure of what the Census Bureau could actually get from cell phone providers, indicating that they did not understand the process behind the census and why the Census Bureau needed the geographic information:

R: “What are you going to find from the cell company? Like where I shop and go to work? I don’t understand why you’d want to know that. I guess I trust you, but I don’t get it.”

More explanation might be helpful for these reluctant respondents.

Administrative Records Matching

At the end of the cognitive interview, interviewers referred to a sheet of paper that listed the contact information that vendors had provided for the address of the respondent. These lists included the address that the respondent provided on the initial recruiting phone call or through the initial reverse-look up methodology, in addition to all the phone numbers and email addresses associated with that address that were derived from the Alternate Contact Frame. The interviewer compared this list with the data provided during the interview and discussed the discrepancies with the respondent. In most of the cases, the phone numbers and email addresses from the administrative data list did not match the self-reported list (See Tables 4 and 5). In fact, many respondents did not even recognize most of the phone numbers or email addresses associated with their home addresses. A number of respondents explained that they lived in houses/apartments with high turnover rates, and therefore even if the information were only a year old it would not be accurate. Others vaguely recognized the numbers as old landlines. A number of respondents guessed that some of the numbers could have been old pre-paid cell phones that they or their children used at some point in the past, but that are no longer active.

In an interesting case, one respondent lived in the house in which she was born and raised. Her parents have since moved out and sold the house to a new owner—her landlord. She recognized all five of the phone numbers and the two email addresses, though she noted that only three of the five phone numbers are still in use (two by the landlord and one by her). Of the email addresses, one belongs to the owner and the other belongs to the respondent’s mother, who has since moved out. Tables 4 and 5 illustrate the accuracy of these lists in the cognitive test.

Table 4. Summary of Information Regarding Quality of Phone Numbers on Administrative Records List

RID	# of Administrative Records Phone Numbers Listed for Household Address	# of Administrative Records Phone Numbers Recognized by Respondent	# of Phone Numbers Provided by Respondent	# of Phone Numbers provided by Respondent that were NOT on Admin Records List
R1	2	1	3	2
R2	2	0	3	3
R3	0	0	5	5
R4	2	1	1	0
R5	5	2	4	3
R6	9	0	1	1
R7	5	4	4	4
R8	3	1	2	1
R9	2	1	4	3
R10	5	2	5	3
R11	6	4	2	2
R12	14	3	8	6
Total	55	17 (31%)	42	33 (79%)

Table 5. Summary of Information Regarding Quality of Email Addresses on Administrative Records List

RID	# of Administrative Records Email Addresses Listed for Household Address	# of Administrative Records Email Addresses Recognized by Respondent	# of Email Addresses Provided by Respondent	# of Email Addresses provided by Respondent that were NOT on Admin Records List
R1	1	1	2	2
R2	6	0	1	1
R3	0	0	4	4
R4	1	0	0	0
R5	8	7	2	1
R6	4	0	2	2
R7	2	2	3	3
R8	2	2	2	1
R9	0	0	1	1
R10	1	1	3	2
R11	3	2	2	0
R12	4	4	4	2
Total	32	19 (59%)	26	19 (73%)

From tables above, we can see that the respondent recognized only 31 percent of the phone numbers listed in our administrative data records file for each household address. Email addresses associated with a household address were recognized on average 59 percent of the time. In comparison to the information reported by the respondent, 79 percent of the phone numbers and 73 percent of the email addresses provided during the interview were new—i.e., the administrative file did not include them. For those situations where respondents recognized an administrative records email address, but had provided another one in the interview, they explained that the addresses we had on file were either SPAM email addresses (addresses created for non-correspondent purposes that are generally not checked as frequently) or addresses they have not used in some time. The phone numbers also seemed generally inaccurate in comparison to the information provided directly by respondents.

We believe that a question on length of stay at the residence should be added to the NCCT questionnaire so that we can measure the accuracy of the administrative records data for respondents who have lived in a house or apartment for some time versus those who are more transient in their stay.

Recommendations

1. Reduce the Title 13 explanation at the beginning of the call. Respondents complained that this introduction was lengthy as is, though those who had questions later in the survey returned to the rationale in the opening message as an explanation for the purpose of this data collection.

Outcome: Respondents are asked if they received an advance letter. If they reply yes, then they do not receive the Title 13 explanation because the advance letter contains this information. If they respond that they did not receive the advance letter then they are read the Title 13 script.

2. Revise script so interviewers identify themselves as Census Bureau representatives at the beginning of the call. We need to make sure that the call centers' procedures begin with the interviewer immediately identifying themselves as Census Bureau staff. A number of respondents throughout the cognitive interviewing phase indicated that they needed to hear this immediately or they would discontinue the call.

Outcome: Interviewers now identify themselves as “from the Census Bureau.” A standard call center script identifies the caller and the purpose of the survey.

3. Add “Text a link to complete your census form online” to question 24. There were a number of respondents who were confused by this question, some who thought that the Census Bureau would text them each question in a separate message, to which they would have to respond “twenty plus” times. They thought this would be inefficient, costly, and potentially promote bad behaviors such as texting while driving. It is important to specify that the text message will contain a link to a survey they can complete online—on their smartphone if they have access to the internet, or on another computer if not.

Outcome: This question was removed from the NCCT.

4. Ask respondents about their attitudes toward the Census Bureau emailing them, not about emailing them on their cellphone. We recommend that on Question 27, the qualifier, “on cellphone” be removed. The question would read:

“What if we emailed you a link?”

For those who do not have a smartphone (and even for some of those who did), this sounded as though it were referring to a text message. When asked this attitudinal question, several respondents looked at the interviewer quizzically, “Isn’t that what you asked in the last question?” The question should focus on comfort with emails from the Census Bureau, not about which device they will access this email.

Outcome: This attitudinal question was removed from the NCCT.

5. Add a question about the length of stay of the respondent in the household. For those respondents who indicated that they rented their apartment/house or have only been there for a

year or two, the administrative data we had for them was generally inaccurate. The lists of phone numbers and email addresses tended to be longer for these respondents, but there were almost no matches. This is probably a result of a high turnover rate at this household or perhaps outdated data that will not help us in our imputation or contact strategies.

Outcome: This change was not implemented on the questionnaire.

6. Confirm or request domains of email addresses as opposed to actual email addresses. In our interviews, most respondents did not appear uncomfortable by the administrative data information that we had associated with their household address. Despite the relatively positive reception, our population of cognitive interview respondents is not representative of the US population or telephone survey respondents. These respondents agreed to meet a Census employee for an hour and they were compensated \$40 for their time and travel. Even among these respondents there were a number who refused to provide all (or any) of their email addresses. A number of them indicated that they were more comfortable simply providing the domain. Thus, we recommend that a matching question be asked in regards to domains. The caller should ask if the respondent has email addresses at the domains (e.g. Yahoo, Gmail, Hotmail) for which the Census has data or, more simply, which domains they have email on. This can serve a similar goal of verification without making the respondent uncomfortable.

Outcome: Specific email addresses are initially requested, but if the respondent does not provide this information, they are asked whether they or anyone in their household has a Yahoo, AOL, Hotmail, MSN or Gmail account or an account with another provider.

7. Add a question asking which type of device respondents would use to fill out a Census Bureau survey. In order to understand on which device respondents are most likely to fill out a survey, we recommend adding a question about whether respondents would fill out a questionnaire on their phone or on a computer if they received the link via email or text message. Would they manually type the link or would they click on it directly if they received this on their smartphone?

Outcome: This recommendation was not adopted.

8. Provide telephone interviewers with a supplemental script that will help explain the survey's purpose. If the research team decides to eliminate language promising that the information collected during the survey will not be used to contact them in the future (such as found before Question 12), we suggest that the telephone interviewers be given a supplemental script to use at their discretion. They should use this script if the respondent interjects during the interview asking why the Census Bureau needs their cell or landline numbers or email addresses. We propose the following language, "We do not plan to use the information you provide today to directly contact you in the near future. However, we are asking for this information to verify the quality of our contact strategy for the 2020 Census."

Outcome: In the advance letter, the purpose of the study is explained in greater detail. This advance letter is also available online.

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Appendix A

2013 National Census Contact Test (NCCT) Email Script

Hello,

My name is <insert full name here> and I am a research sociologist from the U.S. Census Bureau. We are conducting research to make it easier for people to respond to the Census. We are contacting you to see if you would be willing to take part in a study to improve the questions that will be used in the 2020 Census Research and Planning. You will be compensated \$40 if you are eligible and if you choose to participate in one of our in-person interviews. If you are interesting in participating in our study, please email me with a phone number where we can reach you.

Thank you!

<full name>
Center for Survey Measurement
US Census Bureau

<email address>

<recruiting phone number>

2013 National Census Contact Test (NCCT) Call Script

If there is an Answering machine: Hello, I'm (your Name) from the U.S. Census Bureau. We are doing research to make it easier for people to respond to the Census. We are calling today to see if you would be willing to take part in a study to improve the questions that will be used in the 2020 Census Research and Planning. You will be compensated \$40 if you are eligible and choose to participate in one of our in-person interviews. If you are interesting in participating in our study, please call me back at (Your phone number) and mention "Test 15". Thank you.

If Someone Answers: Hello, I'm (your Name) from the U.S. Census Bureau. We are doing research to make it easier for people to respond to the Census. In the past, for the Census, we have mailed most households in the United States a paper census form and visited people who did not respond which cost a lot of government money. In an effort to reduce cost, we are researching alternative ways of contacting people. We are calling today to see if you would be willing to take part in a study to improve the questions that will be used in the 2020 Census Research and Planning. You will be compensated \$40 if you are eligible and choose to participate in one of our in-person interviews. Do you have time to answer a few screener questions?

Your responses to these questions are protected by law under Title 13 of the United States Code. This is the same law that protects your privacy. No one outside the Census Bureau will see your answers. This interview will take about 2 minutes to complete, and has been approved by the Office of Management and Budget under approval number 0607-0725 and expires August 31, 2013. This valid approval number legally certifies this information collection.

[If at any point they ask how you got their number: “We are evaluating a number of different possible sources of alternative contact information for households that could possibly save a lot of government money. .”

If needed, add: “Due to privacy restrictions within our contractual agreements to acquire the data, we cannot release the names of specific sources”

1. Great. Before we proceed, what is your age? _____
(If respondent is younger than 18, ask: Is there anyone over 18 years of age who I can speak with? If yes, start again from top. If not, ask: Is there a time I could call back when I could speak to someone over 18? If yes, record time, if not, thank them and hang up.
2. Can I please have your first and last name?
 - a. First Name: _____
 - b. Last Name: _____
3. Are you employed by the federal government?
 Yes – Since you are employed by the federal government, you are not eligible to receive payment for this interview. If there is an adult in your household who is not employed by the federal government, they could be interviewed for payment. Are you interested in continuing?
 No
4. Are you male/female?
 Male
 Female
5. What is the highest grade of school you have completed, or the highest degree you have received?
 Never completed any school
 Completed 9th grade or below
 Some High School

- Completed High School, or received a GED
- Vocational Training beyond High School
- Some College
- Completed College
- Any Graduated of Professional education

6. Are you of Hispanic or Spanish origin?

- Yes
- No

7. Choose one of more of the following races:

- White
- black or African American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander

8. Would you be able to come to our facility in Suitland, MD to be interviewed?

- Yes (go to 9)
- No (go to 10)
- Possibly (go to 9)

9. Are you a U.S. Citizen?

- Yes (go to 12)
- No (go to 10)

10. Is there a metro-accessible coffee shop where it would be convenient for you to meet for an interview, such as a Starbucks, Caribou Coffee, Panera Bread Company or Cosi?

- a. Yes
 - i. Do you know the location/address of this place? What is it? (go to 12)
 - ii. _____
 - _____
 - _____

b. No (go to 11)

11. Would you be able to meet at any of the following locations for an interview?

- a. Caribou Coffee in Dupont Circle NW
- b. Corner Bakery on the main level in Union Station, SE
- c. Panera Bread Co. in Friendship Heights, NW
- d. Panera Bread Co. in Columbia Heights, NW
- e. Cosi 301 Pennsylvania Avenue Southeast
- f. The Blind Dog Café 944 Florida Avenue Northwest

- g. Pound Coffee, 621 Pennsylvania Ave SE
- h. Sova Coffee Shop, 1359 H Street NE
- i. Starbucks, 1100 4th Street SW

12. What time during the week would be most convenient for you to be interviewed between the hours of 9-5, Monday through Friday?

- a. _____

Appendix B

2013 National Census Contact Test (NCCT) Questionnaire

1. May I speak with someone at least 15 years old who lives here and knows about the people in this household? Would that be you?
 - a. Yes
 - b. No – Ask to speak to this person. If such a person is not home, Thank the respondent and hang up.

2. Hello, I'm (your Name) from the U.S. Census Bureau. We are doing research to make it easier for people to respond to the Census. In the past, for the Census, we have mailed most households in the United States a paper census form and visited people who did not respond which cost a lot of government money. In an effort to reduce cost, we are researching alternative ways of contacting people.

Your responses to these questions are protected by law under Title 13 of the United States Code. This is the same law that protects your privacy. No one outside the Census Bureau will see your answers. This interview will take about 7 minutes to complete.

****All Questions are to be blind coded unless otherwise noted****

3. First, I need to verify your address. Is this _____?
 - a. Yes <go to question 7>
 - b. No <go to question 4>
 - c. Don't know <go to question 4>
 - d. Refuse <go to question 4>

4. Are you familiar with this address?
 - a. Yes <go to question 5>
 - b. No <go to question 6>
 - c. Don't Know <go to question 6>
 - d. Refusal <go to question 6>

5. How are you familiar with it?
 - a. I used to live there
 - b. My parents live there
 - c. My children live there
 - d. Another relative lives there
 - e. I use this address for billing purposes
 - f. I use this as a shipping address
 - g. Other, specify_____ [140 characters explanation]

6. What is your address? [WHAT FIELDS DO WE WANT?]

7. We would like to collect the names and ages of the people that usually live and sleep here. Let's start with you,

- a. What is your name?
- b. What was your age?

8. Who else lives here?

- a. Name2, Age2
- b. Name3, Age3
- c. Name4, Age4
- d. Name5, Age5
- e. Name6, Age6

Name	Age

9. How is <NAME> related to you?

- a. Husband/Wife
- b. s/he is my child
- c. S/he is my parent
- d. s/he is my sibling
- e. s/he is my grandparent
- f. s/he is my grandchild
- g. s/he is another relative
- h. S/he is a roomer/boarder
- i. S/her is a housemate/roommate
- j. S/he is an unmarried partner
- k. S/he is an unrelated person
- l. Other

10. In preparation for the 2020 Census, we are interested in understanding how we might be able to contact people. We do not plan to use this information to contact you, we just want to study the various ways people can be contacted. Do you have a cell phone?

- a. Yes
- b. No
- c. Don't know
- d. Refusal

11. Does NAME have a cell phone? (Repeat for each OVER 18 household member)

- a. Yes
- b. No
- c. Don't know
- d. Refusal

12. Does anyone in this household share a cellphone?

- a. Yes - Who shares a cellphone?
- b. No
- c. Don't know
- d. Refusal

13. FOR EACH YES (person that has their own phone or shares a phone):

a. Do you/does NAME use the cell phone for texting?

- i. Yes
- ii. No
- iii. Don't Know

b. Do you/does NAME use the cell phone to access the internet?

- i. Yes
- ii. No
- iii. Don't Know

c. What is your/NAME's cell phone number?

____ - ____ - _____

d. Do you/Does NAME have a work number?

i. Yes

1. What is it?

____ - ____ - _____

2. Do you/Does name have another work number?

a. Yes

i. What is it?

____ - ____ - _____

- b. No
- ii. No

14. Does this household have a landline?

- a. Yes <go to question 15>
- b. No < go to question 19>
- c. Don't Know
- d. Refusal

15. What is this landline phone number(s)?

____-____-_____

____-____-_____

____-____-_____

16. Are there any other phone numbers for this household, perhaps a work phone number or an additional line?

- a. Yes <go to question 17>
- b. No <go to question 18>
- c. Don't Know <go to question 18>
- d. Refusal <go to question 18>

17. What are they?

____-____-_____

____-____-_____

____-____-_____

18. Are any of these cell or landline numbers unlisted or unpublished?

- a. Yes
 - i. Which ones?
- b. No
- c. Don't Know
- d. Refusal

19. In looking forward to the 2020 Census respondents may have the option to receive the form via email and fill it out online, as such we also are interested in respondents' emailing habits. Do you have an email address?

- a. Yes <go to question 20>
- b. No <go to question 22>
- c. Don't Know No <go to question 22>

d. Refusal No <go to question 22>

20.

a. What are your email addresses?

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

_____ @ _____ . _____ How often? _____ H / W

b. About how often you check your email (insert response in lines above).

c. Let's look at the addresses that you provided. Which ones of these are work email addresses? Personal or home addresses? (Circle H or W) Do you sometimes check work email at home? Home email or at work?

21. How often do you check each of these email addresses [Have respondent look at list provided and mark for each address offered]?

- a. Most days
- b. Most weeks
- c. Occasionally
- d. Don't Know
- e. Refusal

22. Does NAME have an email address?

- a. Yes <go to question 23>
- b. No <go to question 25>
- c. Don't Know <go to question 25>
- d. Refusal <go to question 25>

23. What is NAME's primary email address or addresses?

_____ @ _____ . _____

_____ @ _____ . _____

_____ @ _____ . _____

24. How often do you think NAME checks address <1-3>?

- a. Most days

- b. Most weeks
- c. Occasionally
- d. Don't Know
- e. Refusal

REPEAT 22-24 FOR EACH OVER 18 HOUSEHOLD MEMBER

25. As mentioned earlier, in the past the Census Bureau has mailed most households in the United States a paper census form and visited people who did not respond which cost a lot of taxpayers' money. In an effort to reduce cost, we are considering alternative ways of contacting people. One such way would be to contact people directly on their cell phones. How would you, personally, feel about the Census Bureau calling you on your cell phone? Would you be
- a. strongly in favor of,
 - b. somewhat in favor of,
 - c. neither in favor nor against,
 - d. somewhat against, or
 - e. strongly against it
26. Another way of contacting people would be for the Census Bureau to text you a link to complete your census form. How would you, personally, feel about the Census Bureau texting you a link on your cell phone? Would you be
- a. strongly in favor of,
 - b. somewhat in favor of,
 - c. neither in favor nor against,
 - d. somewhat against, or
 - e. strongly against the Census Bureau texting you?
27. Another way of contacting people would be for the Census Bureau to email you a link to complete your census form. How would you, personally, feel about the Census Bureau emailing you a link on your cell phone? Would you be
- a. strongly in favor of,
 - b. somewhat in favor of,
 - c. neither in favor nor against,
 - d. somewhat against,
 - e. or strongly against the Census Bureau emailing you?
28. In order to count people in the right place, the Census Bureau need detailed geographic information. To assist in our efforts to increase the accuracy of the census and potentially save a lot of taxpayers' money, we could get some of your geographic information from cellphone providers. Would you be willing to allow the Census Bureau to obtain geographic information from your cellular provider?
- a. Yes
 - b. No
 - c. Don't Know
 - d. Refusal

Thank you for your participation in this survey. Your feedback is very helpful in our research.

Debriefing

Besides the email addresses that you reported, do you have other accounts, with other domains, like aol, yahoo, or msn, for example? (You don't have to provide them, I'm just interested as to whether you have other email addresses.)

If new addresses mentioned: Why didn't you list these addresses? What sorts of activities do you use this/these address(es) for?

Do you think people would be more likely to report that they have an email at a specific domain, like yahoo, than providing their actual email address?

If yes, why? (probe about knowledge vs. privacy)

If children in HH, do the children in the household have cellphones or emails? Did you mention those?

Look at the roster/email list and ask respondents: Can you please describe how you use your emails, you mentioned some that you check daily and some less often. Can you describe why?]

Verification questions, if appropriate

Pull out list of phone numbers and email addresses and compare it to the Roster list that you made. FAQ: If they ask where this address came from we say:

“For this testing of our questionnaire, the Census Bureau acquired data from a variety of sources.

We are evaluating a number of different possible sources of alternative contact information for households that could possibly save a lot of government money.”

Read: We have these phone numbers and email addresses associated with this address. It appears as though there are some differences between this list and the list you provided.

For phone numbers/emails not mentioned but on our list, ask the respondent: Is this phone number/email familiar to you? How do you know it? Is it a way to contact you? Why did you not mention this phone number/email earlier?

Wrap-Up Questions

- Other than what we have already talked about, did you find any of the questions difficult? Are there questions that you think some people would find difficult?
- Did you find any of the questions sensitive? Are there questions that you think some people would find sensitive?
- Do you have anything else you would like to tell us that you haven't had a chance to mention?

For analysis purposes, we need to get a little more information from you:

1. What is your age? _____
2. Are you of Hispanic origin?
 - a. Yes
 - b. No
3. What is your race? You may choose more than one. Are you:
 - a. White?
 - b. Black or African American?
 - c. American Indian or Alaska Native?
 - d. Asian?
 - e. Native Hawaiian or Other Pacific Islander?
4. What is the highest level of education you have completed?
 - a. Less than high school?
 - b. High school diploma or GED?
 - c. Some college?
 - d. Bachelors' Degree?
 - e. Graduate Degree?
5. Is your household's income:
 - a. Less than \$25,000 a year?
 - b. Between \$25,000 and \$50,000?
 - c. Between \$50,000 and \$100,000?
 - d. Over \$100,000?
6. How many people, including yourself and any adults or children live with you? _____

Roster

Name	Age	Yes /No	Text	Web	Phone #	Email address	Freq	H/ W
1.						1.		
						2.		
						3.		
2.						1.		
						2.		
						3.		
3.						1.		
						2.		
						3.		
4.						1.		
						2.		
						3.		
5.						1.		
						2.		
						3.		
6.						1.		
						2.		
						3.		