

# **Report on Cognitive Testing of Proposed International Migration Questions for the American Community Survey**

**Authors:**

**Maritsa V. Poros and Anthony M. Orum**

**24 May 2005**

Maritsa V. Poros, Ph.D. is an Assistant Professor of Sociology at the Illinois Institute of Technology and, Anthony M. Orum, Ph.D. is a Professor of Sociology at the University of Illinois, Chicago. Both Dr. Poros and Dr. Orum are also employees of Sabre Systems, Inc. This work was developed under a contract between Sabre Systems, Inc. and the U.S. Census Bureau. The opinions expressed in this work are those of the authors and do not necessarily reflect those of either Sabre Systems, Inc. or the Census Bureau.

## TABLE OF CONTENTS

	<b>Page</b>
<b>Executive Summary</b>	ii
<b>Sections</b>	
1. Introduction and Background.....	1
2. Methodology and Research Design.....	3
3. Results.....	6
4. Conclusions.....	11
5. Recommendations.....	12
<b>Tables</b>	
Table 1: ACS International Migration Questions Tested by Westat and Sabre	2
Table 2: Demographic and Other Characteristics of the Sample	4
<b>Appendices</b>	
Appendix A. Cognitive Interview Protocol	14
Appendix B. Cognitive Testing Probes	16

## EXECUTIVE SUMMARY

The U.S. Census Bureau has recently been considering proposals for alternative questions to its international migration items in preparation for a National Content Test in 2006 and for inclusion on the American Community Survey (ACS) in 2008. The international migration items include questions on respondent's place of birth, U.S. citizenship status, and year of entry to the United States. The Census Bureau requested the authors to conduct cognitive interviews on these items as a follow up to cognitive testing conducted by Westat on the proposed questions. Specifically, the place of birth question includes detail on respondent's place of birth, including city, town or village of birth. The U.S. citizenship status question asks for the respondent's year of naturalization. Finally, the year of entry question asks for respondents to indicate if they have come to the U.S. only once or more than once and to include their dates of arrival to the U.S.

The authors recruited 16 foreign-born respondents in the Chicago metropolitan area in order to conduct cognitive testing of proposed international migration questions for the American Community Survey. The authors tested four main aspects of cognition: comprehension of the question, retrieval from memory of the relevant information to answer the question, the decision process used to answer the question, and the response process used to answer the question. The authors analyzed the results from the interviews to evaluate whether respondents could understand the intent of the questions, the meaning of specific terms, how respondents arrived at their answers, and whether their answers were consistent with the facts of their lives (as reported to the authors). Only mail and English language versions of the questions were tested.

The results suggest that, on the whole, respondents were able to understand the meaning, intent, and terminology used in the questions on place of birth and citizenship. They were also able to retrieve the relevant information from memory and match their responses with those on the survey forms. These results were less apparent on the year of entry question, where the meaning, terminology, and intent were more confusing for respondents. However, most respondents were still able to recall the relevant information and respond accurately to the first version of the question. Even so, during probing, a large majority of respondents reported that Version 2 of the question was easier for them to answer and more clear.

Based on these results, the authors make the following recommendations:

**Recommendation 1:** Test the city/town/village terminology to obtain information on detailed place of birth of foreign-born respondents.

Generally, respondents did not have difficulty understanding and providing valid detailed place of birth data when asked for the city/town/village where they were born or where others in their households were born. We recommend that the Census Bureau test city/town/village on the National Content Test.

**Recommendation 2:** Test the year of naturalization and "No, not a U.S. citizen" as part of the response options on the U.S. citizenship status question.

The large majority of respondents understood and gave valid answers to the question on U.S. citizenship status, including the year of naturalization, both for themselves and others in their households. We recommend that the Census Bureau test year of naturalization on the National Content Test. Respondents also did not have any trouble understanding the response option, "No, not a U.S. citizen." This response option should also be tested on the Content Test.

**Recommendation 3:** Test the two-part year of entry question.

The results on the year of entry question were more complex. However, respondents reported that the version of the question containing parts a. and b. was much clearer than the version we tested first. The former version of the question also produced more valid data. We recommend that the Census Bureau test the two-part year of entry question on the National Content Test.

These three recommendations reflect the systematic collection of observations and probing on cognitive processes with 16 foreign-born respondents in the Chicago metropolitan area. The sample is small. However, the results provided distinct patterns, which make the authors confident that these proposed recommendations are sound and should be considered for the National Content Test where the data on the foreign born can be further analyzed for validity. The sample recruitment and testing also crucially demonstrate that the American Community Survey and the Content Test must be advertised and made available in a wide variety of languages spoken by the foreign-born population in the United States in order to ensure low response error and high response and completion rates.

## INTRODUCTION AND BACKGROUND

The U.S. Census Bureau has recently been considering proposals for alternative questions to its international migration items in preparation for a National Content Test in 2006 and for inclusion on the American Community Survey (ACS) in 2008. The international migration items include questions on respondent's place of birth, U.S. citizenship status, and year of entry to the United States. The Census Bureau requested the authors to conduct cognitive interviews on these items as a follow up to cognitive testing conducted by Westat on the proposed questions. Specifically, the place of birth question includes detail on respondent's place of birth, including city, town or village of birth. The U.S. citizenship status question asks for the respondent's year of naturalization. Finally, the year of entry question asks for respondents to indicate if they have come to the U.S. only once or more than once and to include their dates of arrival to the U.S. See Table 1 for a comparison of the three questions tested by Westat and Sabre Systems.

Cognitive interviews are designed to capture and document the cognitive processes respondents use to answer survey questions. This type of questioning is an important step in the development of new survey questions, and in assessing the likelihood of the response error of those questions. Cognitive interviewing generally tests four aspects of the thought process:

- Comprehension of the question
- Retrieval from memory of the relevant information to answer the question
- Decision process used to answer the question, and
- Response process used to answer the question – how the respondent matches their internally generated response to the response options in the question

The authors tested these four aspects of cognition and used the results from the interviews to evaluate whether respondents could understand the intent of the questions, the meaning of specific terms, how respondents arrived at their answers, and whether their answers were consistent with the facts of their lives (as reported to the authors). Only mail and English language versions of the questions were tested.

Briefly, the results of the place of birth and citizenship cognitive testing suggest that respondents were able to comprehend the intent of the question, retrieve the relevant information to answer the question, and use a decision and response process that produced valid data for both questions. Specifically, the respondents did not have any trouble understanding and providing valid detailed place of birth data when asked for the city/town/village where they were born or where others in their households were born. We recommend that the Census Bureau test city/town/village on the National Content Test. Respondents also seem to understand and give valid answers to the question on U.S. citizenship status, including the year of naturalization, for themselves and others in their households. We recommend that the Census Bureau test year of naturalization on the National Content Test. Respondents also did not have difficulty understanding or responding correctly to the response option, "No, not a U.S. citizen."

**Table 1: ACS International Migration Questions Tested by Westat and Sabre**

ACS Question	Westat Tested Question*	Sabre Tested Question
<b>Place of Birth</b>	<p><b>7. Where was this person born?</b></p> <p><input type="checkbox"/> Inside the United States—<i>Print name of state.</i></p> <hr/> <p><input type="checkbox"/> Outside the United States—<i>Print name of foreign country, or Puerto Rico, Guam, etc.</i></p> <hr/> <p><i>Print name of specific state/province/region of foreign country.</i></p> <hr/>	<p><b>7. Where was this person born?</b></p> <p><input type="checkbox"/> Inside the United States—<i>Print name of state.</i></p> <hr/> <p><input type="checkbox"/> Outside the United States—<i>Print name of foreign country, or Puerto Rico, Guam, etc.</i></p> <hr/> <p><i>Print name of specific city/town/village of foreign country.</i></p> <hr/>
<b>U.S. Citizenship Status</b>	<p><b>8. Is this person a citizen of the United States?</b></p> <p><input type="checkbox"/> Yes, born in the United States—<i>Skip to 10a</i></p> <p><input type="checkbox"/> Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas</p> <p><input type="checkbox"/> Yes, born abroad of a U.S. citizen parent or parents</p> <p><input type="checkbox"/> Yes, U.S. citizen by naturalization—<i>Print year of naturalization</i></p> <hr/> <p><input type="checkbox"/> No, not a citizen of the United States</p>	<p><b>8. Is this person a citizen of the United States?</b></p> <p><input type="checkbox"/> Yes, born in the United States—<i>Skip to 10a</i></p> <p><input type="checkbox"/> Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas</p> <p><input type="checkbox"/> Yes, born abroad of a U.S. citizen parent or parents</p> <p><input type="checkbox"/> Yes, U.S. citizen by naturalization—<i>Print year of naturalization</i></p> <hr/> <p><input type="checkbox"/> No, not a U.S. citizen</p>
<b>Year of Entry</b>	<p><b>9. a. When did this person FIRST come to live, work, or study in the United States?</b> Do not include holidays, short business trips, or other brief visits.</p> <p>Print year of arrival.→</p> <p style="text-align: center;">[ ]</p> <p><b>b. Has this person come to live, work, or study in the United States MORE THAN ONCE?</b> Do not include holidays, short business trips, or other brief visits.</p> <p>Yes → Print year of most MOST RECENT arrival.→</p> <p style="text-align: center;">[ ]</p> <p>No [ ]</p>	<p><b>9. When did this person come to live, work, or study in the United States?</b> Do not include holidays, short business trips, or other brief visits.</p> <p>Came to the United States ONLY ONCE</p> <p>Print year of arrival.→</p> <p style="text-align: center;">[ ]</p> <p>Came to the United States MORE THAN ONCE</p> <p>Print year of FIRST arrival.→</p> <p style="text-align: center;">[ ]</p> <p>AND</p> <p>Print year of most MOST RECENT arrival.→</p> <p style="text-align: center;">[ ]</p>

\* The year of entry question listed under Westat represents revisions to the tested question based on Westat's recommendations. The question was not originally tested by Westat as shown above.

The results on the year of entry question were more complex. Many respondents reported that the tested version of the question was unclear, even when they could produce valid information for that question. The respondents also understood the intent of the question in somewhat different ways, which affected their responses. Nevertheless, respondents reported that the version of the question containing parts a. and b. was clearer than the version we tested first. The two-part version of the question also produced more valid data when respondents had trouble answering the first version. We recommend that the Census Bureau test the two-part year of entry question on the National Content Test.

## **METHODOLOGY AND RESEARCH DESIGN**

### **Sample and Recruitment**

The authors tested 16 foreign-born respondents in the Chicago metropolitan area. Respondents were recruited from local community centers and organizations in the metropolitan area. Those organizations were: Chinese Mutual Aid Association; Hebrew Immigrant Aid Society; Erie Neighborhood House; and University of Illinois, Chicago. All interviews took place in the offices or other private rooms of those organizations. In most cases, initial contacts at the organizations recruited respondents from their client lists (such as clients taking adult education or ESL classes), volunteer workers, or employees, and arranged the interview time and date for the interviewers. Two university students who have just graduated with bachelor's degrees were also recruited directly by one of the interviewers. Recruiting and interviewing took place in late April and early May 2005.

Several constraints of the testing skewed the distribution for some characteristics of the sample. Specifically, the sample includes an overrepresentation of females, naturalized citizens, and nuclear family (simple) households. The sample also contains some overrepresentation of college-educated respondents. Time constraints for recruiting and interviewing caused the interviewers to rely heavily on the initial contacts we made with organizations. Those contacts did their utmost to obtain a balanced sample for us, but this was not always possible. Women also tend to volunteer more easily and often for surveys and interviews. As a result of our ability to only test the questions in English, we also found that most potential respondents who had enough English language facility to participate in the interviews tended to also be citizens. Although not all of the households were fully citizen households, households containing all or a majority of citizens also tended to be nuclear family households. We suspect that the longer immigrants have resided in the U.S., the more likely they are to have separated from initial networks of non-family members who may have aided their initial residence in Chicago or the U.S., and to have formed nuclear family households. The fact that we were interviewing for the U.S. government also aroused some suspicion, especially among lower educated, non-citizens. College educated immigrants further had greater facility with English.

Despite these constraints, the interviewers obtained a fairly diverse sample in terms of respondents' country of birth, urban and suburban residence in Chicago, age, and education. Respondents were born in China, Hong Kong, Ecuador, Mexico, Philippines, Russia, Ukraine, and Vietnam, all countries of origin that have a significant stock of migrants in the

U.S., and many recent migrants among them. See Table 2 for a full description of the demographic and other characteristics of the sample.

**Table 2: Demographic and other characteristics of the sample (N=16)**

<b>Demographic Characteristics</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Sex</b>		
Female	12	.75
Male	4	.25
<b>Age</b>		
18-30	5	.31
31-45	4	.25
46-60	6	.38
60+	1	.06
<b>Education Completed*</b>		
H.S. or GED	2	.13
Some college	2	.13
Associates degree	2	.13
College degree	9	.56
Postgraduate degree	1	.06
<b>Place of Birth</b>		
China (incl. Hong Kong)	2	.13
Ecuador	1	.06
Japan	1	.06
Mexico	4	.25
Philippines	1	.06
Poland	2	.13
Russia	1	.06
Ukraine	3	.19
Vietnam	1	.06
<b>Household Complexity</b>		
Simple	14	.88
Multi-generational	2	.13
HH w/unrelated members	0	.00
<b>Residence</b>		
Central City	11	.69
Suburbs	5	.31

\* The educational level of three respondents has been estimated because of lack of adequate information. Those data include two Bachelor's level degrees and one H.S. graduate.

## Cognitive Interview Protocol and Probing Strategy

The interviewers delivered the cognitive interview protocol to all of the respondents and asked them for written consent before administering the ACS questionnaire. See Appendix A for the full cognitive interview protocol. Each respondent received \$40 for his or her participation in the testing after the interview was completed. In all cases, the respondent filled out the questionnaire on their own, as if they were sitting at home to fill it out without the aid of the interviewers or anyone else. Respondents were instructed to do this as well as to "think aloud" as they read and formulated responses to the questions. When respondents engaged the interviewer for aid in understanding a particular question or term, we consistently told them "If I weren't here to help you with this question, what would you do or how would you answer it?" Sometimes respondents skipped questions in response to this reaction, while others tried again to read and understand the questions and response options. Notably, this type of request for aid occurred most frequently for Latino respondents when they encountered the race item of the questionnaire and response options that did not "fit" them. Although respondents sometimes indicated difficulties with several other questions on the ACS questionnaire, we used probing techniques only on the migration items. We discuss only those items in this report.

After respondents completed the questionnaire on their own, the interviewers employed retrospective probing techniques in order to further evaluate respondents' comprehension of the questions and terminology; information recall and strategy for retrieving information; decision process used to answer the question; and response process or how respondents internally matched their responses to the response options on the questionnaire. See Appendix B for further explanation and examples of the retrospective probes that the interviewers used.

After completion of probing on Version 1 (reproduced in Table 1) of the year of entry question, interviewers requested that respondents consider the alternate version of this question on "Version 2" of the questionnaire. (Version 2 is reproduced below.)

9. a. When did this person FIRST come to live, work, or study in the United States? Do not include holidays, short business trips, or other brief visits.

Print year of arrival→

\_\_\_\_\_

- b. Has this person come to live, work, or study in the United States MORE THAN ONCE? Do not include holidays, short business trips, or other brief visits.

Yes→ Print year of most recent arrival→

\_\_\_\_\_

No

Most respondents were directed to fill out the Version 2 survey question on year of entry for all foreign-born members of their households as they had done on Version 1 of the

questionnaire. Respondents were then probed on their understanding of Version 2 in comparison to Version 1. This method does introduce the possibility of contaminated results because respondents have already been exposed to an earlier version of the question and have discussed it with the interviewers. However, the interviewers found the respondents' reactions to the question useful. Those reactions are discussed in the "year of entry" section below.

## **RESULTS**

We divide the discussion of the results into two sections that report on i) the cognitive patterns and processes of respondents and ii) the results on each of the migration items in the American Community Survey (place of birth, citizenship, and year of entry). The first section demonstrates the variety of ways that respondents approach the questionnaire as a whole and the individual items on the questionnaire. These approaches varied, in part, as a result of differences in the English language facility of respondents and in a small number of cases, the respondents' desire or willingness to please the interviewers by "performing well." However, the approaches seemed to vary mostly as a result of individual differences.

The second section discusses each of the three migration items from the American Community Survey in terms of the four main areas of cognitive testing: comprehension of the question, retrieval of information, decision process, and response process. We illustrate various points by quoting directly from the interviews with respondents in order to support our observations. In general, respondents demonstrated ease with the four areas of cognitive testing for the place of birth and U.S. citizenship status questions. The year of entry question seemed to cause more confusion for most of our respondents, especially in terms of their comprehension of the question and its intent, and in the response process. When respondents were probed for their reactions to the second version of the question, they described that version as clearer on the whole (but not unanimously).

### **Cognitive Patterns and Processes of Respondents**

#### Reading Patterns and English Language Facility

The reading patterns of the respondents varied quite widely. We identified several different ways that respondents approached or "read" the questionnaire. The sample is too small for a tabulation of this variety to be useful, but a description of the various approaches may be helpful in understanding the general cognitive constraints that the Census Bureau may need to consider when designing survey questions.

The various patterns that we noted in our observations include:

- *Reading for response recognition.* Respondents do not read the questions or instruction lines, but look immediately to the response options to find one that "fits" them. This was apparent both in highly educated respondents who understood all of the questions and response options and in less educated respondents with more limited English language facility. The latter appeared to be looking for any response option

that they could understand and which fit them. The former appeared to be attempting to save time as filling out forms is often burdensome. In general, however, people with more English language facility are more likely to read the question, instruction line, and response options fully. Less English facility seems to encourage "recognition" responses and guessing. The Census Bureau may consider that questionnaires not only should be translated into a wide variety of languages, as in the last census, but also widely distributed and advertised in these languages in order to decrease response error and increase the completion rate on individual survey items.

- *Reading first for response recognition, then question comprehension.* Respondents also began the above pattern, looking only at the response options, but eventually switched over to reading the questions more fully when they encountered more complex response options. This frequently occurred on the third question in the survey on marital status, where the response options, "now married" and "never married" threw off respondents who made remarks such as "Where is 'married?'" or "Where is 'single?'" This switch also occurred frequently on the question on place of birth, which has more complex response options and blank spaces, encouraging respondents to go back and read the question.
- *Reading for sensitivity to interviewer.* Other respondents read all of the questions precisely and meticulously, understanding all of the questions and responses. Even so, among these respondents, they found Version 2 of Question 9 on year of entry to be clearer than Version 1. Others, who also read each question, instruction line, and response option, but were hampered by less English language facility, read slowly and carefully in part to please the interviewers, and in part because they seemed to feel that they were being tested and wanted to perform well. This was apparent for only two respondents in the sample.

### "Learning Curve"

In addition to the above patterns of reading and answering questions, the interviewers noticed a strong "learning curve" when respondents were answering questions for others in their households. When answering the same questions for others in their households, respondents frequently looked back to their own responses to understand the question and to respond for those members. This pattern was especially prevalent in cases where the responses for all household members were the same, e.g. year of naturalization for a family that naturalized at the same time, year of entry for family members who migrated together, or place of birth. Respondents not only reproduced accurate information in this way, but they also reproduced mistakes because of the learning curve. This pattern was noticeable on the year of entry item, when respondents were confused about entering years for the first and most recent arrivals. The pattern was also prevalent on the place of birth question, where respondents often included more information (such as state, region, or country) than asked for by the question. Perhaps the most prominent example of this pattern is noticeable on the space where respondents indicate their city/town/village of birth. In households where at least one member of the household (usually children) was born in the United States, foreign-born respondents (usually parents) indicated, in that same corresponding space for their children, the city or town in the United States where their child was born, even though the question only asks for such detail for foreign-born persons. For example, one

respondent wrote in that space that her U.S. (Illinois) born child was born in Skokie, a city in suburban Chicago.

The above observations on how respondents read or approach the questionnaire provide some of the general context for understanding the more specific cognitive processes that arose on the individual migration items. The next three sections consider each question in turn: place of birth, citizenship, and year of entry.

### **Place of Birth, Citizenship, and Year of Entry**

#### Place of Birth [Question 7.]

In general, the question that asks for the city/town/village where respondents were born works. Respondents understand the terms city, town, and village, and are able to quickly identify the specific place where they were born. However, several responses raised certain questions about the way people understand and respond to their birthplace. While most people had no difficulty in identifying their place of birth, some drew attention to the difference between where they were born and where they were raised. One respondent, for example, told us that she was born in Vietnam but raised in China. As a result of her lack of familiarity with Vietnam, she did not know of the country's administrative units. This lack of familiarity with administrative units was not uncommon among the lower-educated immigrants in the sample. Or, when respondents did know those units, they were unsure of the translation into English as states, provinces, counties, prefectures, etc. Another respondent also drew a clear distinction between where she was born and where she was raised. She noted that she was born in Zabkowiceskaskie, Poland, but raised in a small village nearby. And a third noted that her daughter was born on a train and, thus, she identified as the child's birthplace the city closest to their position on the train when her daughter was born.

One other point raised by two of the respondents was to draw attention to the distinction between the present state of the Ukraine and the former Soviet Union. Both identified their birthplace as the Ukraine, using, what they said, was the present status of the country. Moreover, one of them noted that she originally had put down the former Soviet Union until, in filling out various forms in the United States, people advised her to provide the current identification of the country. A third respondent, who also came from the same country, noted that she put down both names because, in her words, "the country I was born does not exist anymore."

The problem of extant geographic territories and discrepancies between the places where respondents were born and raised may indicate potential pitfalls with the question on place of birth. However, the interviews suggest that respondents overwhelmingly understood the question, were able to retrieve the relevant information to answer it, and could match their responses to the response spaces and terminology used on the survey.

#### Citizenship [Question 8.]

The question on citizenship generally also works well. Respondents easily drew a distinction between who is, and who is not, a citizen, especially who is a citizen. Sometimes they noted

that those who are not citizens are “people on green cards,” or “people who are not permanent residents.” In the case of some Mexican respondents, they said that the people who were not citizens of the United States were “people without papers.” When probed on the meaning of “no, not a U.S. citizen,” one respondent said, “It’s kind of mixed with feelings. First of all you measure country. Second of all, you are not completely accepted here. It has a lot of feelings inside this question.”

Respondents also generally understood what it meant to be a person who was born abroad of U.S. citizen parents. They depicted that person as a citizen because he, or she, was born to U.S. citizens who lived in a foreign country.

Some of the most interesting responses came in reaction to the question about naturalization. Most of our respondents described themselves as naturalized citizens. For a few, it was hard to recall the actual date of their naturalization. One respondent, for example, noted that he became a naturalized citizen in 1994 because “it was six years after I was here, and I realized that I could have obtained my naturalization papers after being here only five years.” He determined the date of his naturalization based on his date of arrival in 1988. Respondents employed a large variety of events and associations while recalling the year that they or members of their households became citizens. One respondent recalled that he was working in a construction job and had to lie to his boss in order to attend his appointment for citizenship. The same respondent had some difficulty recalling the naturalization date of his wife at first, but then remembered that he had bought a house in 1990 and that he took her for her citizenship appointment about three years after having bought the house, therefore indicating 1993 on the ACS questionnaire.

When probed about the meaning of the word naturalization, many did not know exactly what the word meant, but were aware of the kinds of events that signify obtaining citizenship, such as “pledging to the flag” or the process of filing papers to become a citizen. Naturalization also evoked certain vivid responses from subjects. When the meaning of naturalization was probed by an interviewer two Mexican respondents said, “naturalization means you weren’t born here, but you were adopted.” Another Mexican respondent said, “You are a citizen in this country and that means that you can be able to have more rights and responsibilities.” One woman born in Japan indicated that she did not know what the word naturalization means, but that she remembers the date as 1995 “because about ten years ago I became a citizen. Financial advisor suggested I become a citizen in 1995 when we made a revocable trust.” In general, the interviews suggest that people recalled the date of naturalization by linking it to other important dates or events in their lives. Some of those recall mechanisms may be faulty, of course. However, cognitive links to specific dates, events or symbols suggest that respondents can and do provide accurate information for their year of naturalization much of the time.

#### Year of Entry [Question 9.]

The results on the year of entry question are much more complex than on place of birth or citizenship status. This complexity is not surprising given that the question itself is complex and folds together a variety of possible experiences that migrants have as they arrive in the United States. Although the data do not make the following interpretation clear, it seems as if respondents are thrown off by the question because they have not been previously asked

any direct questions about their immigration status or experience (only U.S. citizenship status) before being asked when they came to the United States to "live, work, or study." The phrasing of the question only implies various migration experiences without addressing them directly in a clear, straightforward question. (The authors are aware, of course, that the Census Bureau experiences serious political and internal constraints in its consideration of a question directly addressing whether respondents are immigrants or not, and what their immigration status is. However, other censuses around the world do ask directly about immigration status, e.g. Canada.)

Putting aside the above prefatory note, the data show that only a few respondents indicated that Version 1 and Version 2 of the year of entry question are "the same" or that Version 1 was clearer than Version 2. One respondent born in Mexico remarked that the word "FIRST" "throws me off...(Version 1) seems more clear." In another case, one interviewer asked, "Did you have any problems in understanding Question 9?" "No, it is clear" the respondent from the Ukraine answered. (However, this respondent indicated that even though the question was not confusing for her, it might be for others, and that "the second form is clearer.")

Overwhelmingly, respondents expressed confusion over the terminology and intent of Version 1 of the question. General reactions to the question included comments such as:

"Question 9 is not very clear I think" [Respondent born in Vietnam]

"This question [9] is easy, but a little bit strange" [Respondent born in China]

"I don't understand this one." [Respondent born in Mexico]

Respondents understood the intent of the question differently also. "I answered in terms of when I came to the United States for the first time with the intention of staying here," said one respondent born in Poland. Another respondent born in Mexico said that he understood the question as the "date that I arrived. The actual date that I knew that I was going to live here."

The "live, work, or study" terminology was far less confusing than the terms "ONLY ONCE" and "MORE THAN ONCE" in the separate response options to the question. A respondent born in Poland commented, "I don't understand what came to the United States more than once means. The green one (second version) is better...it explains clearer." "I am a little confused on the meaning of 'only once' and 'more than once,'" said a second respondent from Poland. Some of the confusion occurred as a result of respondents who overlooked the instruction line after the question. For example, when an interviewer asked a respondent born in Japan "What is meant by this question?" she responded, "I don't know." The interviewer further probed: "What were you thinking when you read the question?" The respondent replied, "How long I lived here. I came here as a work transfer person here. In 1972. I thought I came just once...I did not think about visiting Japan, and back, and coming again. I just came once... This is confusing to me 'more than once.' If you count 'visiting Japan' I did that many times." When this respondent was probed on Version 2 of the question, she remarked, "Yes, this question is more clear than the first one I filled out."

Despite the significant confusion reported by respondents on Question 9, Version 1, most were able to retrieve relevant and accurate information in order to answer it. For most

people it was easy to remember the date(s) of their arrival. One man born in the Ukraine remembered it very vividly as the moment that he arrived at New York Airport and “set foot on American soil.” The interviewer asked him, based on his response, whether it was an important moment for him. “Yes,” he said, “it was very important for me.” Another respondent, a young woman born in Vietnam, remembered her day of entry very precisely as June 30, 1996. When asked how she could remember it so precisely, she said “we celebrate this date every year.” A woman born in Mexico remarked of her husband's date of arrival in 1968, “He came here when he was a child. He has told me this date, this year.”

One telling example involved a mistake made by one of the interviewers. The interviewer administered the survey with Version 2 of the year of entry question first instead of Version 1 to a respondent born in Mexico. The respondent was able to immediately answer the question for everyone in his household, including his father who had arrived twice in the United States, the first time in 1963 without documents, and the second in 1984. When the interviewer gave the respondent an “alternative” version of the question (Version 1), the respondent quickly wrote his responses, but erroneously wrote in the most recent year of arrival for himself and three other household members who had only arrived once to the U.S.

It is worth repeating that the results of the cognitive testing on the year of entry question were much more complex than on place of birth and year of entry. However, the data quite clearly demonstrate that even when respondents report confusion on the meaning and terminology of the question, they are still able to retrieve accurate and relevant information and match their internally generated response to the options on the questionnaire. Respondents were able to do this much more successfully on Version 2 of the question than on Version 1. Several reasons may account for this phenomenon. First, the authors acknowledge that the method of introducing Version 2 after Version 1 of the question may have caused contamination in the results. In other words, Version 2 may have been easier to understand and answer simply because respondents had already responded to an earlier version of the question, thus gaining practice at it. However, Version 2 has clear advantages, which made it easier to grasp than Version 1. The most obvious advantage is its format as a question with two parts that clearly direct respondents to answer both parts. The first version is more confusing because respondents did not seem to know which part to answer, or where to put their response. Respondents' confusion seemed to be further exacerbated by the lack of any other direct questions about their migration histories or status as immigrants in the United States. In other words, the survey questions encourage respondents to think of themselves in terms of their migration experience and status, but without ever asking clear, straightforward questions about that experience and status. This contradiction may be the source of respondent confusion.

## **CONCLUSIONS**

The authors recruited 16 foreign-born respondents in the Chicago metropolitan area in order to conduct cognitive testing of proposed international migration questions for the American Community Survey. The questions of interest included detailed information on place of birth, U.S. citizenship status including year of naturalization, and year of entry to the United States. The authors tested four aspects of cognition and used the results from the interviews to evaluate whether respondents could understand the intent of the questions, the

meaning of specific terms, how respondents arrived at their answers, and whether their answers were consistent with the facts of their lives (as reported to the authors). Only mail and English language versions of the questions were tested. The results suggest that, on the whole, respondents were able to understand the meaning, intent, and terminology used in the questions on place of birth and citizenship. They were also able to retrieve the relevant information from memory and match their responses with those on the survey forms. These results were less apparent on the year of entry question, where the meaning, terminology, and intent were more confusing for respondents. However, most respondents were still able to recall the relevant information and respond accurately to the first version of the question. Even so, during probing, a large majority of respondents reported that Version 2 of the question was easier for them to answer and more clear. The authors, therefore, recommend that the Census Bureau test Version 2 of the year of entry question, and city/town/village, and year of naturalization on the National Content Test in 2006. Those recommendations are described more fully below.

## **RECOMMENDATIONS**

The authors submit the following recommendations for testing the proposed international migration questions for the American Community Survey on the National Content Test in 2006:

**Recommendation 1:** Test the city/town/village terminology to obtain information on detailed place of birth of foreign-born respondents.

Generally, respondents did not have any trouble understanding and providing valid detailed place of birth data when asked for the city/town/village where they were born or where others in their households were born. We recommend that the Census Bureau test city/town/village on the National Content Test.

**Recommendation 2:** Test the year of naturalization and "No, not a U.S. citizen" as part of the response options on the U.S. citizenship status question.

The large majority of respondents understood and gave valid answers to the question on U.S. citizenship status, including the year of naturalization, both for themselves and others in their households. We recommend that the Census Bureau test year of naturalization on the National Content Test. Respondents also did not have any trouble understanding the response option, "No, not a U.S. citizen." This response option should also be tested on the Content Test.

**Recommendation 3:** Test the two-part year of entry question.

The results on the year of entry question were more complex. However, respondents reported that the version of the question containing parts a. and b. was much clearer than the version we tested first. The former version of the question also produced more valid data. We recommend that the Census Bureau test the two-part year of entry question on the National Content Test. That version is reproduced here for reference.

9. a. When did this person FIRST come to live, work, or study in the United States? Do not include holidays, short business trips, or other brief visits.

Print year of arrival→

\_\_\_\_\_

- b. Has this person come to live, work, or study in the United States MORE THAN ONCE? Do not include holidays, short business trips, or other brief visits.

Yes→ Print year of most recent arrival→

\_\_\_\_\_

No

These three recommendations reflect the systematic collection of observations and probing on cognitive processes with 16 foreign-born respondents in the Chicago metropolitan area. The sample is small. However, the results provided distinct patterns, which make the authors confident that these proposed recommendations are sound and should be considered for the National Content Test where the data on the foreign born can be further analyzed for validity. The sample recruitment and testing also crucially demonstrate that the American Community Survey and the Content Test must be advertised and made available in a wide variety of languages spoken by the foreign-born population in the United States in order to ensure low response error and high response and completion rates.

## APPENDICES

### Appendix 1: Cognitive Interview Protocol

#### **Census Cognitive Interviews Self-administered (Mail)Version**

*Thank you for agreeing to help us. Let me tell you what this is about.*

*I am a professor at the [IIT/UIC], and I'm affiliated with the U.S. Census Bureau. This particular project is for the U.S. Census Bureau. One of the things the Census Bureau does is to count the number of people in the U.S., as well as to determine how many people are in different age groups, how many were born inside and outside the U.S., and so on. They do this in a variety of ways - mainly by mailing a questionnaire to households, where someone is asked to fill it out and send it back to the Census Bureau.*

*Today we are helping the Census Bureau improve the questions that are in one of the surveys they use for this purpose. That survey is called the American Community Survey. The Census Bureau wants the survey to be useful, so it's important that people can easily understand the questions, and provide meaningful answers for them. We are asking you to read the questions and tell us your reactions to them. Listening to your reactions will help us inform the Census Bureau about whether their questions are good ones, or on how to improve them.*

*Before we get started, I should make you aware of a few things. First, I want to assure you that everything we cover in the interview will be kept confidential. Only people actually working on the project will have access to the information you share with us.*

CONSENT FORM: *Here is a form that I would like to ask you to look over and sign – it basically covers the points I've just gone over with you and indicates you have agreed to participate. (ONE COPY FOR RESPONDENT, ONE COPY FOR US)*

*Let me tell you how this will work: I'm going to ask you to fill out parts of a test copy of the Census Bureau survey I was telling you about. You can pretend that you received it in the mail and that you've sat down at home to fill it out. As much as possible, just read and respond to it the way you normally would. Also, because we're testing the questions, I'd appreciate it if you could read aloud as you go along – that will help me keep track of where you are and what exactly you're reading.*

*We would also like to ask you to “think aloud” while you answer the questions – as much as possible. Just say whatever comes to mind while you think about the question and come up with your answer. I'm going to give you an example of what I mean by this, and then let you try it. Suppose one of the questions is: “How many windows are in your house or apartment?” In coming up with an answer, someone may think aloud by saying:*

*“Well, there are 2 windows in the living room, one in the kitchen, one in the bathroom, and we have three bedrooms with one window in each. So that’s a total of 7 windows – Oh, but then our basement has two very tiny windows – am I supposed to count those? If I counted those, it would be a total of 9 windows.”*

*Why don’t you try it now: How many windows are in your house or apartment?*

*And if you’re not sure what a question is asking, please let us know that. Occasionally, after you’ve answered a question, I might ask you to tell me a little bit about why you answered the way you did, or to tell me what something means to you. And once we’ve gone through the questions we’ll review some of them in more depth. Okay?*

## **Appendix 2: Cognitive Testing Probes**

Cognitive interviewing on the ACS migration items will be conducted in order to assess four aspects of each question:

- Comprehension of the question
- Retrieval from memory of the relevant information to answer the question
- Decision process used to answer the question, and
- Response process used to answer the question – how the respondent matches their internally generated response to the response options in the question

The cognitive interviewers will employ a combination of two cognitive testing approaches as part of the interviews: the think aloud and retrospective probing techniques. Retrospective probing will include both structured and unstructured probes. See (Willis 1999) for a detailed explanation of these methods.<sup>1</sup>

### **Probing Strategy:**

A 'think aloud' approach will be used including a practice think aloud exercise after the respondent signs the consent form. The think aloud approach asks the respondent to think aloud as s/he reads and answers the survey. The interviewers will audio-record and/or take notes on the respondents' thoughts as they respond to the questions.

The majority of probing will be conducted AFTER all ACS items have been asked for household members, in other words, retrospective probing. Some probing will occur during the think aloud portion of the interview (especially under conditions 4 and 6 detailed below). Structured retrospective probing will cover six distinct response conditions (see Table 1 of Conrad, Blair, and Tracy, year: 7).<sup>2</sup>

Condition 1: Respondent cannot answer either because the task is too difficult or respondent does not know the answer.

Example probe: What was going through your mind as you tried to answer the question?

Condition 2: Respondent answers after a period of silence.

Example probe: You took a little while to answer that question. What were you thinking about?

Condition 3: Respondent answers with uncertainty, including frequent use of "um" and "ah" or changing the answer.

---

<sup>1</sup> Willis, Gordon B. (1999). "Cognitive Interviewing: A "How To" Guide." Washington, D.C.: Research Triangle Institute. Presented at the 1999 Meeting of the American Statistical Association.

<sup>2</sup> Conrad, Frederick, Johnny Blair, and Elena Tracy. "Verbal Reports Are Data!: A Theoretical Approach to Cognitive Interviews"

[http://mentalmodels.mitre.org/cog\\_eng/reference\\_documents/verbal%20reports%20are%20data-a%20theoretical%20approach%20to%20cognitive%20interviews.pdf](http://mentalmodels.mitre.org/cog_eng/reference_documents/verbal%20reports%20are%20data-a%20theoretical%20approach%20to%20cognitive%20interviews.pdf) (downloaded April 2005).

Example probes: It sounds as if the question may be a little difficult. If so, can you tell me why? What occurred to you that caused you to change your answer? You emphasized or repeated [word]. Why was that?

Condition 4: Respondent answers based on certain conditions being met (e.g. respondent questions precision necessary to answer the question).

Example probe: You seem a little unsure. Was there something unclear about the question?

Condition 5: Respondent answers erroneously.

Example probe: Clarify respondent's understanding of particular terms or the decision process respondent used to answer the question.

Condition 6: Respondent requests information initially instead of providing an answer.

Example probes: If I weren't available or able to answer your question, what would you decide it means? Are there different things you think the question [or word] might mean? If yes: what sorts of things?

As necessary, interviewers will tailor probes to the respondent, and the person or situation for which the respondent is reporting. In other words, interviewers will use unstructured retrospective probes to assess the cognitive process. Also, interviewers may need to probe the same question/issue for more than one person in the household (e.g., because people in the same household may come from different countries, or they may have immigrated at different times, etc.)

Before dismissing respondent, interviewers will ask respondents if they have any additional comments on the questions asked in the interview.

### **Example probes on ACS migration questions:**

#### **7. Where was this person born?**

- Inside the United States—*Print name of state.*  
\_\_\_\_\_
- Outside the United States—*Print name of foreign country, or Puerto Rico, Guam, etc.*  
\_\_\_\_\_  
*Print name of specific state/province/region of foreign country.*  
\_\_\_\_\_

#### **7. Where was this person born?**

- Inside the United States—*Print name of state.*  
\_\_\_\_\_
- Outside the United States—*Print name of foreign country, or Puerto Rico, Guam, etc.*  
\_\_\_\_\_  
*Print name of specific city/town/village of foreign country.*  
\_\_\_\_\_

PROBES:

*What does the phrase "state/province/region" mean to you?*

*What does the phrase "city/town/village" mean to you?*

*What are the administrative units of the country where you were born? Does it have states, districts, or provinces? PROBE further on the utilization of the various geographical terms that describe respondent's place of birth.*

**8. Is this person a citizen of the United States?**

- Yes, born in the United States—*Skip to 10a*
- Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas
- Yes, born abroad of a U.S. citizen parent or parents
- Yes, U.S. citizen by naturalization—*Print year of naturalization*
- No, not a U.S. citizen

PROBES:

***What do you think is meant by "Born abroad of a U.S. citizen parent"?***

*What do you think is meant by "naturalization" (or "U.S. citizen by naturalization")?*

*What do you think is meant by "not a U.S. citizen"?*

*IF PROVIDED A YEAR OF NATURALIZATION:*

*How did you figure out XXXX as the year (you/ name) naturalized? Is that date connected with any event in the naturalization process? (When did the process of naturalization end?)*

**9. When did this person come to live, work, or study in the United States?** Do not include holidays, short business trips, or other brief visits.

Came to the United States ONLY ONCE

Print year of arrival.→

Came to the United States MORE THAN ONCE

Print year of FIRST arrival.→

AND

Print year of most MOST RECENT arrival.→

9. a. **When did this person FIRST come to live, work, or study in the United States?**

Do not include holidays, short business trips, or other brief visits.

Print year of arrival. →

b. **Has this person come to live, work, or study in the United States MORE THAN ONCE?** Do not include holidays, short business trips, or other brief visits.

Yes → Print year of most MOST RECENT arrival. →

No

PROBES:

*In your own words, what is this question asking?*

*What does the year XXXX represent in your answer for "year of first arrival"?*

*What does the year XXXX represent in your answer for "year of most recent arrival"?*

*What do you think is meant by- "Came to live, work or study in the United States more than once"?*

*How long were you outside of the United States before you entered this last/ most recent time? How many times have you left the US and then returned again? [PROBE FOR DETAILS OF WHEN/HOW LONG/FOR WHAT PURPOSE]*