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**Translation of Survey Items on Country
Specific Programs: The Case of Translating
U.S. Educational Level Questions into Spanish**

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Abstract:

Various studies have shown the difficulty of translating concepts related to country-specific programs for use in surveys. Questions about educational attainment are an example of a concept that is very difficult to translate for use with respondents from different national origins. This is particularly the case for Spanish-speaking respondents in the United States, who come from a variety of different countries where educational systems are different not only from the U.S. system but from each other as well. This paper presents results from the cognitive testing of the Spanish translation of educational level questions in the U.S. Census Bureau's American Community Survey (ACS). Two iterative rounds of cognitive testing were conducted on a series of educational level questions with 46 Spanish-speaking respondents from 11 different countries. We found that Spanish speakers interpreted many of the educational level categories differently from what was intended. For example, Mexican-origin respondents interpreted "escuela secundaria," the original translation used for "high school," to correspond to nine years of schooling, while in the U.S. completing high school corresponds to 12 years of schooling. Similarly, while the translation for "bachelor's degree" or "bachiller universitario," was interpreted appropriately by Puerto Rican Spanish speakers, this was not the case among respondents from Argentina, Mexico, Colombia and Nicaragua. In these Latin American countries the term "bachillerato" is used to describe either junior high school or high school. Both of these translations could result in upward biases in reports of immigrant educational levels since both misinterpretations involve respondents reporting lower levels of education as higher ones. We discuss various approaches taken to deal with the comprehension differences and the extent to which these were successful. The paper concludes with a discussion of implications for the translation and testing of educational levels and other country specific programs, and provides recommendations for future research.

Translation of Survey Items on Country Specific Programs: The Case of Translating U.S. Educational Level Questions into Spanish

Introduction

Various studies have shown the difficulty of translating concepts related to country-specific programs for use in surveys (Carrasco, 2003; Goerman et al., 2007; Schoua-Glusberg et al., 2008, Fernández, et al., 2009). Examples of concepts that are difficult to translate range from respondent participation in the U.S. foster care program to health insurance coverage. A topic that has posed translation challenges to many agencies in the U.S. is that of educational level. This is a concept that is very difficult to translate, particularly in the case of groups such as Spanish-speaking immigrants in the U.S. These respondents come from a variety of different countries, many of which have educational systems that are different not only from the U.S. system but from each other as well (see Table I in the Appendix for a listing of educational systems in selected Latin American countries).

In this paper we present results of two iterative rounds of cognitive testing on a series of American Community Survey (ACS) educational level questions with 46 Spanish-speaking respondents from 11 different countries. The educational level categories were initially translated in as direct a manner as possible. We found that Spanish speakers interpreted several of the categories differently from what was intended. Not only were some terms unfamiliar to respondents, but we also found that respondents from different countries used some of the same terms to refer to different levels of education, using the educational system in their countries of origin as a reference. In some cases these mismatches in terminology resulted in upward biases in reports of educational levels.

This paper provides an overview of previous research on the translation of U.S.-specific concepts and programs. We then bring our focus to the case of the translation of the American Community Survey (ACS) education questions into Spanish. We compare the results of testing original direct translations of the categories with results of testing using modified approaches. The strategies that were tested included grouping several different terms that would be meaningful to different types of respondents into one category, and using the original English wording in parenthesis as a part of the Spanish category. These approaches produced mixed results but none eliminated the problems completely. The paper concludes with a discussion of issues that remained unresolved in our study, as well as recommendations for further research.

I. Review of the Literature on Survey Translation

A great deal of research across disciplines strives to compare and evaluate key indicators of socioeconomic status across different populations. When measuring across different cultural and linguistic groups, translation quality and methods are of key importance. Much of the survey research translation literature focuses on recommended steps in the development of a survey instrument and its translation(s). One key translation method is the “committee approach” in which the input of survey methodologists, subject matter experts, and language experts inform the content of questionnaires, assist in the development of documentation, and resolve any

language issues or conceptual discrepancies that may come up during pretesting (Hinsdale et al., 2001; Harkness, 2003; Pan, 2009).

The development of survey instruments and their translations may be carried out as sequential activities, such as first formulating and pretesting a questionnaire in the source language, followed by its translation into the target language(s). Alternatively, although a less common practice, the original and target language instruments may be developed together, a technique called parallel development (Dean et al., 2004; Potaka et al., 2004).

In both approaches, researchers emphasize the importance of instrument adaptation, which includes tailoring instruments to fit culture-specific aspects in target populations, such as use of preferred terms, use of unambiguous concepts and use of culturally relevant examples. Study findings consistently show that cultural appropriateness plays a very important role when developing a survey questionnaire in different languages (Dean et al., 2004; Hunt et al., 2004; Harkness, 2003).

Studies show that adaptation measures should ideally be a focus from the initial stages of questionnaire development in the hopes of identifying cultural and conceptual differences between the source and the target language(s). At times, these differences may require more than a direct translation procedure (Goerman, 2010). For example, among Latin American Spanish speakers, there may be some terms or concepts that a survey asks about that do not exist in some respondents' countries of origin, and this possibility should be recognized and addressed during instrument development (Goerman, 2010; Schoua-Glusberg et al., 2008).

Among research studies that have used adaptation methods in the translation of their instruments are a study of Power Fatalism Inventory conducted among Mexican Americans in the U.S.-Mexican border region (Lopez-McKee et al., 2007; Matias-Carrelo et al., 2003); and a study of HIV/AIDS Knowledge and Attitudes adapted for Salvadoran high school students (Zometa et al., 2007). Some of these studies have also included validation measures to ensure that the adapted questionnaire version is measuring the same concept across languages (e.g., factor analysis to evaluate construct validity) (Zometa et al., 2007; Basen-Engquist et al., 1999).

Additional challenges arise when the adaptation of instruments must include several subpopulations that speak different dialects of the same language. An example of this is the adaptation and validation of a survey about child-oral impact on daily performance (C-OIDP) for use with adolescents from Spain (Cortés-Martínicorena et al., 2009). In this study, four Spanish researchers from different ethnic/regional backgrounds translated the instrument independently. Translations were then compared and reconciled into a single version that was deemed culturally appropriate to all groups of respondents. In another study, reviewers from several Latin American countries collaborated in the translation and adaptation of the National Institutes of Health's Stroke Scale (Domínguez et al., 2006). Discrepancies in question wording were resolved by consensus with the objective of using neutral terms that would accommodate dialect differences among Spanish-speaking respondents from different countries.

Cognitive testing is a method that is often used to test whether translated instruments measure the intended concepts. This technique involves face-to-face interviewing in which respondents are probed about their responses, interpretations and mental processes associated with the survey

questions presented to them. Although there are costs associated with cognitive testing, a small number of respondents can be sufficient to identify difficulties that would otherwise go unrecognized (Willis, 2005).

In the case of measuring educational attainment across different populations in the U.S., instrument translation must include not only straightforward translation to other languages and cultures, but also the recognition that there are large differences in the way educational systems are structured in immigrants' countries of origin. Schoua-Glusberg et al.'s (2008) study of educational systems in Latin America found large variations in the number of educational categories used across countries to measure the highest level of education, from six categories in Costa Rica to 14 in Chile and Puerto Rico. The challenges of finding a common classification that will allow cross-country comparisons multiply when the U.S. education system is added to the comparisons. Adaptation of the English language categories to fit other educational systems would be ideal. This is often not possible in the context of typical survey translation projects in large survey research organizations.

In this paper we provide background information about our project, in which we tested the Spanish translation of the U.S. Census Bureau's American Community Survey education questions. The paper provides examples of some U.S. concepts and programs that may require survey adaptation because they do not exist in the countries of origin of our target respondents.

II. Background on the American Community Survey (ACS) project

In recent censuses, and until the year 2000, the U.S. Decennial Census contained a short form and a long form. The long form was sent to a sample of households, at the same time that the rest of the households received the short form. The ACS survey replaced the census long form and this survey is now conducted every month instead of being collected along with the Decennial census. The ACS samples about 3.5 million addresses each year and contains questions about households, such as the number of occupants and type of dwellings (house, apartment, etc.), and questions about each person living in the household, such as age, sex, race, education, and employment. The survey is conducted using a paper questionnaire sent to selected households through the mail. The mail out operation is followed up with Computer Assisted Telephone Interviews (CATI) for non-responding households, and subsequently with a Computer Assisted Personal Interview (CAPI) operation.

A Spanish translation of the Decennial census long form existed, and it was carried over for use in the ACS for both Puerto Rico and the continental U.S. (we also call this version the 'stateside' form) with just a few questions that differ. This situation makes it possible to tailor the Puerto Rican version to contain terms that are more familiar to Puerto Rican Spanish speakers. Currently, there are paper and CATI/CAPI instruments in Spanish. Because the initial questionnaire mailing is in English, and Spanish paper forms are available only by request, the vast majority of Spanish-language interviews are conducted in the CATI or CAPI modes. The Census Bureau has recently completed the process of testing segments of the ACS Spanish instrument over several years in order to verify that the same data are collected in both the English and Spanish versions.

III. Methodology and Respondent Recruitment

The objective of this research was to identify questions in the Spanish version of the ACS that were not well understood by Spanish speakers with limited English proficiency, and to recommend alternative wording. Cognitive testing was done using semi-structured cognitive interview protocols, which focused on issues of interpretation and comprehension of key words and phrases. Five bilingual cognitive interviewers first asked the series of ACS questions on education following the skip patterns as would be the case in a regular interview.¹ After a respondent answered the sequence of questions, interviewers probed about particular terms and about the intended meaning of questions from the respondent's perspective in order to identify any problems with the questions. Although the protocols provided a list of suggested probes, interviewers were also encouraged to ask additional questions for clarification.

Each interviewer conducted and summarized five to six cognitive interviews. The individual summaries were coded and analyzed across cases to assess the existence and nature of issues associated with each question or particular term. The team of interviewers and researchers discussed the identified issues and possible solutions before reporting findings and recommendations to the project sponsors. Project sponsors then chose new wording to be tested in a second round of interviews. A final debriefing session and final recommendations were presented to sponsors after the second round of testing (See Fernández et al., 2009, for a detailed description of the methodology and results).

For this project, 23 Spanish-speaking respondents and five native English speakers were interviewed in each of two iterative rounds of testing. Testing of the questions with a small number of English-speaking respondents was meant to assist in determining whether the issues that arose in Spanish were due to translation problems rather than to conceptual difficulties with the original question in English (Goerman and Caspar, 2010). This method is often used when parallel development is not possible and the original English language version of the survey instrument is not open for revision at the time of translation development and/or testing. The ideal would be the parallel development of the English and Spanish versions and more complete concurrent testing of the English, including with non-native English speakers educated outside of the United States. However our project focused only on testing and making revisions to the Spanish instrument. In addition because of time and resource constraints, the sponsor was only seeking ways to make minor revisions to the Spanish language version that would not require large changes to the English in order to keep the two instruments as similar as possible.

Respondents were recruited in two sites (Puerto Rico and North Carolina). In North Carolina, flyers were posted in various places frequented by Spanish speakers (e.g., community organizations, schools and parks in predominantly Hispanic neighborhoods, and grocery stores catering to the Hispanic community); through referrals and word of mouth; and, through contacts established by the bilingual field interviewers. In Puerto Rico, respondents were recruited by word of mouth as well as through ads in local newspapers.

While this research is based on a non-statistical sample, Spanish-speaking respondents were selected to represent the diversity of the U.S. Hispanic immigrant population. We aimed to

¹ Except for one, the interviewers were native Spanish speakers who were also fluent in English. The one exception was a native English speaking interviewer who was fluent in Spanish.

include respondents with limited or no English proficiency who had diverse educational attainment and who were from a variety of Spanish-speaking countries. About a quarter of the respondents (23.9%) had completed less than high school; 28.3 percent had a high school diploma; and the rest had at least some college level or technical courses (47.8%). Since it was difficult to find individuals from diverse national origins who were both college educated and had limited English proficiency, country of origin was prioritized over educational level when potential respondents did not meet all the criteria. The rationale was the need to test the education questions with individuals from as many different countries as possible.

Recruitment for each round of interviews focused on particular regional areas: Mexico, Central America, South America, and Puerto Rico. Table II in the Appendix shows the breakdown of the characteristics of study participants by country of origin and other demographic variables. Respondents came from Argentina, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Peru, Puerto Rico, and Venezuela. Consistent with the socioeconomic characteristics of U.S. immigrants from Latin America, a higher proportion of respondents with low levels of education came from Mexico and Central America. For this study, Puerto Rican respondents had to be born and residing in Puerto Rico.

Whenever possible, respondents were selected so as to maximize the sample diversity in terms of age and gender. About 43.5 percent of the respondents were ages 30 and younger; slightly over half (52.2%) were female; and (by design) most had either lived in the U.S. for fewer than 10 years (76.7%) or, in the case of Puerto Rican respondents, all were born and residing in Puerto Rico.

IV. Results of Cognitive Testing

To facilitate our discussion, it is helpful to first review the flow of the ACS education questions (Figure 1 shows the English versions of the questions and Figure 2 shows the original Spanish wording tested in round 1). The first question (Box 1 in Fig. 1) asks about recent school enrollment. It is followed (in Box 2) with details about the type of school (public, private or home school) and the level of education of those who were enrolled in school at any time in the last three months.

Next, all respondents are asked, “What is the highest degree or level of school you have COMPLETED?” (in Boxes 3 and higher). For respondents who answer that their completed education is between grade 11 and “some college no degree” (that is, grade 11, grade 12, high school, a GED² or some college, see Boxes 5, 7 and 9), there are several follow-up questions designed to obtain more detailed information about each of these groups. The purpose of these questions is to separate those who obtained a regular high school diploma from those who obtained a GED and those with neither, as well as to identify those with some college credits (Box 8), and in particular people with one or more years of college credits but no degree (Box 10). Finally, respondents who answer that they have completed a four-year college degree or higher education (Box 11) are asked about their main fields of study (Box 12).

² GED refers to General Educational Development tests. GED tests are a group of exams about different topic areas. They were designed by the American Council on Education to allow people to demonstrate that they have skills and knowledge equivalent to having completed a high school course of study.

In this paper we focus on the findings among Spanish speakers. Detailed results for English speakers, who generally had no difficulty with these questions, are reported elsewhere (Fernandez et al., 2009). We should note that all English speakers in our study were U.S. born and educated and all were native English speakers. It is likely that we would have observed more difficulties if we had included non-native English speakers and/or English speakers who had been educated outside of the U.S.

The first round of Spanish cognitive interviews in this study signaled several issues. First of all, respondents had difficulty understanding the first education question due to its length and also because some of the terms used in the question were not familiar to Spanish speakers (See Figure 2 where problematic Spanish terms are highlighted in bold).

A second issue identified in the initial round of cognitive testing was that some of the terms were confusing to Spanish speakers because they refer to concepts that do not exist in several Latin American countries, such as ‘home schooling’ or *enseñanza en el hogar*, and the ‘GED’ (for a definition of GED see footnote 4). Home schooling refers to a government-accredited program that allows parents to educate their children in their own home instead of enrolling them in regular school.

Thirdly, Spanish speakers often found it difficult to select an answer from among the options of completed levels of education because of the terms used in the translation. For Mexican respondents, for example, the term ‘*secundaria*’ (the Spanish translation used to refer to a high school diploma, or 12 years of schooling) actually refers to the equivalent of U.S. junior high school or nine years of education in Mexico. In addition, the term ‘*bachiller*,’ the translation used to refer to a U.S. university degree, refers to a high school level degree in some countries in Latin America. These issues are discussed in greater detail below.

Overall, the issues identified in the first round of cognitive testing were troubling because of the cognitive effort imposed on respondents, the potential impact on data quality when respondents choose inaccurate categories, and the additional resources that it takes to complete these interviews when respondents require additional time and explanation from interviewers.

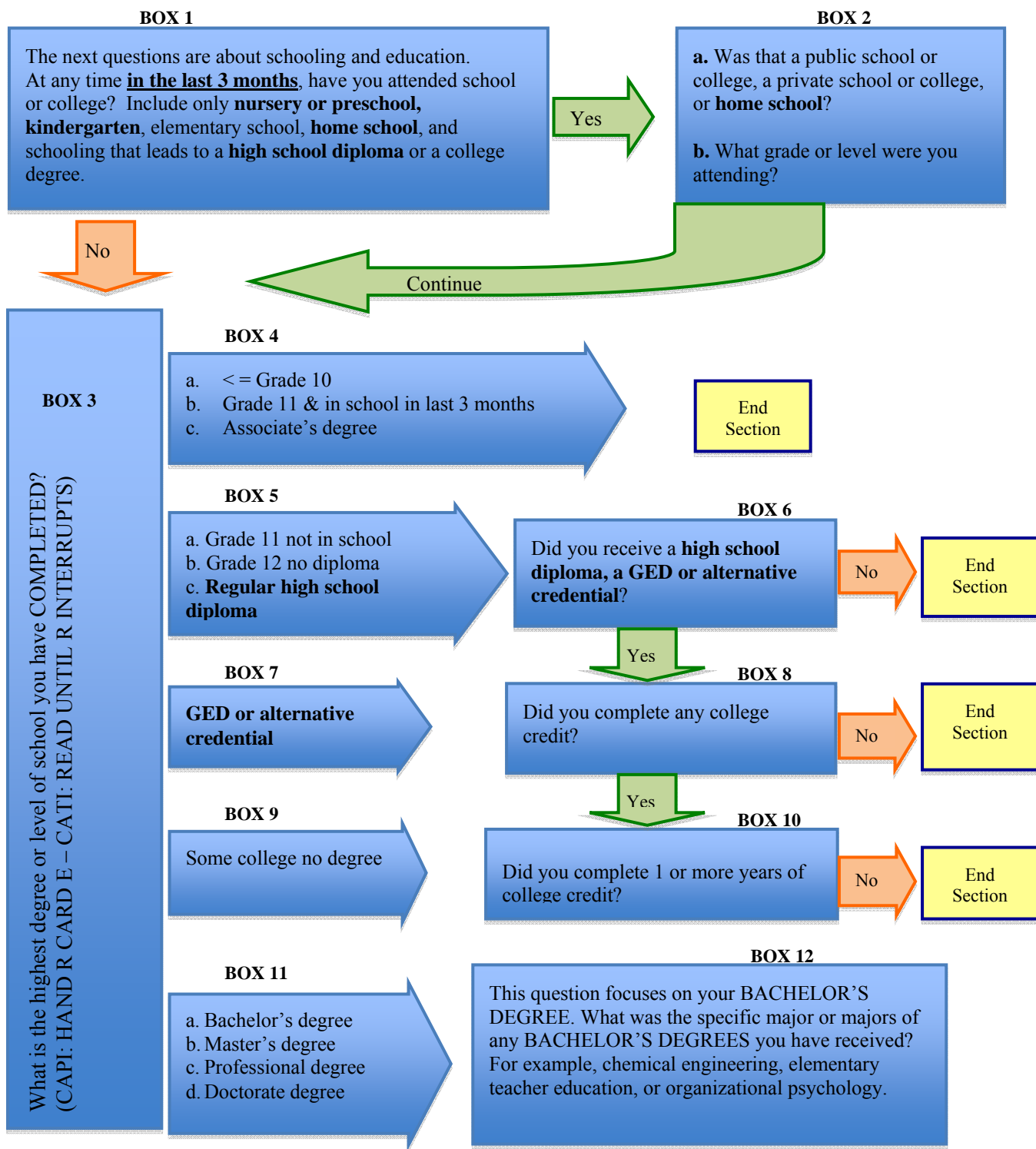


Fig. 1. Sequence of ACS Education Questions – Original Round 1 English Wording

Note: English translations of problematic terms in Spanish Round 1 testing are marked in bold font. Corresponding Spanish wording of problematic terms are marked in bold in Fig. 2.

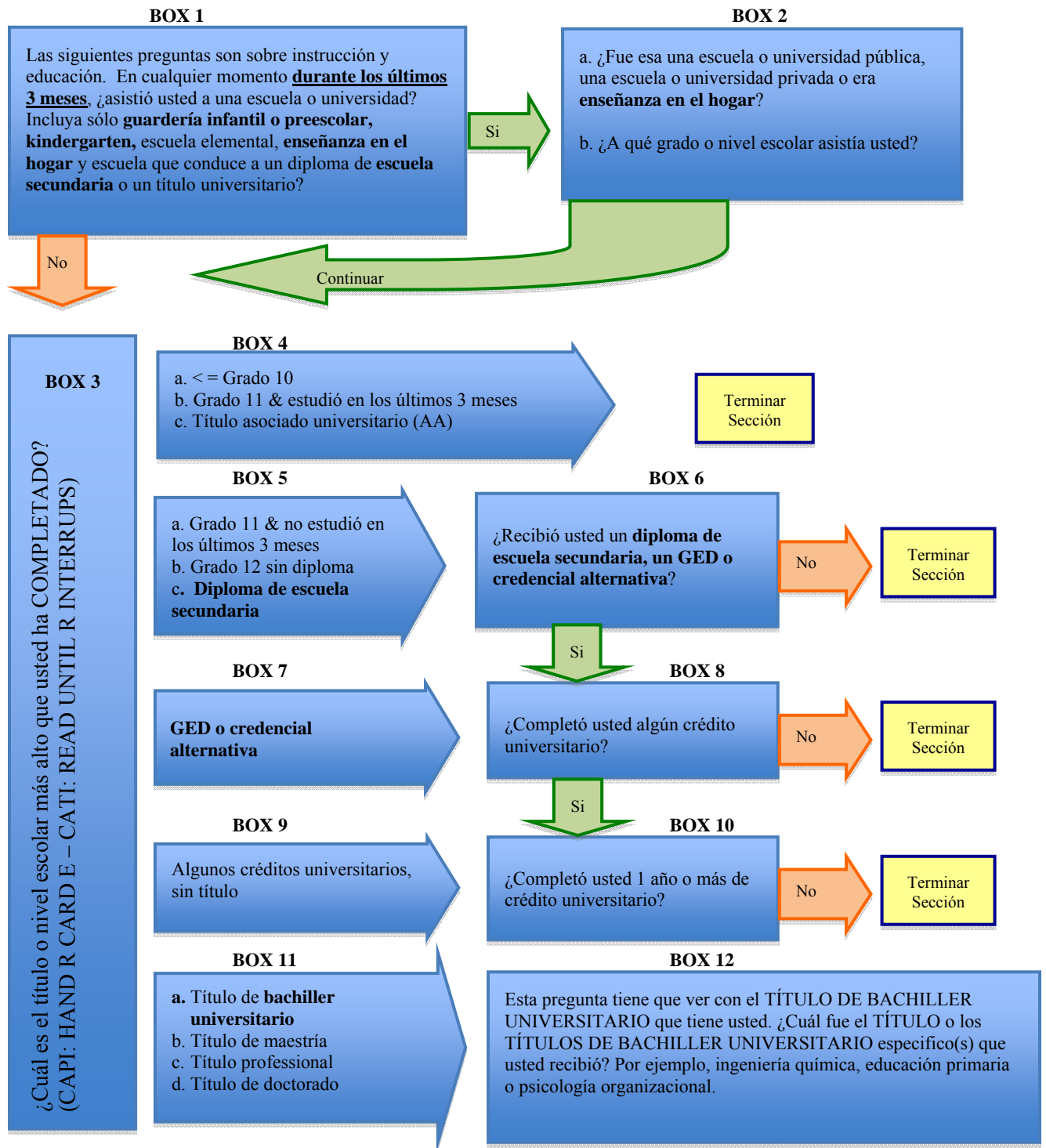


Fig. 2. Sequence of ACS Education Questions – Original Round 1 Spanish Wording

Note: Problematic terms in Round 1 testing are marked in bold font.

English translations of problematic terms in Spanish are marked in bold in Fig. 1.

In the rest of this section, we discuss the three main types of issues identified during the first round of cognitive testing in greater detail. We go on to discuss changes that were tested in the second round of interviews, as well as the results of these changes.

Problem Type 1: Complex Question Structure – Round 1 Findings

The first question in the education series was challenging for Spanish-speaking respondents. The original translated question read:

“Las siguientes preguntas son sobre instrucción y educación. En cualquier momento durante los últimos 3 meses, ¿asistió usted a una escuela o universidad? Incluya sólo guardería infantil o preescolar, kindergarten, escuela elemental, enseñanza en el hogar y escuela que conduce a un diploma de escuela secundaria o un título universitario.”

(The next questions are about schooling and education. At any time in the last 3 months, have you attended school or college? Include only nursery or preschool, kindergarten, elementary school, home school, and schooling that leads to a high school diploma or a college degree.)

After hearing the question, over half of the respondents asked for clarification before offering a ‘yes’ or ‘no’ answer, and two answered ‘yes’ incorrectly. The respondents’ requests for clarification suggested that they had difficulty keeping track of the multiple conditions in the question. Respondents asked things like: “...in the last 3 months?,” “For me or a child?,” and “To study or to visit?”

In addition, the term ‘asistió’ (attended) turned out to be somewhat ambiguous to respondents. Depending on context, in Spanish this term can mean both ‘attended’ and ‘went to,’ such as ‘asistió a una junta’ (‘attended’ or ‘went to’ a meeting). For some respondents, the term took on the less formal meaning of ‘went to,’ particularly when it was combined in the same sentence with the options ‘guardería infantil o preescolar, kindergarten’ (nursery or preschool, kindergarten). Some respondents thought, for example, that the question was asking about “going to” any of these places for any purpose, including dropping off their child.

Other respondents heard the list of examples and thought it was meant to be exhaustive because of its length. Therefore, during debriefing some respondents pointed out that there were options “missing,” such as computer courses and English classes.

Upon probing, several respondents also said they did not understand some of the terms included, such as ‘guardería infantil’ (nursery school) and ‘enseñanza en el hogar’ (home school). We discuss these terms further below.

We made two recommendations as a result of the first round of cognitive testing; (1) to replace the term ‘asistió’ (attended) with the more precise verb ‘estudió’ (studied), which was later tested in the second round of interviews; and (2), we also recommended that the list of examples be shortened by removing ‘guardería infantil o preescolar, kindergarten’ (nursery or preschool, kindergarten) when the question was aimed at collecting information from adults (and that these terms be used only when collecting information about children).

Unfortunately, as mentioned earlier, there was a strong constraint to making changes in the Spanish language instrument. One of the survey sponsor's requirements was that the Spanish questions needed to convey exactly the same information and meaning as the English questions because changes that would require modifications to the English version of the questions were out of scope for this project. Thus, for Round 2 the sponsor approved testing only a slightly modified question in which the terms 'guardería infantil o preescolar' (nursery or preschool) were replaced with 'pre-escolar o pre-kinder' (preschool or pre-kindergarten). The thought was that these terms would be more familiar to respondents based on findings from probing done in the first round of interviews about alternative terms. The revised question tested in the second round of interviews is below. The English wording contains a translation of the new Spanish terms that were tested as a reference to the reader. However, no new terms were tested in English in Round 2 testing.

*“Las siguientes preguntas son sobre instrucción y educación. En cualquier momento durante los últimos 3 meses, ¿**estudió** usted en una escuela o universidad? Incluya sólo **pre-escolar o pre-kinder**, kindergarten, escuela elemental, enseñanza en el hogar y escuela que conduce a un diploma de escuela secundaria o un título universitario.*

*(The next questions are about schooling and education. At any time in the last 3 months, have you **studied in a school or college**? Include **only preschool or pre-kindergarten**, kindergarten, elementary school, home school, and schooling that leads to a high school diploma or a college degree.)*

Problem Type 1: Complex Question Structure – Round 2 Testing Results

Although the length of this question remained a concern for researchers, using 'estudió' (studied) clarified the intent of the question noticeably, and only two respondents asked for clarification during the second round of interviews. However, upon debriefing we realized that another issue associated with this question had not yet been addressed. Namely, the length of the question made it difficult for respondents to remember the time frame the question was asking about. In fact, seven out of 18 Spanish-speaking respondents (39 percent) did not notice or remember the phrase 'durante los últimos 3 meses' (in the last 3 months) in the question. Moreover, two of the four respondents who answered 'yes' to this question had actually not been studying in the last three months (one college-educated Colombian and one Mexican with less than a high school education).

On the whole, the second round of interviews showed that the problems with this question had not been completely resolved through minor wording changes. Based on findings from round 2, we recommended that the sponsor add a verification after the question with the goal of improving data quality. For example, interviewers could say, "Just to verify, was this in the last 3 months?" In addition, we recommended further research on ways to simplify and reduce the overall length of the question. According to sponsor requirements, this would require additional examination of the English version as well.

Problem Type 2: Conceptual Mismatch Across Cultures

Another issue identified with the original ACS Spanish-language questions was that respondents were not familiar with some types of education or diplomas, such as ‘home schooling,’ the ‘GED or alternative credential,’ and the ‘Associate’s degree.’ These are programs that do not exist in many Latin American countries. Therefore, respondents interpreted the terms within their own cultural contexts, which deviated from the intended meaning of the terms. Below we discuss our findings and recommendations regarding these terms.

Example 1: Home Schooling, “Enseñanza en el hogar” – Round 1 Findings

All 23 respondents in the first round of cognitive testing were probed about their interpretation of the question below, even if they said they were not attending school in the last three months:

¿Fue esa una escuela o universidad pública, una escuela o universidad privada o era enseñanza en el hogar?

(Was that a public school or college, a private school or college, or home school?)

Although Puerto Rican respondents did not immediately recognize the term ‘enseñanza en el hogar,’ they were familiar with the English phrase ‘home school’ and they understood its meaning, perhaps because of their familiarity with the U.S. educational system³. In fact, the educational system in Puerto Rico is structured in a similar way to the U.S. mainland, with three levels: primary or elementary school, which include grades 1-6; “intermediate” (junior high school) for grades 7-9; high school for grades 10-12; and college or higher education. In addition, home schooling is an educational option in Puerto Rico, and there are several organizations that provide resources to parents who choose to educate their children at home⁴.

Other Spanish speakers, however, were not familiar with the concept of ‘home school’ and interpreted ‘enseñanza en el hogar’ as less formal concepts such as online classes, bible school, and lessons taught by parents related to culture, table manners, and moral principles.

To address this issue, we proposed different modifications to the two Spanish versions of the ACS. In the Puerto Rican version, we recommended the addition of the English term (‘home school’) at the end of the question.

In both versions, we also recommended the inclusion of a short definition of home school based on the wording used by the National Household Education Surveys Program in their questionnaires (NHES, 2007).

³ Puerto Rico is an unincorporated territory of the United States. As such Puerto Rican people are U.S. citizens by birth and many U.S. programs, English language terms and concepts are common and/or familiar to people living in Puerto Rico.

⁴ For example, home schooling resources in Puerto Rico include The Caribbean Center of Home Education Resources (T’CHERs), Grupo Area Metro de Educadores en el Hogar (GAMEH), CasaEscuela Puerto Rico, and Asociación de Hogar-Escuelas Cristianas (AHEC) de Puerto Rico (Homeschool World, 2004).

In English, the definition we recommended reads: “Home schooling is when parents decide to educate their children at home instead of sending them to school.” The sponsor agreed to test this definition, but they made it clear that regardless of how well it tested, it would not be possible to add a definition only to the Spanish version of the question. They decided that if the definition tested well it could be added as optional help text to be read only in case of respondent confusion related to the Spanish version.

Table 1 shows the original question wording tested in the first round of cognitive testing along with the modified versions that were tested in the second round for Puerto Rico and stateside Spanish. The English version was not modified for Round 2 testing.

Table 1. Wording in First and Second Cognitive Interview Rounds for ‘Home Schooling’
<p>ORIGINAL WORDING IN ENGLISH</p> <p>Was that a public school or college, a private school or college, or home school?</p>
<p>ROUND 1: ORIGINAL WORDING IN SPANISH</p> <p>¿Fue esa una escuela o universidad pública, una escuela o universidad privada o era enseñanza en el hogar?</p>
<p>ROUND 2: REVISED WORDING FOR PUERTO RICO</p> <p>¿Fue esa una escuela o universidad pública, una escuela o universidad privada o era enseñanza en el hogar (<i>home school</i>)?</p> <p><i>(READ IF NECESSARY: Enseñanza en el hogar (home school) es cuando los padres deciden educar a sus hijos en el hogar en lugar de enviarlos a la escuela.)</i></p>
<p>ROUND 2: REVISED WORDING FOR STATESIDE</p> <p>¿Fue esa una escuela o universidad pública, una escuela o universidad privada o era enseñanza en el hogar?</p> <p><i>(READ IF NECESSARY: Enseñanza en el hogar es cuando los padres deciden educar a sus hijos en el hogar en lugar de enviarlos a la escuela.)</i></p>
<p>ROUND 2: ENGLISH TRANSLATION OF OPTIONAL DEFINITION (not tested in English)</p> <p><i>(READ IF NECESSARY: Home school is when parents decide to educate their children at home instead of sending them to school.)</i></p>

Example 1: Home Schooling, “Enseñanza en el hogar” – Round 2 Testing Results

We tested the definition of home schooling with all Spanish speakers in the second round of testing and found that six of the eight Puerto Rican respondents recognized the term ‘home school’ in English. Only two people did not know that the term referred to a substitute for regular schooling.

Among Spanish-speaking respondents from countries other than Puerto Rico, only one person (a Guatemalan) understood the term ‘enseñanza en el hogar’ (‘home school’) as intended. The other respondents, with diverse educational levels and national origins, heard the term *and* the definition in Spanish, and still interpreted ‘enseñanza en el hogar’ to mean learning on one’s own such as from videos, TV or internet, with the help of friends, or by distance learning. Some respondents also thought that it could mean receiving tutoring at home.

In sum, adding the term in English in parenthesis and a short definition for home school worked well for Puerto Rican respondents, many of whom were already familiar with the concept. However, the inclusion of just a definition did not work for other Spanish speakers.

The fact that home schooling does not exist in many Latin American countries makes it challenging to explain the concept in a simple sentence. Of course, we have no way of knowing whether or what proportion of Spanish speakers would answer in the negative when they hear a question involving an unfamiliar term. In this case, however, the terms used in the translation sound familiar to respondents and they have particular meanings in their own cultural context. The risk in maintaining this wording is that respondents may confuse ‘enseñanza en el hogar’ (home school) with online learning or private tutoring and provide an inaccurate ‘yes’ response, with important negative consequences for the accuracy of data for this population. The ideal would have been to explore dropping the home schooling example from the stateside Spanish version of the question altogether but since this was not an option at this time, we recommended further research prior to making any additional changes.

Example 2: GED or alternative credential, “GED o credencial alternativa” – Round 1 Findings

The concept of a diploma equivalent to high school but awarded to adults through another program, the GED (General Educational Development, see footnote 4) was not familiar to some Spanish-speaking respondents in our study. This term appears in the context of a follow-up question for respondents who answer that they have completed ‘Grado 11’ (Grade 11), ‘Grado 12, sin diploma’ (Grade 12, no diploma) or ‘Diploma de escuela secundaria’ (Regular high school diploma). The intent of the question is to separate those who have received a regular high school diploma from those who have obtained an alternative/equivalent diploma or no diploma. The question reads:

“¿Recibió usted un diploma de escuela secundaria, un GED o credencial alternativa?”

(Did you receive a high school diploma, a GED or alternative credential?)

In many Latin American countries, there is no program equivalent to the GED. Thus, the concept is vague to many non-English speakers. Notice that the initial translation does not provide a translation or explanation of the concept; it simply lists the English language acronym, “GED.” In the initial round of interviews, we found that most Spanish speakers had some understanding that a GED is a U.S. examination for adults that serves as the equivalent to a high school diploma. With additional probing in round two, as we tested alternative wordings to the terms “credencial alternativa” (alternative credential), it was evident that most people thought of the GED as some type of adult education but were not clear about what it entailed.

Respondents described a GED as ‘a high school diploma or a university degree,’ a way for immigrants to revalidate a high school diploma in the U.S. (although in a way this may be true), or similar to high school but ‘with less intense classes.’ One respondent confused the GED with the GRE (Graduate Record Examination), an exam used for admissions to graduate schools. Only one respondent (a college-educated Colombian) knew that it was an exam taken to obtain a diploma equivalent to high school. In addition, in the first round of testing we found that respondents did not understand the term ‘credencial alternativa’ (alternative credential)⁵. One problem is that the word ‘credencial’ does not translate directly into ‘credencial’ in Spanish since this latter term is often used to mean an identification card or membership card, e.g., ‘credencial escolar’ (school identification card).

Example 2: GED or alternative credential, “GED o credencial alternativa” – Round 2 Testing Results

In the second round of testing, we tried a more direct wording by replacing the phrase ‘un GED o credencial alternativa’ (a GED or alternative credential) with the phrase: ‘un examen equivalente (por ejemplo GED)’ (an alternative exam (for example GED)). Findings from the second round of testing showed that this modification substantially improved respondents’ understanding of the question by expressing the idea that there are multiple types of alternative “exams” and by conveying the idea that the GED *is* an exam that is equivalent to high school.

⁵ The term ‘alternative credentials’ refers to the fact that the educational system in the U.S. provides a few alternatives, in addition to the GED, that result in an educational credential equivalent to a high school diploma. For example, the HSED (High School Equivalent Diploma) is awarded to students who in addition to completing a GED meet further requirements of taking courses in health, civic literacy and employability skills. There is also a “modified” HSED program that allows adult students to demonstrate their competencies without having to take exams under time pressures, and this program may take two years to complete. Another alternative is the Adult High School program, which targets students who did not graduate but nearly completed high school. These students are able to take some courses for credit and earn their diploma. There is also a program called Alternative High School for high school students at risk of not graduating. These students may be allowed to take courses in health, civic literacy and employability skills so that they qualify for the HSED, instead of taking the regular high school classes.

Problem Type 3: Ambiguous Terms Used in Translation

The main question in the educational level section is the same for Puerto Rican and other Spanish speakers (see Figures 1 and 2, box 3). In the original version, the response options for this question were also the same. The question reads:

‘¿Cuál es el título o nivel escolar más alto que usted ha COMPLETADO?’

(What is the highest degree or level of school you have COMPLETED?)

To aid the respondent, CAPI interviewers use a show card containing the response options, and CATI interviewers read from the same list of options with the instruction to stop when the respondent interrupts with an answer. In the first round of testing, 12 respondents were interviewed simulating the CAPI mode and saw the options listed on a show card. Another 11 respondents were interviewed simulating the CATI mode and they heard the interviewer read the list of options.

In the second round of testing, several different terms were tested between the Puerto Rican and the stateside respondents. Eleven respondents saw the show card, while another 12 heard an interviewer read them. The original Round 1 options are shown in Table 2 and the options tested in Round 2 are shown in Table 3. All respondents in both rounds of interviews were probed about the response options related to completed education. Below we discuss the problems found with the original options and the changes that were tested in the second round of interviews.

Example 1: Regular high school diploma, “Diploma de escuela secundaria” – Round 1 Findings

In the first round of testing, both Puerto Rican respondents and those from some other Latin American countries (Nicaragua, Peru and Venezuela) understood the phrase ‘diploma de escuela secundaria’ to mean high school, or 12 years of schooling, as intended. However, despite the fact that they understood the original wording, Puerto Rican respondents expressed a preference for the term ‘diploma de escuela *superior*.’ For Nicaraguan, Peruvian and Venezuelan respondents the terms ‘bachillerato de secundaria,’ ‘secundaria’ or ‘bachillerato’ all mean the equivalent of high school or 12 years of schooling in the U.S., so they understood the original question wording as intended.

Mexicans and Colombians, however, understood ‘diploma de escuela secundaria’ as a diploma that was received after nine years of schooling, not twelve. In their countries, ‘preparatoria’ or ‘bachillerato’ are the terms used for 12 years of schooling.

Table 2. Original Options for ACS Question about Highest Degree or Level of School Completed? **	
<p>CAPI: HAND RESPONDENT CARD E Usando la Tarjeta E, ¿cuál es el título o nivel escolar más alto que usted ha COMPLETADO?</p> <p>CATI: ¿Cuál es el título o nivel escolar más alto que usted ha completado?</p> <p>51. No ha completado ningún grado</p> <p>52. Guardería infantil (nursery school)</p> <p>53. Kindergarten</p> <p>54. Grado 1</p> <p>55. Grado 2</p> <p>56. Grado 3</p> <p>57. Grado 4</p> <p>58. Grado 5</p> <p>59. Grado 6</p> <p>60. Grado 7</p> <p>61. Grado 8</p> <p>62. Grado 9</p> <p>63. Grado 10</p> <p>64. Grado 11</p> <p>65. Grado 12, sin diploma</p> <p>66. Diploma de escuela secundaria</p> <p>67. GED o credencial alternativa</p> <p>68. Algunos créditos universitarios, sin título</p> <p>69. Título asociado universitario (por ejemplo: AA, AS)</p> <p>70. Título de bachiller universitario (por ejemplo: BA, BS)</p> <p>71. Título de maestría (por ejemplo: MA, MS, MEng, MEd, MSW, MBA) </p> <p>72. Título profesional más allá de un título de bachiller (por ejemplo: MD, DDS, DVM, LLB, JD)</p> <p>73. Título de doctorado (por ejemplo: PhD, EdD)</p> <p>74. (Licencia vocacional o técnica) <NO LEA></p>	<p>CAPI: HAND RESPONDENT CARD E Using Card E, what is the highest degree or level of school you have COMPLETED?</p> <p>CATI: What is the highest degree or level of school you have COMPLETED?</p> <p>51. No schooling completed</p> <p>52. Nursery school</p> <p>53. Kindergarten</p> <p>54. Grade 1</p> <p>55. Grade 2</p> <p>56. Grade 3</p> <p>57. Grade 4</p> <p>58. Grade 5</p> <p>59. Grade 6</p> <p>60. Grade 7</p> <p>61. Grade 8</p> <p>62. Grade 9</p> <p>63. Grade 10</p> <p>64. Grade 11</p> <p>65. Grade 12, n diploma</p> <p>66. Regular high school diploma</p> <p>67. GED or alternative credential</p> <p>68. Some college, no degree</p> <p>69. Associate's degree (for example: AA, AS)</p> <p>70. Bachelor's degree (for example: BA, BS)</p> <p>71. Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA) </p> <p>72. Professional degree beyond a bachelor's degree (for example: MD, DDS, DVM, LLB, JD)</p> <p>73. Doctorate degree (for example: PhD, EdD)</p> <p>74. (Vocational or technical license) <DO NOT READ></p>
<p>** Educational categories that were difficult to understand in the first round of testing are marked in bold</p>	

Example 1: Regular high school diploma, “Diploma de escuela secundaria” – Round 2 Testing Results

Based on these findings, we recommended that the project sponsor test two different Spanish versions in the second round of interviews. The original wording ‘diploma de escuela secundaria’ (regular high school diploma), was modified for Puerto Rico to read ‘diploma de escuela superior (high school).’ This modification was based on our finding that this was a more popular term in Puerto Rico, and we also included the English term (high school) in parenthesis to take advantage of the familiarity of Puerto Ricans with the U.S. educational system. In the second round of testing, we confirmed that Puerto Ricans had no difficulty recognizing the terms ‘diploma de escuela superior (high school),’ as the diploma obtained after 12 years of schooling.

Choosing revised terms for the stateside Spanish instrument was more difficult since the target population is made up of Spanish speakers of many different nationalities. Our recommendation following the first round of testing was to change the translation for ‘Regular high school diploma’ to ‘Grado 12, CON DIPLOMA (high school)’ (Grade 12, WITH DIPLOMA (high school)) since the response option comes right after ‘Grado 12, sin diploma’ (Grade 12, no diploma). The project sponsor did not agree to this change because it would have resulted in asymmetry between the English and Spanish versions of the questions. Instead, we chose the strategy of grouping terms that would be meaningful to different national origin respondents together in the same category. We tested ‘diploma de escuela secundaria o preparatoria (high school)’ for the option for high school. The term ‘bachillerato’ was not added because even though it is one of the terms used in several countries to refer to high school, in Puerto Rico it is used to refer to college, and it would create confusion among Puerto Ricans residing stateside (especially since in the Puerto Rican version, college is translated as ‘bachillerato universitario’).

The hope was that respondents might recognize at least one of these terms as the equivalent of high school and report their education level accurately. In addition, we decided to add the English language term for testing in round two since the respondents are living in the U.S. and they or their children may have completed some schooling there, familiarizing them with the English terms.

Results showed that changes to the stateside Spanish version were not as successful as the Puerto Rican changes had been. Mexican respondents were confused by the use of the terms ‘escuela secundaria o preparatoria (high school)’ together because *both* terms are used in their educational system and they mean *different* levels of education. In fact, because they now interpreted the response option to be asking if they had *either 9 or 12* years of schooling, respondents from Mexico who had less than a high school education still mistakenly chose this option instead of choosing ‘Grado 9’ (Grade 9). The problem is that the term ‘secundaria’ is commonly used in Mexico to refer to 9 years of schooling. Moreover, other respondents from Mexico specifically suggested that because ‘secundaria’ and ‘preparatoria’ require very different levels of schooling, they should not be grouped in the same category.

Table 3. Revised Options for ACS Question about Highest Degree or Level of School Completed?*		
<p>PUERTO RICO CAPI: HAND R CARD E Usando la Tarjeta E, ¿cuál es el título o nivel escolar más alto que usted ha COMPLETADO?</p> <p>CATI: ¿Cuál es el título o nivel escolar más alto que usted ha completado?</p> <p>51. No ha completado ningún grado</p> <p>52. <i>Pre-escolar o pre-kinder</i></p> <p>53. Kindergarten</p> <p>54. Grado 1</p> <p>55. Grado 2</p> <p>56. Grado 3</p> <p>57. Grado 4</p> <p>58. Grado 5</p> <p>59. Grado 6</p> <p>60. Grado 7</p> <p>61. Grado 8</p> <p>62. Grado 9</p> <p>63. Grado 10</p> <p>64. Grado 11</p> <p>65. Grado 12, sin diploma</p> <p>66. Diploma de <i>escuela superior</i> (high school)</p> <p>67. <i>GED o examen equivalente</i></p> <p>68. Algunos créditos universitarios, sin título</p> <p>69. Título asociado universitario (por ejemplo: AA, AS)</p> <p>70. Título de <i>bachillerato universitario</i> (por ejemplo: BA, BS)</p> <p>71. Título de maestría (por ejemplo: MA, MS, MEng, MEd, MSW, MBA)</p> <p>72. Título profesional más allá de un título de <i>bachillerato universitario</i> (por ejemplo: MD, DDS, DVM, LLB, JD)</p> <p>73. Título de doctorado (por ejemplo: PhD, EdD)</p> <p>74. (Licencia vocacional o técnica) <NO LEA></p> <p>DK/RE</p>	<p>STATESIDE CAPI: HAND R CARD E Usando la Tarjeta E, ¿cuál es el título o nivel escolar más alto que usted ha COMPLETADO?</p> <p>CATI: ¿Cuál es el título o nivel escolar más alto que usted ha completado?</p> <p>51. No ha completado ningún grado</p> <p>52. <i>Pre-escolar o pre-kinder</i></p> <p>53. Kindergarten</p> <p>54. Grado 1</p> <p>55. Grado 2</p> <p>56. Grado 3</p> <p>57. Grado 4</p> <p>58. Grado 5</p> <p>59. Grado 6</p> <p>60. Grado 7</p> <p>61. Grado 8</p> <p>62. Grado 9</p> <p>63. Grado 10</p> <p>64. Grado 11</p> <p>65. Grado 12, sin diploma</p> <p>66. Diploma de <i>escuela secundaria o preparatoria</i> (high school)</p> <p>67. <i>GED o examen equivalente</i></p> <p>68. Algunos créditos universitarios, sin título</p> <p>69. Título asociado universitario (por ejemplo: AA, AS)</p> <p>70. Título de <i>licenciatura o bachillerato universitario</i> (por ejemplo: BA, BS)</p> <p>71. Título de maestría (por ejemplo: MA, MS, MEng, MEd, MSW, MBA)</p> <p>72. Título profesional más allá de un título de <i>licenciatura o bachillerato universitario</i> (por ejemplo: MD, DDS, DVM, LLB, JD)</p> <p>73. Título de doctorado (por ejemplo: PhD, EdD)</p> <p>74. (Licencia vocacional o técnica) <NO LEA></p> <p>DK/RE</p>	<p>ENGLISH CAPI: HAND R CARD E Using Card E, what is the highest degree or level of school you have COMPLETED?</p> <p>CATI: What is the highest degree or level of school you have COMPLETED?</p> <p>51. No schooling completed</p> <p>52. Nursery school</p> <p>53. Kindergarten</p> <p>54. Grade 1</p> <p>55. Grade 2</p> <p>56. Grade 3</p> <p>57. Grade 4</p> <p>58. Grade 5</p> <p>59. Grade 6</p> <p>60. Grade 7</p> <p>61. Grade 8</p> <p>62. Grade 9</p> <p>63. Grade 10</p> <p>64. Grade 11</p> <p>65. Grade 12, no diploma</p> <p>66. Regular high school diploma</p> <p>67. GED or alternative credential</p> <p>68. Some college, no degree</p> <p>69. Associate's degree (for example: AA, AS)</p> <p>70. Bachelor's degree (for example: BA, BS)</p> <p>71. Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)</p> <p>72. Professional degree beyond a bachelor's degree (for example: MD, DDS, DVM, LLB, JD)</p> <p>73. Doctorate degree (for example: PhD, EdD)</p> <p>74. (Vocational or technical license) <DO NOT READ></p> <p>DK/RE</p>
<p>** Changes to educational categories that were tested in the second round are marked in <i>italic bold</i></p>		

In addition, the term ‘(high school)’ in parenthesis was of limited help since some respondents did not know how many years it takes in the U.S. to complete high school. Part of the explanation for this may be that the sampled respondents, although living in the U.S., were still culturally oriented to their countries of origin. This is because our recruitment criteria for this study included that participants speak very little English (i.e., recent immigrants or those relatively isolated from mainstream U.S. interactions) since ultimately this group makes up a large portion of the target population for the Spanish version of the ACS. Based on findings from the second round of testing, we recommended that no changes be made to the stateside Spanish version without further testing to improve comprehension and response to this question.

Example 2: Bachelor’s degree, “Título de bachiller universitario” – Round 1 Findings

The other translation that was problematic for many non-Puerto Rican Spanish-speakers was the one meant to capture a four-year college education or bachelor’s degree. In the first round of testing we confirmed that Puerto Rican respondents understood ‘Título de bachillerato universitario’ as a 4-year college degree as intended. However, this was not the case for respondents from other Latin American countries, particularly Mexico.

In the first round of testing, for example, a Mexican respondent with a high school education incorrectly selected ‘Título de bachiller universitario’ (bachelor’s degree) from the list of options because he thought it meant ‘bachillerato’ (a way of referring to high school in Mexico). Two other respondents with a bachelor’s degree selected ‘Título asociado’ (Associate’s degree) and ‘Título profesional más allá de un título de bachiller’ (professional degree beyond a bachelor’s degree) because they also understood the term ‘bachiller’ to refer to high school in their countries (Mexico and Colombia). Another college educated Mexican respondent said that she was able to finally select the right answer after reading the list of options *three times* when she noticed ‘BA’ and ‘BS’ as examples under the Bachelor’s degree category⁶. This respondent had some familiarity with the U.S. educational system.

Moreover, college-educated Spanish speakers from Nicaragua and Mexico thought that ‘bachiller universitario,’ the translation for bachelor’s degree in the original version, referred to a ‘technician with a specialty,’ and that the degree was ‘equivalent to high school.’ The terms seemed contradictory to them since it included ‘bachiller’ (high school) and ‘universitario’ (university level) together in the same category. In all, using the term ‘bachiller’ for bachelor’s degree had the effect of pushing respondents to overstate their educational level since those with a high school degree tended to choose the option without realizing that it refers to a college degree; and those with a bachelor’s degree tended to select options pertaining to higher levels of education in their efforts to convey that they had studied beyond high school.

⁶ BA stands for Bachelor of Arts, and BS for Bachelor of Science. Both are often used as abbreviations to refer to four-year college degrees in the US.

Example 2: Bachelor's degree, "Título de bachiller universitario" – Round 2 Testing Results

Based on respondents' interpretations and comments in round one of testing, we tested new terms for a bachelor's degree for the stateside Spanish version in the second round of interviews. Our recommendation for the stateside Spanish version was to use 'Título de licenciatura' as a translation for bachelor's degree. Other variations recognizable in Latin American countries are 'Título de licenciatura universitaria' (bachelor's degree), 'Título de carrera universitaria' (akin to university-level career), or a combination of both, 'Carrera universitaria completa, Licenciatura' (University-level career, bachelor's) (Schoua-Glusberg et al., 2008). Because 'licenciatura' is specific to a four or five-year university degree, we selected it over 'carrera universitaria' which has a broader connotation. However, contrary to our recommendations, the term 'bachillerato' was kept in this category for Round 2 testing because of the sponsors' concerns that some respondents may look for a term that looks similar to the English 'bachelor's degree.'

The main finding from the second round of interviews was that college-educated Spanish speakers from some countries (Colombia, Nicaragua and Mexico) had difficulty understanding the new terms for bachelor's degree, 'Título de licenciatura o bachillerato universitario (por ejemplo: BA, BS)' ('Bachelor's degree (for example: BA, BS))' as intended. These respondents said that they would interpret the phrase 'título de licenciatura universitaria' to mean a 'bachelor's degree'; but, they said that adding the term 'bachillerato' changes the meaning and is 'like going backwards' because it refers to a two-year technical degree or one that can be earned in high school. Moreover, a college-educated Mexican respondent said that the terms 'bachillerato' and 'universitario' should not go together because the first one requires only 12 years of schooling and the second requires 5 more years of education in a university. In short, a third round of testing was not possible, but based on these findings the sponsor decided to drop the term 'bachillerato' from the stateside Spanish version.

With only two rounds of cognitive interviewing, the limitation that the Spanish instrument needed to be very similar to the English, and the fact that changes to the English version were not possible at the time of this research, our ability to make changes in wording was very limited, and several issues remained unresolved. At the same time, we did identify strategies that enabled us to address several issues successfully. These strategies, which we discuss in the next section, could be applied in other projects where there is more flexibility to make changes to a translation.

V. Discussion and Recommendations

This research contributes to the literature on translating survey questions across cultural groups and languages. The measurement of educational level in countries with high rates of immigration, such as the U.S., is difficult for a number of reasons. In particular, the educational systems in respondents' home countries differ not only from the U.S. system but from each other as well. As our findings show, in some cases there is no single solution that will apply to respondents from all national origins. However, our research provides some important lessons to keep in mind when facing similar translation needs in culturally diverse populations.

In this study, we found substantial differences in the terms preferred by different cultural and national origin groups. The strategies we used in this project included tailoring the wording to just one group (in the Puerto Rico instrument); grouping multiple terms or synonyms that would be meaningful to respondents with different backgrounds together; and the inclusion of English terms in parenthesis to assist respondents who are more acculturated or who have some English speaking ability.

Tailoring translations to use terms specific to a country's educational system, such as in the case of Puerto Rico, proved to be a successful adaptation strategy. The fact that we had a separate Spanish instrument for use in Puerto Rico made this possible, and will likely substantially reduce the potential for biased data from the island. In addition, the stateside instrument does not need to include terms tailored to the Puerto Rican system.

A second strategy that we tried was the grouping of multiple terms or synonyms together in one category. The strength of this strategy is that when terms from different countries are grouped together, respondents should be able to recognize at least one of them; however, in this case the fact that the same educational terms are used with different meanings in different countries detracted from the usefulness of this strategy (e.g., *secundaria*, *bachillerato*).

Finally, in our case, respondents' lack of familiarity with the U.S. educational system limited the usefulness of English terms in parenthesis for some Spanish speakers and/or more recent immigrants.⁷

Two issues that required different solutions were identified through cognitive testing, and they were not fully resolved through the two rounds of interviews that we conducted. First, the issue of lack of equivalency in the case of 'home schooling.' Our strategy of adding the original English wording in parenthesis for Spanish-speaking respondents in Puerto Rico was successful because of their common citizenship and close interaction with the U.S. For the rest of the Spanish speakers in our study, including a short definition of home schooling was not successful.

In retrospect, we realize that there are some terms that are intrinsically linked to particular cultural meanings, such as '*enseñanza en el hogar*' (teaching at home) or '*educación recibida en el hogar*' (education received at home). These terms are often used in Hispanic cultures in connection with the transmission of values from parents to their children. Our first recommendation was to drop this example from the question altogether and replace it with one that is more relevant and understandable across groups. Because it was not possible to change anything in the English instrument and the study sponsor did not wish to have differing examples in the two languages, we provided a secondary recommendation. We recommended using terms that would not resonate at the cultural level to the same extent, and that would convey a stronger emphasis on the fact that this educational option applies only to minors and requires governmental parental certification. Some examples are '*sistema educativo de padres educadores en el hogar*' (educational system of parents educating in the home) or '*sistema de padres educadores en el hogar*' (system of parents educating in the home). Given that the definition we used in Round 2 testing did not work, we also recommended further testing of a new definition:

⁷ It should be noted that monolingual Spanish speakers are not the only respondents who would use the Spanish instrument. It may be that this strategy would work well for Spanish speakers who know some English but who choose to complete the survey in Spanish.

El sistema de padres educadores en el hogar (home school) se refiere a un programa del gobierno que certifica a los padres para que eduquen a sus hijos menores en el hogar en lugar de inscribirlos en una escuela.

The system of parents educating at home (home school) refers to a government program that certifies parents so that they are able to educate their minor children at home instead of enrolling them in a school.

An emphasis on the role of government is not mentioned or necessary in the English version of the question, but it may be necessary to successfully convey the same concept in the Spanish translation because of the lack of familiarity with the concept among immigrants from Latin America (Harkness, 2003; Goerman and Caspar, 2010).

The bottom line is that the ideal solution in this type of case is probably to use a different, more culturally relevant example just in the Spanish version, creating an adaptation of the questionnaire content.

The second issue that proved challenging was the translation of some education categories since Spanish-speaking respondents from different countries sometimes use the *same* terms to refer to *different* levels of education. These issues were not resolved for stateside Spanish speakers in our study. It may be that a search for “terms” is not the most productive avenue in the presence of multiple names and different educational systems. Instead, a strategy that we did not test but that might prove fruitful is exploring whether obtaining information about the *number* of years of education completed *in addition to* the names of specific degrees could improve data quality.

Between 1940 and 1980, the U.S. Decennial Census collected information about the highest grade or year of school completed, which yielded information about a respondent’s completed years of education. Concerns that the number of years of school was misclassified as a degree earned led to a change in the question wording in 1990 to ‘what is the highest degree or level of school you have COMPLETED’ (Kominski and Siegel, 1993). “Years of schooling” measures the actual number of years spent in school, but this measure does not necessarily map perfectly to the years or grades required to complete a degree. Moreover, “years of schooling” does not convey information about the quality or type of education obtained (Kominski and Siegel, 1993; Park, 1996; Schneider, 2007; Schoua-Glusberg et al., 2008). In contrast, reporting of degrees earned provides more information about educational attainment, such as the ability to differentiate between technical and academic tracks (Kominski and Siegel, 1993; Schneider, 2007).

Given our findings, however, asking a follow-up question to Spanish speakers who report that their level of school completed is ‘diploma de escuela secundaria o preparatoria (high school)’ (regular high school diploma) would help to separate those who have completed the equivalent of high school from those who have completed less than high school. The follow-up question could be along the lines of, ‘*En total, ¿cuántos años de escuela ha completado sin contar kinder?*’ (In total, how many years of school have you completed excluding kindergarten?).

This would represent a departure from the wording in the English version, i.e., an adaptation. However, it may be that it is not possible to include exactly the same terms and concepts across

languages in questions of this nature when the goal is to collect parallel data from different cultural and linguistic groups. Validation testing could be employed to ensure that parallel data are being collected with slightly different question wording.

On the whole, due to the constraints of the project, with the English language version of the instrument being finalized and with the requirement that the Spanish versions not deviate significantly from the English, we were not able to work towards instrument adaptation. This is not an uncommon scenario in many large survey institutions, where revisions and changes to already-established multi-modal surveys can only be undertaken on a piecemeal basis. Two common strategies to work around these constraints are using additional (optional) text to be read “if necessary” in some particular questions, and spelling out in the interviewer manual when to read such clarification statements. However, actual implementation by interviewers may be difficult to assess. In particular, this approach leaves the actual wording of questions with optional text to the discretion and judgment of interviewers. Because interviewers work with deadlines and time constraints, they may have incentive to skip such clarification whenever possible. Thus, application of such strategies may be uneven at best, and counterproductive at worst. Behavior coding is one method by which interviewer behavior and variation in reading of optional text could be examined in detail.

Ideally, during questionnaire development both the source and translation(s) should be open to revisions, changes, joint testing and cultural adaptations. The goal should be to develop instruments that can collect parallel data without having to be identical in structure and/or content. The approach could remain piecemeal in the sense that only a small group of questions could be developed or tested at a time, but these segments should include all the language versions of an instrument possible.

Areas for Future Research

Our findings suggest three areas for future research. First of all, there is a possibility of tailoring survey questions to national origin groups given CAPI/CATI and internet technology. In theory, an automated instrument could contain a screening question asking in what country a respondent had completed his or her highest level of schooling. The respondent could then be sent down a survey path that contained educational level questions specific to the system in that country. This solution was not an option in the ACS survey because the survey is also administered through paper forms and it would not be possible to send out different paper versions based on respondent national origin. However, this may be a strong solution for automated surveys.

Further research is also needed to identify promising techniques to translate questions involving unfamiliar concepts among specific populations, such as recent immigrants and respondents with limited English proficiency.

Finally, research to develop and test supplementary ways to verify educational attainment among recent immigrants would be welcome as it would provide ways to reduce the potential for misclassification of educational attainment.

This paper has focused on several possible solutions to the problem of how to best translate survey questions about country specific programs into Spanish. We have discussed a number of

possible solutions to add to researchers' "tool kits" of translation techniques. While we hope that some of these techniques would be useful with country specific programs aside from education, we advise that any of these possible solutions be tested with respondents of various backgrounds to be sure that they will work in a given context.

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APPENDIX

APPENDIX: Table I. Educational Systems in Selected Latin American Countries

NAMES USED IN DIFFERENT COUNTRIES FOR EDUCATIONAL LEVELS			
Country of Origin	Names in Spanish	Age ranges	Equivalent level in English
Argentina	Educacion inicial Primaria o educacion basica (6-7 yrs) Secundaria ciclo basico & ciclo orientado (5-6 yrs) Universidad	3 to 5 yrs old Ages 5 to 12 Ages 13 to 17 Ages 18+	Pre-school Elementary school Junior high & high school University
Colombia	Pre-kinder & kinder Primaria (5 yrs) Bachillerato (6 yrs) Universidad	2 to 4 yrs Ages 4 to 10 Ages 11 to 17 Ages 18+	Kindergarten to Pre-school Elementary Junior high & high school University
Costa Rica	Pre-kinder/pre-scholar & kinder Escuela (6 yrs) Colegio tecnico (6 yrs) or Colegio liceo (5 yrs) Universidad	2 to 6 yrs old Ages 7 to 12 Ages 13 to 18 Ages 13 to 17 Ages 18+	Kindergarten to Pre-school Elementary Technical high school or Junior high & high school Bachelor's degree University
Guatemala	Pre-primaria (2 yrs) Primaria (6 yrs) Secundaria (5-6 yrs) Superior	Ages 4 to 6 Ages 7 to 14 Ages 15-19 Ages 20+	Pre-school Elementary and junior high school High school University or technical education
Honduras	Pre-kinder & kinder Preparatoria (1 yr) Educación primaria (6 yrs) Plan básico, secundaria (3 yrs) Carrera técnica (2-4 yrs) Carreras universitarias (6 years)	3 to 4 yrs old Ages 4 to 5 Ages 5 to 11 Ages 12 to 14 Ages 15+	Pre-school Pre-1 st grade Elementary school Junior high school High school Bachelor's degree
Mexico	Pre-kinder & kinder or pre-escolar Primaria (6 yrs) Secundaria (3 yrs) Preparatoria o bachillerato (3 yrs) Universidad	Ages 3 to 6 Ages 6 to 12 Ages 12 to 15 Ages 15 to 18 Ages 18+	Pre-school Elementary Junior high school High school University
Nicaragua	Pre-escolar (2 yrs) Primaria (6 yrs) Secundaria o bachillerato (5 yrs) Universidad	Ages 3 to 6 Ages 7 to 13 Ages 13 to 18 Ages 18+	Preschool Elementary Junior high & high school University
Peru	Jardines Primaria – (6 yrs) Secundaria – Primer ciclo (2 yrs) Secundaria – Segundo ciclo (3 yrs) Superior – (term includes both university & vocational/technical schools)	Ages 3 to 5 Ages 6 to 11 Ages 12 to 13 Ages 14 to 16 Ages 16+	Pre-school Elementary Junior high school High school Bachelor's degree or Vocational/technical degree
Puerto Rico	Centro pre-escolar & kindergarten Nivel elemental (6 yrs) Escuela intermedia (3 yrs) Escuela superior o high school (3 yrs) Grado asociado (2 yrs) Titulo universitario (4 yrs)	Ages 3 to 5 Ages 6 to 12 Ages 13 to 15 Ages 16 to 18 Ages 18+	Pre-school Elementary Junior high school High school Associate's degree Bachelor's degree
Venezuela	Pre-escolar & kindergarten Primaria (6 yrs) Secundaria (5 yrs) Universidad o técnico superior universitario	Ages 3 to 5 Ages 6 to 12 Ages 13 to 18 Ages 18+	Pre-school Elementary Junior high & high school Bachelor's degree or Technical college degree

APPENDIX: Table II. Characteristics of Spanish-Speaking Respondents in the Study

Region/Country of Origin	N	Percent
Mexico	16	34.8
Central America	6	13.0
<i>Costa Rica</i>	1	
<i>El Salvador</i>	1	
<i>Guatemala</i>	1	
<i>Honduras</i>	1	
<i>Nicaragua</i>	2	
South America	8	17.4
<i>Argentina</i>	1	
<i>Colombia</i>	2	
<i>Peru</i>	2	
<i>Venezuela</i>	3	
Puerto Rico	16	34.8
Educational Attainment		
No formal education/Less than 6 th grade	2	4.3
Some formal education/No high school diploma	9	19.6
High school diploma	13	28.3
High school diploma with some college/Technical Education	13	28.3
College or advanced degree	9	19.6
Age Group		
18 – 30	20	43.5
31 – 45	12	26.1
46 – 55	6	13.0
56 or older	8	17.4
Gender		
Female	24	52.2
Male	22	47.8
Years Residing in the U.S. (excludes PR respondents)		
10 Years or Less	23	76.7
11-20 Years	4	13.3
> 20 Years	3	10.0