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**Motivating Non-English-Speaking Populations
for Census and Survey Participation**

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Motivating Non-English-Speaking Populations for Census and Survey Participation

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1. Introduction

One method used by survey organizations to encourage survey participation is the provision of advance survey materials to potential respondents. Advance survey materials usually include pre-notification letters and information materials. Such advance materials alert households that a survey is coming, and convey messages about its purpose, data usages, and/or the legal authority under which data are collected. These messages help to establish the legitimacy of a survey and act as additional contact with potential respondents. Previous studies have demonstrated that pre-notification has been an effective technique to improve response rates (e.g., Fox, Crask and Kim 1988, Yammarino, Skinner and Childers 1991, Dillman 1991). As a result, survey organizations routinely send out pre-notification materials in an effort to reduce household nonresponse (Groves 1989). The U.S. Census Bureau has a standard practice of sending out pre-notification letters for its surveys and decennial censuses, and has continuously carried out research to investigate the needs and effectiveness of advance survey materials. For example, Landreth (2001 and 2003) used cognitive interviewing techniques to explore respondents' interpretations of legally required messages embedded in survey letters. Griffin et al. (2004) and Raglin et al (2004) reported the results from a split-panel experiment with pre-notification letters of the American Community Survey and showed that survey messages crafted in a plain and "respondent friendly" language achieved small but significant differences in mail response rates compared to the standard version.

To meet the growing demand of including non-English-speaking populations in its decennial censuses and demographic surveys, the Census Bureau has recently expanded its effort to produce survey materials in multiple languages. However, much of the literature reporting the effectiveness of pre-notification is based on studies of English-speaking populations, except some studies on Spanish language advance letters (e.g., Carley-Baxter, et al. 2007). The Census Bureau has also used a Spanish cover letter as part of its 2007 National Census Test for the Census bilingual form study (see Govern and Reiser, 2007). Still, little is known concerning how speakers of languages other than English react to survey pre-notifications and whether the messages contained in survey materials have the same motivating effect on non-English-speaking populations as they do on English-speaking populations.

This study attempts to fill in this knowledge gap by investigating whether non-English-speaking populations differ from English-speaking populations in their perception of and motivation for census and survey participation. This study will focus on four groups: English-speaking Hispanics, non-English-speaking Hispanics, English-speaking Asians, and non-English-speaking Asians in the United States. The goal of the study is to better understand barriers in communicating survey messages across language groups and to identify survey messages that can motivate non-English-speaking populations to participate in censuses and government sponsored surveys.

2. Background

¹ This report is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed are those of the authors and not necessarily of the U.S. Census Bureau.

2.1 American Community Survey messages

In an effort to meet the challenge of obtaining high-quality data from the increasingly multi-lingual and multi-ethnic universe of respondents, the Census Bureau developed translations of multiple survey documents for its American Community Survey, including two survey letters and two information brochures. These survey materials provide important messages, such as the purpose of the ACS, uses for the data, confidentiality assurances, mandatory nature of the survey, and the legal authority under which data will be collected. These materials were translated from English into ten target languages². Two studies were conducted by the Census Bureau, in collaboration with RTI International, in 2006 and 2008³ to cognitively test the translated materials with speakers of the ten target languages.

2.2 Cognitive testing results of the translated messages

In these two cognitive testing studies, a total of 256 interviews were conducted with monolingual speakers of the ten target languages, with 24 interviews in each target language group, and 16 interviews in English as a comparison group. Cognitive testing of the translations of these documents with respondents of the target languages has shown that while some survey messages were well received by the target populations, some were not well received or not effective (Pan, Hinsdale, Park, and Schoua-Glusberg, 2006; Pan, Landreth, Hinsdale, Schoua-Glusberg, and Park, 2007; Pan and Landreth 2009). There were a number of challenges for successful communication of key messages contained in the survey documents. Besides translation issues, which include erroneous translations or inappropriate usage in terminology and expressions, there were underlying challenges that came from misinterpretation or misunderstanding of messages due to cultural norms or social practices surrounding the event of censuses and surveys.

As a follow-up study, Pan and Landreth (2009) carefully examined the cognitive interview data collected in the two cognitive testing studies and identified the types of messages that were very problematic and the reasons behind them. It was found that the problematic messages include the survey purpose message, the mandatory nature of the ACS, confidentiality, and the survey participation request message. They outlined three main factors for the difficulties in successfully conveying these messages in languages other than English. These factors are linguistic rules, cultural norms, and social practice. Linguistic rules refer to the sentence structure or discourse convention of a language that is different from the English language, which can result in different presentation of a survey message in the target language. Cultural norms refer to the ways of doing certain things in a given culture, such as appropriate level of politeness in expressing a message. Social practice here refers to the practice of survey research as a means for data collection in a society. Their follow-up study shows that most monolingual speakers of the target language groups had difficulty in understanding these survey messages because of the lack of survey experience or unfamiliarity with survey practice.

In another study, Chan and Pan (to appear) used cognitive interview data to explore the effectiveness of an ACS multilingual brochure and found that Asian respondents appeared less survey literate than their Russian-, Spanish- and English-speaking counterparts. This is one of the main barriers for Asian respondents to participate in the American Community Survey.

2.3 The Census Barriers Attitudes and Motivators Survey

The aforementioned studies have shown some revealing findings concerning the reaction to survey messages across different language groups. However, they were qualitative studies based on cognitive interview data. In the current study, we expanded this research effort by taking a quantitative approach. We used data collected from a survey called the Census Barriers, Attitudes and Motivators Survey (CBAMS) to gauge the perception of and reaction to selected messages between the English-speaking and non-English-speaking populations.

The CBAMS was conducted by Macro International in July-August 2008 as part of the research for the 2010 Census communications campaign. The objective of the research was to understand potential barriers and motivators to 2010 Census participation. The CBAMS was a multi-mode survey that included both random digit dial (RDD) telephone interviews and personal visit interviews. The target population was all residents of the U.S. with a special emphasis on hard to count (HTC) populations. To reach various levels of HTC populations, the survey sample was stratified into 8 strata. These strata were defined as high density Spanish-speaking tracts, high density Asian-language speaking tracts, American Indian Reservations, rural high poverty tracts, cell phone users, and high, medium and low HTC tracts. Personal visit interviews were conducted

² The ten languages are Spanish, Chinese, Korean, Russian, Vietnamese, Arabic, French, Portuguese, Polish, and Haitian Creole.

³ See Pan, Hinsdale, Park, and Schoua-Glusberg, 2006, and Hinsdale, Schoua-Glusberg, Saleska, and Park, 2008.

on reservations, in rural poverty tracts, and areas with high linguistic isolation. RDD interviews were conducted among the remaining sample cases. For the cell phone strata, Macro randomly generated telephone numbers from known cell phone exchanges.

In-person interviews were conducted in English, Spanish, Chinese and Korean. Telephone interviews were conducted in English and Spanish. For the sample that could be matched to an address, Macro mailed pre-notice letters alerting residents they were in-sample for the survey⁴. The survey instrument measured constructs such as Census knowledge, attitudes and awareness, self-reported propensity to participate in the Census, ranking of potential Census messages, and barriers and motivators to participation⁵. The survey took approximately 25-30 minutes to administer.

Macro collected 4,064 completed interviews including 2,701 landline telephone interviews, 300 cell phone interviews, and 1,063 in-person interviews. The combined response rate was 37.9% (in-person 59.4%; landline 31.3% and cell phone 22.4%).⁶ Sampling variances for CBAMS were calculated using Taylor series linearization to adjust for the complex sample design. Because our study required a large number of statistical difference tests, p-values were adjusted using the False Difference Rate procedure for testing multiple hypotheses (Westfall, et al, 1999). For a more detailed description of the methodology, questionnaire, sample design and weighting approach see the CBAMS Methods Report (Macro, 2008).

3. Methodology and Research questions

3.1 Methodology

Using data from the CBAMS, we focused on four groups: English dominant-speaking Hispanics, non-English dominant-speaking Hispanics, English dominant-speaking Asians, and non-English dominant-speaking Asians. We defined the “non-English dominant” groups as those who indicated they spoke a language other than English at home. Table 1 illustrates the weighted and unweighted sample counts for the four groups.

Table 1. CBAMS weighted and unweighted sample counts - Asians and Hispanics by English spoken at home versus another language⁷

		Race/Ethnicity	
		Asian	Hispanic
Unweighted Counts	Speak English at home	53	204
	Speak another language at home	219	226
Weighted Counts	Speak English at home	95	252
	Speak another language at home	36	246

3.2 Research questions

In the analysis, we compared the responses among the four groups to four series of questions: (1) intent of Census participation, (2) Census awareness, (3) legal requirement for the Census, and (4) knowledge of Census data uses. The set of questions that we attempted to answer are as follows:

1. Are the four groups similar or different on these issues?
2. What is each group’s level of knowledge of the Census?
3. What is each group’s perception of and reaction to the legal requirement of participating in the Census?
4. What is each group’s perception of and reaction to Census data uses?
5. What is each group’s belief regarding confidentiality of Census data?

⁴ Advance materials were English language only.

⁵ The CBAMS instrument drew upon previous Census Bureau surveys measuring Census awareness, knowledge and attitudes. For example, the 1980 Knowledge Attitudes and Practices Survey, the 1990 Outreach Evaluation Survey, and the 2000 Partnership Marketing and Program Evaluation Survey.

⁶ Response rate calculated using AAPOR RR3 (AAPOR, 2008).

⁷ Of the 219 Asian-spoken-at-home households, 105 interviews were conducted in an Asian language (88 in Chinese and 17 in Korean). Of the 226 Spanish-spoken at home households, 147 interviews were conducted in Spanish.

6. How likely is each group to participate in the Census?

One point worth mentioning is that the CBAMS focused on knowledge, barriers, and motivators in the context of the Decennial Census. Our current study attempted to gain an understanding of reaction to and perception of some key survey messages among the four groups. Consequently, we focused on the series of questions that assessed Census knowledge levels in general and ones that conveyed similar survey messages to those in the ACS survey notices. We believe by examining responses to these four series of questions, we will be able to identify what messages motivate survey participation among the four groups.

4. Findings

4.1 Census knowledge

At the highest level, the CBAMS assessed Census knowledge by asking if respondents had ever heard of the Census. The survey asked both an unaided and aided question:

[UNAIDED] *Have you ever heard of the Census of the U.S?*

[AIDED] *If no -- The Census is the count of all people who live in the U.S. Have you ever heard of that before?*

Table 2 presents the percentage of respondents who answered “no” to both questions (broken out by the four race/ethnicity and language segments). Previous research labelled this subgroup as the “Unacquainted” mindset (Bates, et al., 2009). This group is completely unfamiliar and unaware of the Census. Prominent in this group are recent immigrants, those with limited English speaking abilities, and those with lower education levels.

Table 2. Percentage of CBAMS respondents reporting “never heard of Census of U.S.” by race/ethnicity and language spoken at home (standard errors in parentheses)

	<u>Hispanics:</u> English spoken at Home	<u>Hispanics:</u> Spanish spoken at Home	<u>Asians:</u> English spoken at Home	<u>Asians:</u> Non-English lang. spoken at Home	Overall Sample*
% Unacquainted Mindset	9.9% (4.5)	25.6% (6.1)	9.8% (7.1)	43.8% (22.2)	6.9% (0.9)

* This includes all races/ ethnicities and language groups.

As Table 2 indicates, over four out of ten Asians who report speaking an Asian language at home fell into the Unacquainted group (43.8%). While this percentage is not statistically different from the total sample, it is nonetheless a clear indication that Census knowledge barriers are high for this subpopulation. Members of this group are likely not aware of basic Census facts such as: it occurs every ten years, it comes in the mail around April 1, and households need to complete and mail it back. Hispanics who reported speaking Spanish at home also had a noticeably higher percentage in the Unacquainted mindset compared to the total population (and this difference is statistically significant). Hispanics and Asians who reported speaking English at home had around 10 percent in this group (which was not significantly higher than the overall sample). This suggests that language at home may be a covariate with Census familiarity, regardless of race/ethnicity.

Of respondents who answered “yes” to either the aided or unaided Census awareness question, the CBAMS asked a sequence of Census knowledge questions to create a summary index (items found in Table 3). Each question had a yes/no format whereby “yes” was the correct answer for some items while “no” was correct for others. The items quizzed respondents on level of knowledge regarding various uses of Census data (some true and some false). To arrive at the 0-10 index we simply summed the number of correct answers. We also looked for the tendency to answer “don’t know” (D.K.) to gauge admitted lack of knowledge about the nature of Census uses and purposes.

Table 3. Census Knowledge Items

C4	<i>People have different ideas about what the Census is used for. I am going to read some of them to you. As I read each one, please tell me by indicating yes or no whether you think that the Census is used for that purpose. Is the Census used ...</i>
C4a	To decide how much money communities will get from the government?
C4b	To decide how many representatives each state will have in Congress?
C4c	To see what changes have taken place in the size, location and characteristics of the people in the U.S.?
C4d	To determine property taxes?
C4e	To help the police and FBI keep track of people who break the law?
C4f	To help businesses and governments plan for the future?
C4g	To locate people living in the country illegally?
C4h	To determine income tax rates?
C4i	To count both citizens and non-citizens?
C4j	To determine the rate of unemployment?

Table 4. Mean Census Knowledge Score by Race/Ethnicity and Language Spoken at Home (standard error in parenthesis)*

	<u>Hispanics:</u> English spoken at Home	<u>Hispanics:</u> Spanish spoken at Home	<u>Asians:</u> English spoken at Home	<u>Asians:</u> Non English Lang. Spoken at Home	Overall sample**
Knowledge Mean Score (0-10)	5.9 (.33)	3.8 (.34)	6.2 (.49)	2.9 (1.5)	6.1 (.08)
Mean “D.K.” score (0-10)	0.7 (.21)	0.8 (.26)	0.4 (.17)	1.4 (.63)	0.7 (.04)

* Table excludes those in the “Unacquainted” mindset. This subset was not administered the Census knowledge items.

** Overall sample column includes all race/ethnicities and language groups.

In Table 4, we see delineation in knowledge level according to English versus non-English at home households. Both Hispanic and Asian English speakers scored around a mean of 6 correct answers on the knowledge index of (5.9 and 6.2, respectively). Neither score is significantly different from the overall sample mean. Conversely, Asians who speak an Asian language at home scored the lowest (2.9) and Hispanics who speak Spanish at home scored 3.8. Both scores are significantly lower than the overall sample. Asians who reported speaking a non-English language at home also had the absolute highest “Don’t Know” score on the knowledge index. These findings regarding knowledge have implications for motivating non-English speaking populations to cooperate in Censuses -- no awareness combined with little knowledge means they have no real reason to participate. Education may be key to pushing past this barrier.

4.2. Familiarity with legal requirements

Two sets of questions were asked in the CBAMS to get at the familiarity with legal requirements. The first set of questions asked about whether the Census answers are legally mandated and kept confidential. The second set of questions asked a battery of opinion questions about the Census.

4.2.1 Legal requirements of the Census. Two of the survey questions inquired about the legal requirements of the Census. The first asked about the mandatory nature of Census response:

As far as you know, does the law require you to answer the Census questions?

The second item asked about the confidential nature of data collected by the Census Bureau:

As far as you know, is the Census Bureau required by law to keep information confidential?

We see some variation in the notion of whether answering the Census is required by law (see Table 5). Overall, a majority of respondents stated that they do not believe the Census is mandatory but, interestingly, around half of the Hispanics who reported speaking Spanish at home believe that Census participation is legally required (50.3%). This is significantly higher than the total sample. The percentage of Asian-language at home Asians who said they “don’t know” if Census is mandatory was quite high at 38.9 percent. This may be indicative of non-English speaking Asians’ lack of Census knowledge and tendency to respond “don’t know” (as opposed to wagering a guess).

Table 5. Familiarity with Legal Requirements by Race/Ethnicity and Language Spoken at Home (standard errors in parentheses)*

		<u>Hispanics:</u> Speak English at Home	<u>Hispanics:</u> Speak Spanish at Home	<u>Asians:</u> Speak English at Home	<u>Asians:</u> Speak Non-English Lang. At Home	Overall sample**
Does law require?	Yes	19.4% (4.2)	50.3% (8.0)	24.6% (11.2)	29.3% (18.9)	27.9% (1.4)
	No	72.7 (4.8)	46.6 (8.4)	63.2 (13.7)	31.8 (15.0)	57.9 (1.6)
	DK	7.9 (2.7)	3.1 (1.4)	12.2 (7.1)	38.9 (21.6)	14.2 (1.1)
Does Census keep answers confidential?	Yes	78.3% (5.2)	85.4% (4.4)	93.4% (4.4)	90.0% (5.6)	84.3% (1.1)
	No	14.7 (4.4)	10.9 (3.3)	2.4 (2.0)	7.0 (3.8)	9.2 (0.8)
	DK	7.1 (3.2)	3.8 (3.4)	4.5 (3.8)	2.3 (2.1)	6.5 (0.8)

* Table excludes those in the “Unacquainted” mindset. This subset was not administered these items.

** Overall sample column includes all race/ethnicities and language groups.

Differences among the four groups were less pronounced regarding whether the Census Bureau is required to keep Census data confidential. A large majority of all groups reported that they believe that Census data are kept confidential as required by law. This is reassuring but we wonder if a more recent survey would yield different findings given recent public debate about uses of Census data, undocumented residents, and a proposed boycott of the Census by certain advocacy groups since the CBAMS was fielded (Nasser 2009).

4.2.2 Belief in Confidentiality, Census Skepticism, and Belief in Collective Opportunity/Duty.

In addition to asking the two items about whether the Census answers are legally mandated and kept confidential, the CBAMS asked a battery of opinion questions about the Census (see Table 6). Respondents were instructed to indicate if they agreed or disagreed with each statement.⁸

⁸ Respondents answered along a 4 point scale where 4 = Strongly Agree, 3 = Agree, 2 = Disagree, and 1 = Strongly Disagree. Neither/No Opinion was available but was not offered aloud.

Table 6. CBAMS Items for Skepticism, Collective Opportunity/Duty and Census Confidentiality Indices

	Skepticism	Duty	Confidentiality
a. The Census is an invasion of privacy.	X		
b. It is important for everyone to be counted in the Census.		X	
c. The Census Bureau would never let another government agency see my answers to the Census.			X
d. People's answers to the Census cannot be used against them.			X
e. Taking part in the Census shows I am proud of who I am.		X	
f. Filling out the Census form will let the government know what my community needs.		X	
g. I just don't see that it matters much if I personally fill out the Census form or not.	X		
h. It is a civic responsibility to fill out the Census form.		X	
i. The Census Bureau's promise of confidentiality can be trusted.			X
j. I am concerned that the information I provide will be misused.	X		
k. I prefer to stay out of sight and not be counted.	X		
l. The government already has my personal info. like tax returns, so I don't need to fill out a Census form.	X		
n. It takes too long to fill out the Census information, I don't have time.	X		

Using factor analysis to create uncorrelated constructs, we arrived at three indices created by summing items that loaded highly with one another. These roughly translated into Census Skepticism, Belief in Confidentiality, and Collective Opportunity/Duty (see Bates, et al. 2009 for detailed description of indices). Table 7 contains the index means by race/ethnicity and language spoken at home.

Table 7. Mean Index Scores by Race/Ethnicity and Language Spoken at Home (standard errors in parentheses)*

	Hispanic English/Home	Hispanic Spanish/Home	Asian English/Home	Asian Asian/Home	Overall Sample**
Confidentiality Belief Score (0-3)	2.4 (.18)	1.9 (.23)	2.7 (.39)	1.2 (.38)	2.5 (.04)
Census Skepticism Score (0-6)	2.7 (.21)	1.8 (.23)	2.2 (.32)	1.3 (.54)	2.4 (.05)
Collective Opportunity/Duty Score (0-4)	3.1 (.19)	2.4 (.25)	3.3 (.32)	1.5 (.58)	3.2 (.04)

* Table excludes those in the “Unacquainted” mindset. This subset was not administered these items. Overall sample column includes all race/ethnicities and language groups.

**Overall sample column includes all race/ethnicities and language groups.

Regarding the concept of confidentiality, the data in Table 7 provide somewhat different inferences from the single question posed earlier in Table 5. For example, whereas in Table 5 we saw few differences among the groups and generally high agreement that Census data is kept confidential by law, in Table 7 we see larger variation regarding confidentiality belief between groups that speak English at home versus those who speak another language at home. In both cases, households that reported speaking a non-English language at home had lower scores to the Confidentiality Belief index compared to their English-speaking counterpart households (however, this difference was statistically significant only between Asian households, not Hispanics).

The second construct, Skepticism, reflects cynicism, privacy concerns, and a general sense that the Census is unnecessary and irrelevant. Here again, we see differences between English speakers at home versus non-English native language speakers. In this case, both Spanish-speaking households and Asian-speaking households had significantly *lower* scepticism score compared to their English-speaking counterparts.

The final index reflects the belief that the Census is a collective social opportunity as well as a civic duty. Previous CBAMS analysis has noted that this concept may be particularly motivating and relevant among Asian subgroups (MACRO 2009). We see that both Hispanics and Asians that speak English at home are closely aligned to the total population mean for this index. However, both groups that speak a non-English language at home scored significantly lower than the total population. Again, this may speak to the larger fact that monolingual non-English populations simply have far less knowledge about Census purpose and what part it plays in US society and governance.

4.3 Likelihood to participate

The final construct used to profile the language groups was intent to participate in the Census. The exact wording was:

If the Census were held today, how likely are you to participate? By participate we mean fill out and mail back a Census form.

Admittedly, this measure is a flawed indicator at best in terms of predicting actual behavior in Census 2010. In fact, an evaluation of the 2000 Census communication campaign found a very weak correlation between self-reported participation by mail (as measured in a survey) and actual mailback behavior (as measured by Census operational data see Wolter et Al. 2002). To try and improve this measure for CBAMS, a new question was asked:

How likely are you to recommend participating in the Census to a family member or friend?

While this measure also has obvious weaknesses, we hoped it might somewhat lesson the social desirability bias and provide a closer indicator of self-response propensity. Alternatively, it may also be construed as a measure of Census “advocacy,” that is, how inclined a respondent would be to advocate on behalf of the Census by word of mouth and social networks. We use these measures as proxies to further profile each group’s self-reported intent.

Table 8 presents both mean scores regarding self-intent to participate (or tell others) grouped by the race/ethnicity and language at home.

Table 8. Intent to Participate in Census - Mean Scores by Race/Ethnicity and Language Spoken at Home (standard errors in parentheses) ⁹

	<u>Hispanics:</u> Speak English at Home	<u>Hispanics:</u> Speak Spanish at Home	<u>Asians:</u> Speak English at Home	<u>Asians:</u> Speak non- English lang. at Home	Overall Sample
Self-Intent to Participate * (1-5)	4.2 (.14)	4.2 (.14)	3.9 (.49)	3.3 (.55)	4.3 (.03)
Intent to Tell Others ** (1-5)	4.1 (.10)	4.3 (.15)	4.1 (.35)	3.5 (1.0)	4.0 (.03)

* Item includes the “Unacquainted” mindset respondents.

** Item excludes cases in the “Unacquainted” mindset. This subset was not administered this question.

Asians who spoke an Asian language at home had the lowest score regarding self-reported intention to mail back a Census form and this score was significantly lower than the overall sample mean. This comes as little surprise given the previous findings that this group is the most unacquainted with the Census. Regarding likelihood to recommend the Census participation to a friend or family member, none of the individual group scores were significantly different from the overall sample.

5. Discussion

Analysis from the CBAMS confirmed several important findings from the qualitative research. First, the two non-English speaking populations studied here have very low knowledge about the Census – over 40 percent of Asian-language speaking households had never heard of the Census and over one-quarter of the Spanish-speaking households never had. And while these data are specific to the decennial Census, there is no reason to believe these subgroups are any more familiar with the ACS. Chances are that different data collections by the Census Bureau are not easily discriminated by the general public (and particularly among non-English speakers). As such, awareness of the decennial Census is probably as good an indicator as any.

Second, a sizable percentage of the Asian-language speaking group admitted they “don’t know” about the legal requirements of Census participation (over 40%). This is in line with the findings from the previous ACS cognitive testing studies. One finding from the ACS cognitive studies suggests that Asian-language-speaking respondents have very different perceptions of legal requirements due to the differences in legal systems between the United States and their home countries. One of such differences is the concept of law. Tamahana (2004) maintains that the Western conception of rule of law emphasizes the ways in which law limits the power of the government and increases individual autonomy and freedom; while the Asian concept tends to associate law as enhancing the power of the government. As shown in our cognitive testing studies, English-speaking respondents tended to view society as being governed by law, whereas Asian-language-speaking respondents in our sample acknowledged that there were given laws on the one hand, but on the other hand, society was not necessarily operated by law, but by other socially accepted mechanisms (such as human relationships, behaviour norms, etc.). This explains why stress on law does not help much with Asian-language-speaking respondents. On the contrary, it might cause fear and doubt (Pan et al. 2006).

Third, compared with the total population, the Asian-language-speaking group had a lower self-reported likelihood to participate in the Census. This is likely due to their low level of familiarity, awareness, and knowledge about the Census.

Moving forward, it makes sense to find and test messages that might be more effective in motivating non-English speaking groups to participate in Censuses and surveys. The CBAMS attempted to measure this concept in the context of the decennial Census by presenting respondents with a list of statements about the Census. For each one, respondents were asked

⁹ Both measured along 5 point scales 1 – Definitely not 2 – Probably not 3 – might or might not 4 – Probably will 5 – Definitely will.

to indicate if knowing this information would make them more or less likely to participate, or would have no affect (See Table 9).

Table 9. Percent Indicating Message Would Make More Likely to Participate by Race/Ethnicity and Language Spoken at Home (standard errors in parenthesis)*

Does knowing [message] make you more likely to participate in the Census, less likely or wouldn't affect participation?

<i>Potential Messages</i>	<i>Race/Ethnicity and Language Spoken At Home</i>			
	<u>Hispanics:</u> Speak English at Home	<u>Hispanics:</u> Speak Spanish at Home	<u>Asians:</u> Speak English at Home	<u>Asians:</u> Speak non-English Lang at home
Census allocates \$300 billion in funds	78.8% (5.3)	82.6% (5.0)	97.0% (1.8)	63.9% (16.5)
Census determines Congressional Reps	66.1% (5.6)	62.7% (10.6)	93.0% (3.4)	57.0% (16.9)
Law requires answering Census	59.7% (6.1)	72.4% (8.4)	89.8% (6.4)	38.0% (16.9)
Helps communities get programs	85.6% (3.6)	88.0% (5.9)	99.2% (0.6)	56.2% (17.0)
Helps governments plan for future	83.9% (3.9)	83.1% (5.6)	97.9% (1.2)	81.7% (6.7)
If not counted, community might not get fair share	71.8% (5.9)	76.5% (5.9)	74.2% (17.7)	58.8% (16.9)
Census tracks changes in US population	74.0% (4.9)	65.0% (6.7)	80.0% (12.7)	50.9% (17.6)
Sensitive questions not asked in Census	50.6% (6.1)	69.8% (5.3)	72.6% (13.1)	52.2% (17.8)
More accurate if everyone participates	82.8% (4.2)	81.9% (7.3)	96.3% (2.1)	84.4% (6.8)
Jail term for interviewers if answers disclosed	55.9% (6.4)	63.2% (7.2)	78.5% (12.7)	73.9% (11.4)
Saves millions if you mail back the form	73.9% (5.8)	69.8% (6.4)	92.2% (4.0)	81.8% (7.3)

* Table includes the “Unacquainted” mindset respondents.

Using the percentages from Table 9 we performed an admittedly unscientific and exploratory look at which messages might “rise to the top” in terms of motivating populations to participate. We note a few obvious conclusions. First, that the top four ranked messages (indicated in bold) were the similar across most groups. Hispanics (regardless of language at home) and the English-dominant language Asian group all ranked messages about Census being used to allocate \$300 billion; Census being most accurate if everyone participates; Census data being used to help the government plan for the future; and Census data used to get community programs among the top 4. However, in addition to two of these messages, two different messages resonated among Asian language speaking households. These included a message about Census employees being subject to jail term or fine for disclosing information and a message about millions of taxpayer dollars saved by mailing back a form. It would be interesting to test these message variants more empirically by way of a controlled test targeted toward non-English monolingual speakers.

6. Conclusion

In this study we compared and contrasted four groups' perception of censuses and motivation to participate in the Censuses and surveys. Our results suggest that the main barrier for census and survey participation for non-English-speaking households is the low level of knowledge of United States Censuses and a lack of familiarity with survey practice. Therefore, in addition to promoting messages that are better received by the non-English speaking groups, more efforts are needed to enhance the knowledge and familiarity with the censuses and surveys among these groups. It is also important that Census Bureau survey documents or pre-notifications address this barrier by providing relevant context and background information about the censuses and surveys. This will help to encourage Census and survey participation from non-English-speaking populations. Future research is also needed to investigate the best mode of data collection from this segment of the U.S. population.

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