

Please provide information on your analysis plans.

Results from the 2005 National Census Test show that the bilingual form significantly increased the self-response rate nationally (by 2.2 percentage points for paper response, and 1.1 percentage points for total response), and more specifically, in areas where there is a high concentration of non-White or Hispanic populations (Bouffard and Tancreto, 2006). However, item nonresponse rates for the bilingual form were higher for all household-level items and Hispanic origin compared to the English-only form. There are many potential reasons for these item nonresponse discrepancies, including forms design, question wording, translation, and differences in the responding population.

The purpose of the follow-up 2007 Census Bilingual Form Study is to determine if the bilingual form item nonresponse issues can be resolved by improved form design and utilization of the questions that will be on the form in the 2008 Dress Rehearsal, as well as evaluating whether other results from 2005 will be replicated. As such, the analysis will focus on several different components to evaluate the overall effectiveness of the bilingual forms in a similar manner as the 2005 bilingual form analysis.

First, we will test the differences in the self-response rates between each of the three panels. These comparisons will help to evaluate if the bilingual forms increase response in the selected “Spanish Assistance” areas relative to the English-only form.

Second, we will assess the nonresponse rates for all household and person-level items. This may provide information on the effectiveness of the improved bilingual design. The analysis of item nonresponse will be restricted to initial questionnaires, since all replacement questionnaires for the study will be English language only.

Third, we will report on how often each language column was used for each of the two bilingual panels as well as study instances of “lane jumping” (where a return has at least one response in both the English *and* Spanish columns within the same form). This information will be useful from both a data processing perspective, as well as for future form design.

Fourth, we will compare various demographic characteristics between each of the study panels. This is particularly important since one of the bilingual forms allows for the full reporting of eight people, instead of the customary six.

What is the size of the universe you are seeking to generalize to?

The universe for the 2007 Bilingual Form Study is about 8,711,929 housing units. This universe was obtained by using Census 2000 data to preselect areas that were identified to have relatively large concentrations of Spanish-speaking people with a need for English language assistance. The sample was then selected from these specific areas.

What is the expected response rate based on response rates to similar tests?

The Census 2000 mail response rate for the sample universe was about 63 percent. This rate was for an English-only form.

In the 2005 National Census Test, a bilingual English and Spanish questionnaire was tested in one panel and the total response rate was 62 percent, compared to about 61 percent in the English-only control panel. However, there was an Internet option, which will not be available in the 2007 study (though past research has been inconclusive as to whether an Internet response option significantly effects response rates). Also, the 2005 test was a national mailout that was not designed in the same manner as the 2007 study. There were two sample strata in the 2005 test; the High Non-White or Hispanic Concentration stratum had a response rate of 47 percent and the Low Non-White or Hispanic Concentration stratum had a response rate of 69 percent in the bilingual panel.

The 2005 test used a mailing strategy that is very similar to the one planned for the 2007 Bilingual Study, with an advance letter, initial questionnaire mailout, reminder postcard, and replacement questionnaire for nonresponding households.

Taking all this into account, we expect the response rate for the 2007 Bilingual Form Study to be most similar to the results from the High Non-White or Hispanic Concentration stratum in the bilingual panel of the 2005 National Census Test. Since the design of the 2007 test is naturally more geared to Spanish speakers, the response rate may be slightly higher. Therefore, we expect a response rate of about 50 percent.

Please provide a justification for the proposed sample size include a power analysis that indicates what size effects you will be able to detect with 80% and an alpha of .05 (or .10 if that is your standard).

The following table shows some measurable differences that will be able to be measured with a power of 0.80 and the Census Bureau standard significance level of 0.10. The differences were computed using formulas given in Fleiss (1981).

The expected values of the item nonresponse rates and demographics were primarily taken from the results of the bilingual panel in the 2005 National Census Test (Bouffard and Tancreto, 2006) and others were taken from Census 2000 . For the self-response rate the effective sample size is expected to be about 9,000 housing units per panel, assuming a 10 percent Undeliverable as Addressed (UAA) rate. For other household-level analyses, for example the household count item nonresponse or the percentage of renters, the expected size is about 4,500 per panel (assuming 10 percent UAA rate and 50 percent response). For person-level analyses, the expected size is about 13,500 per panel, assuming about 3.0 people per household based on Census 2000 figures for the study universe.

Estimate	Expected Value	Measurable Difference
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<i>Self-Response Rate (%)</i>	50.0	1.86
<i>Item Nonresponse Rates (%)</i>		
Household Count	4.0	1.03
Tenure	4.9	1.14
Undercount	13.2	1.78
Telephone Number	11.0	0.95
Relationship	0.5	0.21
Sex	0.9	0.29
Age / Year of Birth	1.0	0.30
Hispanic Origin	5.4	0.69
Race	10.2	0.92
Overcount	1.8	0.40
<i>Demographic Characteristics</i>		
Average Household Size	3.0	0.18
Percent Renters (%)	40.0	2.58
Average Age	40.0	1.76
Percent Male (%)	46.5	1.51
Percent Hispanic (%)	64.0	1.46
<i>Race (%)</i>		
White	79.5	1.23
Black	9.1	0.87
AIAN	0.6	0.23
Asian	4.5	0.63
NHOPI	0.3	0.17
Other	4.5	0.63
Two or more races	1.7	0.39

References

Bouffard, J., and Tancreto, J. G. (2006) "2005 National Census Test: Bilingual Form Analysis," 2010 Census Test Memoranda Series, No. 22, U.S. Census Bureau, September 15.

Fleiss, J.L., (1981), *Statistical Methods for Rates and Proportions*, 2nd Edition, New York: Wiley.