Impact of Offering a Bilingual Option in a Mail Survey of Linguistically Isolated Areas: Results from the 2009 National Household Education Survey Pilot

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Abstract

The National Household Education Survey (NHES) is undergoing a conversion from a random digit dial telephone survey to an address based mail survey with telephone non response follow up. The survey requires screening sampled households to determine the presence of eligible children. If eligible children are present, within household sampling is performed to select a reference child. The conversion to a mail survey requires separating the data collection process into screening and topical phases. The screening is performed in a brief initial questionnaire. Households with eligible children are then sent a follow up topical interview. In the 2007 NHES administration, 4.8 percent of screener interviews were conducted in Spanish. As a result of the change in mode from telephone to primarily mail administration, it was thought that a Spanish language option would be necessary for the interviews. This paper examines the results of an experiment that compared a bilingual screener questionnaire to an English only form in a special sample of addresses in census tracts with a high density of linguistically isolated (Spanish speaking) households. The paper also describes the results of an experiment to study how two different second phase topical questionnaires performed with this sample.

Key Words: Bilingual mail survey, address-based sample, two-phase

This discussion is intended to promote the exchange of ideas among researchers and policy makers. The views expressed in this handout are part of ongoing research and analysis and do not necessarily reflect the position of the U.S. Department of Education.

1. Introduction

The National Household Education Surveys Program (NHES) is undergoing a conversion from a random digit dial (RDD) telephone survey to an address based mail survey with telephone non response follow up. Both approaches require screening sampled households to determine the presence of eligible children. If eligible children are present, within household sampling is performed to select a reference child about whom a more detailed interview is conducted. On the telephone, computer-assisted interviewing allows seamless within-household sampling of eligible children with an immediate transition between screening and more detailed topical interviewing all during one phone contact. However, the conversion to a mail survey requires separating the screening and interviewing processes into phases that require at least two contacts with a household. The screening is performed using a brief initial questionnaire that the household fills out and mails back to a processing center. Staff at the processing center use the screening

information to determine if eligible children reside in the household and which children to select for more detailed topical interviews. Households with eligible children are then sent a topical questionnaire in a second phase mailing. In the 2007 NHES telephone administration, 4.8 percent of screener interviews were conducted in Spanish. One of the challenges associated with changing to a mail mode collection is devising an approach to collecting data from households where only Spanish is understood. In this paper, we describe the results of an experiment that compared a bilingual (English and Spanish) screener questionnaire to an English only screener questionnaire in a special sample of addresses in census tracts with a high density of linguistically isolated Spanish-speaking households. We also describe results of an experiment to study how two different second phase topical questionnaires performed with this sample. One of the topical questionnaires had both Spanish and English forms, and the other was offered in English only.

2. Background

Non English speakers have long been a challenge to survey researchers, both in obtaining cooperation and in being able to conduct the interview. To address this problem, many telephone interview facilities recruit speakers of multiple languages (Groves and Lyberg, 1988). In some cases, the interview instrument is translated into alternate languages for the interviewers and in other cases; the interviewer translates as they conduct the interview. Computer-assisted self-administered methods can be adapted to allow respondents to choose the language in which they are most comfortable responding. However, mail surveys are more difficult to adapt to non English speakers. There is no person or program to determine the language the respondent speaks and adjust the interview accordingly. A study conducted by the Census Bureau (Bouffard and Tancreto, 2006) found a significantly higher response rate using a bilingual Spanish/English questionnaire rather than an English-only questionnaire in a national sample and in a sample with high concentrations of "non-Whites and Hispanics." The differences ranged from 2 percent to 3.2 percent depending on the sample. Not surprisingly, a larger difference was seen in areas with high concentrations of "non-White and Hispanic" populations. A follow up study, targeting Spanish speaking households where at least one person was reported as not speaking English "Very Well" in the 2000 Census, also found increased response using a bilingual form (Govern and Reiser, 2008). However, evidence has recently emerged that some bilingual respondents prefer to respond in English. Trussell et al. presented telephone-recruited respondents in households with Spanish speakers the choice of receiving a follow up survey and materials in English or in a bilingual Spanish-English format (Trussell et al., 2009). The majority of these respondents preferred to receive the materials in English.

3. Methods

A pilot study for evaluating different data collection strategies for NHES was fielded in the fall of 2009. For the pilot study, a sample of addresses was selected from the geographic areas with relatively high densities of linguistically isolated Spanish speaking households. Using data from the 2000 Decennial Census, households were defined as linguistically isolated and Spanish speaking if all household members over the age of 14 spoke Spanish and all household members over the age of 14 had some difficulty speaking English.

The sample was created by identifying Census tracts where 13 percent or more of the households met this definition. The 13 percent cut off was selected to balance obtaining a high concentration of linguistically isolated Spanish speaking households against representing a significant portion of the linguistically isolated Spanish speaking households in the United States. A list of these tracts was provided to our sample vendor and a simple random sample of 800 addresses was selected from these tracts for inclusion in the linguistically isolated sample.

The 800 sampled cases were then randomly assigned to receive a bilingual screener questionnaire or an English only version. The bilingual questionnaire used in this study was based on a "swimlane" design developed by the Census Bureau. Each page of the questionnaire was divided into two columns, one in English and the other in Spanish. This allowed the respondent to see the question in both languages at the same time. A bilingual thank-you/reminder postcard was sent to all sampled addresses approximately one week after the initial screener questionnaire mailing. This postcard provided respondents both a phone number they could call and a box they could mark to request a bilingual questionnaire. A second screener questionnaire was sent to non responding households approximately two weeks after the thank-you/reminder postcard. A third mailing was sent by Federal Express roughly two weeks after the second mailing. All follow up mailings used the same questionnaire as the first mailing.

The second phase of the NHES consisted of two possible topical surveys for households: The Early Childhood Program Participation (ECPP) survey or The Parent and Family Involvement in Education (PFI) survey. The ECPP questionnaire was geared to children from birth through age 7 and not yet enrolled in kindergarten. The study looked primarily at participation in nonparental early education and care arrangements, and school readiness. The PFI was designed to collect data about children ages 20 or younger who are currently enrolled in kindergarten to grade 12 or homeschooled. Upon return of a completed screener questionnaire, households with an eligible child were selected for one of the two topical questionnaires by the data collection contractor, Westat. If multiple children were present in the household, one reference child was selected. The topical questionnaire was then mailed to the household.

For the 2009 pilot test, only the PFI was offered in Spanish for cost reasons. In situations where a PFI child was sampled for a topical interview and the respondent had enumerated children using the Spanish side of the bilingual questionnaire or if respondent had mailed back the postcard with Spanish box checked or had called in to request a Spanish questionnaire, a Spanish PFI topical questionnaire was sent. Otherwise, an English PFI topical questionnaire was sent. In the situation where an ECPP child was sampled for the topical interview, only an English topical questionnaire was sent for reasons noted above. If households did not respond to the topical surveys that were mailed to them three times, Westat called the households to attempt to complete the surveys by phone. The telephone surveys were only conducted in English. If a household did not have an adult English speaker available to complete the topical survey during the telephone follow-up, the case was coded as nonresponse due to language problem at this stage.

4. Results

Table 1 shows that there was no measurable difference in response rates between the bilingual and English only screener questionnaires for the sample of households in linguistically isolated areas. The response rate for the bilingual questionnaire was 45.8 percent and the response rate for the English only questionnaire was 46.2 percent. The p-value for the significance test of difference was not significant (p=0.917).

Table 1: Response Rate and Sample Size by Screener Type

	Screener Questionnaire Type			
	Bilingual	*English only*	*Total*	*P-value*
Response rate	45.8	46.2	46.0	0.917
Number responding / number eligible	164/358	164/355	328/713	

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2009 Pilot Study of the National Household Education Surveys Program (NHES) Redesign.

An examination of key demographic characteristics between the bilingual screener questionnaire and English only screener questionnaire respondents indicates that they were not measurably different (with p-values of 0.585 or higher) with the exception of education. The bilingual questionnaire had a larger percentage of respondents with a high school diploma, GED, or lower education level than the English only questionnaire (p=0.027).

Table 2: Characteristics of Screener Respondents in the Linguistically Isolated Sample of the NHES Redesign Pilot by Form Type

	Screener Questionnaire Type		
Respondent characteristics[1]	*Bilingual*	*English only*	*P-value*
Percent renting home	48.4	45.3	0.585
Percent living at current address for 5 or more years	57.5	58.6	0.836
Percent having educational attainment of high school diploma or GED or less	52.0	39.5	0.027*
Percent having an adult in household who does not speak English	32.0	30.0	0.667
Average number of males	1.50	1.51	0.965
Average number of females	1.62	1.64	0.887
Average household size	3.12	3.14	0.901

** Indicates significance at the 0.05 alpha level, using a two-tailed test.*

[1] *Excludes cases with missing values due to item nonresponse.*

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2009 Pilot Study of the National Household Education Surveys Program (NHES) Redesign.

Next, we looked at the language used by respondents to the bilingual questionnaire. Table 3 shows that just over one quarter (28.7 percent) of the bilingual questionnaire respondents used only the Spanish column, that a little over two thirds (68.3 percent) used only the English column, and that 3 percent had responses in both columns.

Table 3: Language Column Completed by Bilingual Screener Respondents

	Column Used on Bilingual Questionnaire		
	Spanish column only	*English column only*	*Both columns*
Percent completing by column	28.7	68.3	3.0
Number completing by column	47	112	5

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2009 Pilot Study of the National Household Education Surveys Program (NHES) Redesign.

Differences emerged within the bilingual screener respondents when comparing those who responded only or partially in Spanish to those who used only the English column. Table 4 shows that there were some measurable differences in key characteristics between these two categories of respondents. Not surprisingly, a higher percentage of users of the Spanish columns lived in a household where at least one adult did not speak English (p=0.000). Additionally, a higher percentage of those using the Spanish language columns (85.7 percent) had a high school education or less compared to those using only the English language columns (35.9 percent). Those using the Spanish language columns tended to live in larger households (mean size of 3.73) and households with more males (1.86 males) than those using only the English language columns (mean size of 2.83 with 1.34 males).

Table 4: Characteristics of Bilingual Screener Respondents in the Linguistically Isolated Sample of the NHES Redesign Pilot by Language Column Completed

	Column Used on Bilingual Form		
Respondent characteristics[1]	*Spanish column only*	*English column only*	*P-value*
Percent renting home	56.0	44.9	0.196
Percent living at current address for 5 or more years	50.0	61.1	0.185
Percent having educational attainment of high school diploma or GED or less	85.7	35.9	0.000*
Percent having an adult in household who does not speak English	74.4	14.4	0.000*
Average number of males	1.86	1.34	0.006*
Average number of females	1.86	1.50	0.070
Average household size	3.73	2.83	0.004*

** Indicates significance at the 0.05 alpha level, using a two-tailed test.*
[1] *Excludes cases with missing values due to item nonresponse.*
SOURCE: U.S. Department of Education, National Center for Education Statistics, 2009 Pilot Study of the National Household Education Surveys Program (NHES) Redesign.

Table 5 shows response rates for the second phase topical questionnaires by the type of screener questionnaire the household completed. As noted earlier, the ECPP topical survey was offered only in English whereas the PFI topical survey had both a Spanish questionnaire and an English questionniare. Table 5 shows some differences in the response rate to the ECPP based on the version of screener that was completed. No differences were detected in the PFI response rate based on the type of screener questionnaire.

Table 5: Topical Response Rate by Version of the Screener Completed in the Linguistically Isolated Sample of the NHES Redesign

	Screener version completed			
	Bilingual form	*English*	*Overall*	*P-value*
Overall topical response rate	55.2	65.3	60.4	0.226
ECPP response rate (offered in English only)	35.0	68.8	50.0	0.044*
Number of respondents/number sampled	(7/20)	(11/16)	(18/36)	
PFI response rate (English and Spanish offered)	63.8	64.3	64.1	0.962
Number of respondents/number sampled	(30/47)	(36/56)	(66/103)	
Comparison between ECPP and PFI response rate				0.137

** Indicates significance at the 0.05 alpha level, using a two-tailed test.*

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2009 Pilot Study of the National Household Education Surveys Program (NHES) Redesign.

Among the 36 households eligible for the ECPP, 20 responded to the bilingual screener and 16 responded to the English only screener. Of the bilingual screener respondents, 10 households enumerated their children in Spanish. None of the 10 households who completed the screener in Spanish returned an ECPP survey. However, 69 percent of the respondents who enumerated their household in English during the screener interview returned a completed ECPP survey. This latter estimate included respondents who received the bilingual screener and filled it out in English (10 completed the bilingual screener in English and also had children eligible for ECPP, and of these 7 completed the ECPP) and those who received the English only screener (16 returned that screener and also had children eligible for ECPP, and 11 of these completed the ECPP). This resulted in a significantly lower response rate for the ECPP among those who completed the bilingual screener (35.0 percent) when compared to respondents who completed the English only screener. The PFI form which was offered in both English and Spanish did not experience the same differences. Among the 103 households eligible for the PFI interview, 47 had responded to the bilingual screener and 56 had responded to the English only screener. Of the bilingual screener respondents, 16 enumerated their children in Spanish or requested a Spanish interview. Ten of these respondents completed the Spanish PFI (62.5 percent). The overall response rate for the PFI interview was 64.1 percent.

5. Conclusions

Unlike previous studies, we did not detect an improvement in response rates by offering respondents a bilingual option when compared to only offering an English version of the screening questionnaire. While there was not a measurable difference, some evidence surfaced from our analysis within the bilingual screener questionnaire respondents and among topical respondents to indicate that the bilingual form was reaching a somewhat different population. The group of respondents who completed the bilingual screener in Spanish differed in measurable ways on a number of demographic characteristics from those who completed in English. Perhaps the strongest evidence that the bilingual screener brought in a different population comes from the fact that none of the respondents who completed a screener in Spanish and were sampled for the ECPP completed the topical questionnaire which was offered only in English. Since these differences did not surface at the overall study level, it may indicate that the cut-off we

used for linguistically isolated Spanish speaking populations included many non isolated households.

We plan to confirm these findings with a larger sample in 2011. Additionally, we are considering offering Spanish and English questionnaires simultaneously to respondents in linguistically isolated Spanish speaking areas. Further, the Spanish option will be offered in both ECPP and PFI topical interviews. To address potential literacy issues, we will offer telephone non response follow up in English and Spanish.

References

Bouffard, J. A., and Tancreto, J. (2006). Experimental Treatment Results of the Bilingual Census Form from the 2005 National Census Test. *Proceedings of the Survey Research Methods Section of the American Statistical Association, 2779-2786.*

Govern, K. A. and Reiser, C. (2008). Bilingual Census Questionnaire Design Test: 2007 National Census Test. *Proceedings of the Survey Research Methods Section of the American Statistical Association, 1604-1611.*

Groves, R. M. and Lyberg, L. (1988). An Overview of Nonresponse Issues in Telephone Surveys. In Groves, R., P. Biemer, L. Lyberg, J. Massey, W. Nicholls II, and J. Waksberg (eds.), *Telephone Survey Methodology*. New York, NY: John Wiley and Sons.

Trussell, N., Link, M., Bailey, J., Vanno, L. and Matthess, L. (2009). Spanish Respondent's Choice of Language of Survey Materials: Bilingual or English Only; Should You Give a Choice? *Poster presented at the 64th Annual Conference of the American Association of Public Opinion Research*, Hollywood, FL.