Does Context Really Matter? Results from a Spanish Language Advance Letter Pilot

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Abstract

The Spanish-speaking population in the United States has grown substantially over the past several decades, yet survey participation levels among Spanish-speakers have not kept pace. In random-digit-dialed (RDD) surveys in particular, Spanish-speakers are often under-represented, potentially limiting the validity of and increasing the bias associated with survey estimates. While the use of advance letters has been shown to improve overall response rates in telephone surveys, their utility within the Hispanic community is unclear. Typically, advance letters contain a Spanish language translation of a letter originally developed in English, but rarely is the letter content initially developed for a non-English speaking population. Here, we pilot the use of tailored Spanish language advance letters for persons in areas thought to be primarily Spanish-speaking and compare the results to a group who received a standard English language letter with Spanish translation and a control group who did not receive a letter. A pilot study was conducted as part of the Behavioral Risk Factor Surveillance System (BRFSS) in four states (Arizona, Texas, Florida, and New York) during 2005. The content of the tailored letter was developed based on information obtained from focus groups conducted with speakers of different Spanish dialects. For the survey, likely Spanish-speaking households were sub-sampled from the regular BRFSS monthly samples in each state based on either reverse matching telephone numbers with a Hispanic surname list or telephone numbers in a telephone exchange in which more than half of the households were believed to be Hispanic based on Census information. These telephone numbers were then randomly assigned to one of three groups: tailored Spanish language letter, English with Spanish translation letter, or no letter. In the analysis, we compare response rates, respondent demographics, and selected survey estimates obtained across these three groups.

Keywords: Spanish-speaking population, lead letters, telephone surveys, health surveys

Note: The findings and conclusions in this report are those of the authors and do not necessarily represent the views of RTI International, the Centers for Disease Control and Prevention, or the participating states.

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Introduction

In many surveys, particularly random-digit-dial (RDD) surveys, Spanish-speakers are underrepresented. The Spanish-speaking population in the United States has grown substantially over the past several decades (U.S. Census Bureau), yet survey participation levels among Spanish-speakers have not kept pace. The under-representation of Spanish-speakers can potentially limit the validity of and increase the bias associated with survey estimates.

There are multiple strategies used to increase survey participation for general population and population specific surveys. These strategies include offering incentives, framing of the survey request, minimizing respondent burden, utilizing answering machine messages, sending advance letters, and offering multiple modes for survey completion. In addition, researchers (Groves and Couper 1998; Dillman 2000) have pointed to the need to "tailor" survey design and materials for the specific population being interviewed. The premise of tailoring is that no one design or appeal will fit every survey situation, rather it is important to tailor the design and materials because populations will respond differently based on their characteristics, interest in the topic, etc.

Advance letters have been shown to improve overall response rates in telephone surveys (Link et al, 2004), however their utility within the Hispanic community is unclear. Typically, advance letters contain a Spanish language translation of a letter originally developed in English. These letters rarely, if ever, have content specifically developed for non-English speaking populations, however these populations may have different concerns and reasons for not participating than their English-speaking counterparts. As such, it may be important to tailor letters for these populations in an attempt to increase survey participation. While a tailored letter for Spanish-speaking populations could easily be developed, identifying cases for whom it is appropriate to send the letter is more complicated. However, companies providing telephone samples are often able to provide information about the likelihood of the telephone number containing Hispanic household members. This paper reports the results of a pilot study conducted as part of the Behavioral Risk Factor Surveillance System (BRFSS). The purpose of this pilot test was to investigate whether use of a tailored Spanish advance letter would increase response overall, and also among under-represented Hispanic sample members.

Methodology

As one of the largest, ongoing RDD telephone surveys, the BRFSS collects information monthly on preventive health practices and risk behaviors that are linked to chronic diseases, injuries, and preventable infectious diseases in the adult population (Mokdad, Stroup, and Giles, 2003). More than 300,000 adults are interviewed annually in the 50 states, as well as the District of Columbia, Puerto Rico, Guam, and the Virgin Islands. Previous studies have shown that use of advance letters on the BRFSS can improve overall state-level response rates by 5-6% (Link and Mokdad, 2005; Hembroff, 2005; Link et al, 2003). These studies were conducted using an English language advance letter mailed to all sample members with an identifiable address. In the fall of 2005, a pilot study was conducted as part of the BRFSS in four states (Arizona, Texas, Florida, and New York) to determine if a letter tailored to the concerns of Spanish-speakers would

improve response among this group. The pilot study involved two phases: development of a tailored Spanish lead letter, which was tested with a series of focus groups of Spanish-speakers (summer 2005), followed by implementation of the pilot from September through December, 2005.

A Spanish language advance letter was initially developed, the content of which was tailored to focus on issues thought anecdotally to be of concern to Spanish-speakers in the U.S. The content of the letter differed, therefore, from that of the standard English advance letter often used by states in the BRFSS. Then, four focus groups were conducted in two states (Texas and Florida) with native Spanish-speakers. These sites were selected to reflect the ethnic and cultural diversity of the Hispanic population in the United States. Texas was chosen to represent sample members of Mexican and Central American descent, while Florida was used to represent sample members of Cuban, Puerto Rican, and South American descent. Participants were recruited to represent a mix of Hispanic origin and descent, age, gender, education level, income level, and generation. A total of 35 participants were selected for the focus groups.

Participants were asked to read and evaluate the tailored Spanish language advance letter as well as the standard English advance letter translated into Spanish. The presentation order of the letters was randomized among the groups. Further, participants were asked to respond to multiple sentences for each of 7 topics addressed in the letter including salutation, purpose of the survey, how the results would be used, how the household was selected, participation, confidentiality, and target audience.

The results of the focus group research indicated that a tailored lead letter with more specific information about the study was viewed as a necessary and acceptable means to encourage Hispanics to participate in the BRFSS. Focus group participants expressed a strong preference for the tailored letter, however they had several recommendations for revision including being specific about the survey purpose; clearly and briefly describing the survey participation benefits; emphasizing that the results would help the Hispanic population; and, focusing on the need to talk with all kinds of persons without additional detail. The focus group participants also recommended against several items including mention that the household was selected “at random”, and the survey length. They recommended keeping the paragraph mentioning that no other government agency will know that someone participated in the study. They felt this gave them trust and confidence that their personal information would not be released to anybody else.

Results from the focus groups were used to refine the tailored Spanish language advance letter for use in the implementation phase of the pilot. Both letters stated the study sponsor, the purpose of the study, the topic of interview, how the results would be used, who would be calling, and emphasized the voluntary nature of participation and confidentiality of response. In addition, the English language letter detailed the household selection criteria and the interview length, while the Spanish language letter included information about the need to talk with all types of people and assured sample members that no other government agency would know anyone in the household participated. Appendix A presents the final English language advance letter and Appendix B presents the final Spanish language advance letter (in English).

For the implementation phase, likely Spanish-speaking households were sub-sampled from the regular BRFSS monthly samples in each state based on reverse matching telephone numbers with a Hispanic surname list or telephone numbers in a telephone exchange in which more than half of the households were believed to be Hispanic based on Census information. Next, telephone numbers were reverse-matched to identify mailable addresses. Only cases with a complete mailing address were included in the pilot. These telephone numbers were then randomly assigned to one of three groups: tailored Spanish language letter, English with Spanish translation letter, or no letter. In the analysis, we compare response rates, respondent demographics, and selected survey estimates obtained across these three groups.

Results are presented for all cases as well as for three overlapping, non-mutually exclusive subgroups: cases only on the Hispanic surname list; cases only in telephone exchanges with high concentrations of Hispanics; and cases identified on both lists. We utilize all four analysis groups to determine which, if any, might represent the optimal method for identifying likely Spanish-speaking households. We make comparisons across response rates and refusal rates, demographic characteristics, and survey estimates of key health conditions and risk behaviors.

Results

A total of 7,862 cases were involved in the pilot study. Table 1 shows the number of letters sent by treatment group by state. A total of 2,620 tailored letters and 2,622 standard letters were sent across all four states, while 2,620 cases did not receive a letter.

Response Rates and Refusal Rates

Table 2 shows the response rates and refusal rates for each treatment group. For all cases, the standard letter group had significantly higher response rate (34.9 percent) than the tailored (29.9 percent) and no letter groups (29.4 percent). The standard letter group (38.4 percent) also had a significantly higher response rate than the no letter group (28.6 percent) in the Hispanic telephone exchange group. For cases both on the surname list and in exchanges believed to have more than 50% Hispanic households, the standard letter outperformed the tailored letter (35.5 percent versus 27.8 percent).

The refusal rate results were less consistent. The standard letter cases in the group with both surname and Hispanic telephone exchange cases had a significantly lower refusal rate (11.8 percent versus 17.9 percent) than did the cases in the tailored letter group.

Demographics and Household Characteristics

Overall, very few significant demographic differences were observed (see Table 3). For all cases, the tailored letter group was more likely to be younger than the no letter group, while the no letter group was more likely to be 35-49 years of age than the tailored letter and standard letter groups.

Similar age differences were observed for the surname only cases. Interviews were more likely to be completed in Spanish for the tailored letter group than the no letter group.

For the telephone exchanges with greater than 50% Hispanic cases, those in the tailored letter group were more likely to be 35-49 years of age than were those in the standard letter group, those in the standard letter group were more likely to be 50-64 years of age than the no letter, and the no letter group was more likely to be 65 or older than the standard letter group. The standard letter group was also less likely to complete the interview in Spanish than was the no letter group.

The only significant demographic difference for the cases in both the surname and telephone exchange groups was that the no letter group was more likely to be 35 to 49 years of age than the standard letter group.

Health Conditions and Risk Behaviors

No significant differences were found in reported health conditions or risk behaviors for all cases in the experiment groups (Table 7). Further, no significant differences were found for health conditions or risk behaviors for cases in the telephone exchange only or both surname and telephone exchange groups (Table 8). In the surname only group, respondents in the tailored letter group were more likely to report having high blood pressure than were those in the standard letter group.

Conclusion

Overall, the tailored letter failed to encourage survey participation and did not increase response among Hispanic sample members as anticipated. The standard letter group achieved the highest response rate and demographic and survey estimates do not appear to change. The differences that were observed were few and of no discernable pattern. So while the standard letter reduces the level of non-response, it does not seem to bring in any different demographic groups.

While this Spanish advance letter pilot did not yield the expected results of increasing participation among Spanish-speakers, this may be due to some limitations with the current research. It is possible that different wording and/or highlighting of different issues may have had an effect. Or perhaps too much emphasis was given to the issue of immigration issues. Further, this research may be limited in its applicability only to Hispanics in the states utilized in this pilot test, and other sets of Hispanics may have reacted differently.

More research is needed to identify and implement methods for obtaining response from Spanish-speaking households both for the BRFSS and for general population surveys as well. Such research might include evaluation of all translation, contacting, and interviewing procedures used for Spanish-speaking households and investigation into how these procedures may need to differ from those traditionally used for mainly English-speaking populations.

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Table 1. Number of Cases by Treatment Group.

	Tailored Letter	Standard Letter	No Letter	Total
Arizona	272	273	274	819
Florida	1,449	1,450	1,448	4,347
New York	365	364	363	1,092
Texas	534	535	535	1,604
Total	2,620	2,622	2,620	7,862

Table 2. Participation Rates by Treatment Group.

	Letter Group			Significance (p-value)		
Participation Group Measures	Tailored Letter	Standard Letter	No Letter	Tailored vs. Standard Letter	Tailored vs. No Letter	Standard vs. No Letter
Response Rates						
All cases	29.9	34.9	29.4	0.01	-	0.001
Surname only	28.0	31.7	26.9	-	-	-
> 50% Hispanic area	35.1	38.4	28.6	-	-	0.01
Both	27.8	35.5	32.9	0.01	-	-
Refusal Rates						
All cases	14.4	12.6	13.9	-	-	-
Surname only	13.7	13.3	12.3	-	-	-
> 50% Hispanic area	10.9	12.6	13.0	-	-	-
Both	17.9	11.8	16.5	0.01	-	-

Table 3. Demographic and Household Characteristics for all Pilot Cases.

	Either Surname or Exchange > 50% Hispanic			Surname Match			Exchange >50% Hispanic			Both Surname and Exchange >50% Hispanic		
	Tailored Letter	Standard Letter	No Letter	Tailored Letter	Standard Letter	No Letter	Tailored Letter	Standard Letter	No Letter	Tailored Letter	Standard Letter	No Letter
Sex												
Male	39.6	41.8	36.9	42.1	44.3	36.8	39.6	40.5	36.1	36.6	40.5	37.5
Female	60.4	58.2	63.1	57.9	55.7	63.2	60.4	59.5	64	63.4	59.5	62.5
Ethnicity												
Hispanic	66.4	64.9	69.0	81.3	75.4	75.2	22.6	18.4	20.9	96.0	96.0	97.5
Non-Hispanic	33.7	35.1	31.0	18.8	24.6	24.8	77.4	81.6	79.1	4.0	4.0	2.5
Age												
18-34	18.6[d]	23.3	27.9	21.2[c]	29.0	35.4	11.5	21.4	18.6	22.8	19.1	27.5
35-49	35.2[d]	32.5[e]	25.1	39.8[c]	34.4	22.1	33.7[a]	21.4	24.4	31.7	40.5	28.3[e]
50-64	26.7	23.9	27.0	28.3	20.6	22.1	26.0	22.3[e]	34.9	25.7	28.6	25.8
65+	19.5	20.3	20.1	10.6	16.0	20.4	28.9	34.8[e]	22.1	19.8	11.9	18.3
Education												
< High School	26.3	26.8	28.6	29.2	32.6	30.1	12.3	8.6	17.4	38.0	37.6	35.3
High School	27.9	28.4	28.9	28.3	33.3	31.0	22.6	20.7	20.9	33.0	30.4	32.8
College	45.8	44.9	42.5	42.5	34.1	38.9	65.1	70.7	61.6	29.0	32.0	31.9
Income												
< $25,000	44.6	45.8	49.5	44.6	47.8	48.4	34.4	34.0	37.3	56.6	54.1	59.1
$25,000-$49,000	31.4	25.9	27.6	27.7	25.2	24.2	38.5[a]	23.7	30.7	27.7	28.4	28.6
$50,000+	23.9	28.4	22.9	27.7	27.0	27.4	27.1[a]	42.3	32.0	15.7	17.4	12.4
Adults in Household												
One	32.7	32.2	32.2	25.4	25.2	29.0	42.5	42.2	37.2	30.7	30.2	31.7
Two	48.9	48.5	50.0	51.8	55.7	49.1	48.1	44.0	50.0	46.5	45.2	50.8
Three or more	18.4	19.3	17.8	22.8	19.1	21.9	9.4	13.8	12.8	22.8	24.6	17.5
Children in Household												
None	55.1	52.8	50.9	49.1	44.3	46.5	67.0	76.7	67.4	49.5	39.7	43.3
One or more	44.9	47.2	49.1	50.9	55.7	53.5	33.0	23.3	32.6	50.5	60.3	56.7
Questionnaire Language												
English	65.1	68.4	65.3	56.1	65.7	70.2	89.6	95.7	86.1	49.5	46.0	45.8
Spanish	34.9	31.6	34.7	43.9[c]	34.4	29.8	10.4	4.3[e]	14.0	50.5	54.0	54.2

[a]1,2 .05 / [b]1,2 .01 / [c]1,3 .05 / [d]1,3 .01 / [e]2,3 .05 / [f]2,3 .01

Table 4. Health Conditions and Risk Behaviors by Sample Group.

	Either Surname or Exchange > 50% Hispanic			Surname Match			Exchange >50% Hispanic			Both Surname and Exchange >50% Hispanic		
	Tailored Letter	Standard Letter	No Letter	Tailored Letter	Standard Letter	No Letter	Tailored Letter	Standard Letter	No Letter	Tailored Letter	Standard Letter	No Letter
Health Coverage	72.4	74.9	69.8	66.4	70.8	68.8	81.9	87.9	80.2	69.3	67.2	63.3
Diabetes	13.1	10.8	14.1	9.7	9.2	14.9	15.1	11.3	12.8	14.9	12.0	14.2
High Blood Pressure	30.2	28.5	27.7	31.6[a]	18.3	21.1	35.9	40.9	34.1	22.8	27.8	29.4
Cholesterol Tested	66.6	71.4	68.5	66.7	69.5	69.3	78.3	83.3	79.5	54.0	62.4	59.8
Heart Attack, Angina, Stroke	8.3	8.6	10.2	5.4	6.2	10.0	12.5	10.3	10.6	7.1	9.5	10.1
Asthma	10.0	10.2	10.0	9.7	9.2	10.5	15.2	8.6	11.8	5.9	12.8	8.3
Obesity	27.8	27.9	21.5	27.1	29.6	21.6	26.0	20.0	19.3	29.9	33.6	23.2
Influenza Shot	25.3	25.6	24.7	16.8	26.0	23.7	35.9	36.0	29.1	23.8	15.9	22.5
Current Smoker	17.8	15.1	18.6	19.5	15.3	16.9	17.9	15.7	23.3	15.8	14.3	16.8
Binge Drinking	14.5	13.0	10.7	16.1	13.2	13.3	11.4	10.4	7.1	16.0	15.2	10.9
Limited in Activities	19.7	19.7	18.9	14.4	18.0	20.4	27.9	24.6	23.3	17.0	17.1	14.3
Joint Pain	37.5	35.7	37.9	32.1	29.7	41.2	48.1	45.2	40.7	32.0	33.1	32.8
Arthritis	26.8	25.3	25.4	18.4	19.5	29.2	35.6	32.2	31.8	27.0	25.0	17.1
Ever Tested for HIV	45.6	45.4	45.0	40.0	45.7	41.0	44.3	46.0	49.2	54.0	44.6	46.0
HIV Risk Behaviors	3.7	3.2	1.7	2.1	4.8	0.0	5.6	4.1	4.7	4.0	1.0	1.2

[a]1,2 .05 / [b]1,2 .01 / [c]1,3 .05 / [d]1,3 .01 / [e]2,3 .05 / [f]2,3 .01

Appendix A. English Language Advance Letter

(Date)

(Address)
(City, State Zip)

Dear household member:

During the next four weeks, on behalf of the (State) Department of Health Services and the Centers for Disease Control and Prevention, we are conducting a telephone survey to find out more about the general health, health risks, and access to health care of (State)'s adults. Your household was chosen to participate in this important research study. Public health officials depend on the results of this survey to evaluate health programs and to plan future actions to improve the health of people who live in your state.

When interviewers call, they will say they are calling on behalf of the (State) Department of Health Services and ask someone in your household to answer the health questions. It will take approximately 15 minutes to complete the survey. If by chance we call at an inconvenient time, please let the interviewer know and we will gladly set up an appointment for a time that is better. Although answering the health questions is voluntary, your participation is important for the results to truly represent Arizona's population.

The information provided will be kept strictly confidential and your household will never be identified in any reports. We greatly appreciate your household's participation. If you have any questions, or would like more information about participating, please call toll-free at 1-800-XXX-XXXX.

Thank you for your valuable assistance and cooperation.

Sincerely,

(Name)
Behavioral Risk Factor Surveillance System Coordinator
(State) State Health Department

Appendix B. Spanish Language Advance Letter (in English)

(Date)

Address
City, State, Zip

Dear household member:

We are writing to let you know that, during the next four weeks, we will be conducting a telephone survey to find out more about the general health, health risks, and access to health care of (State)'s adults. This survey is conducted on behalf of the (State) Department of Health Services and the Centers for Disease Control and Prevention. Public health officials depend on the results of this survey to evaluate health programs and to plan future actions to improve the health of people who live in your state.

We are interested in talking with all types of persons who live in (State). We are asking you to participate in this survey because we want to know your opinions and experiences. Please participate. Although answering the health questions is voluntary, your participation is important for the results to truly represent (State)'s population.

The information provided will be kept in the strictest confidence. No other government agency than the (State) State Health Department and the Centers for Disease Control and Prevention will know you participated in the study, and your answers will not be linked back to you. We greatly appreciate your household's participation.

When interviewers call, they will say they are calling on behalf of the (State Agency). If you have any questions, or would like more information about participating, please call toll-free at 1-800-XXX-XXXX.

Thank you for your valuable assistance and cooperation.

Sincerely,

(Name)
Behavioral Risk Factor Surveillance System Coordinator
(State) State Health Department