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

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Abstract

Despite the increasing size of the Spanish speaking population in the United States, Spanish speakers are often underrepresented in random digit dialed (RDD) surveys, limiting the validity of and increasing the potential bias associated with survey estimates. Although the use of advance letters improves overall response rates in telephone surveys, their usefulness within the Hispanic community is unclear. We piloted the use of tailored Spanish language advance letters for people in areas thought to be primarily Spanish speaking, and compared 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. The 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

Introduction

The Spanish-speaking population in the United States has grown substantially over the past several decades (U.S. Census Bureau), yet Spanish speakers' participation in survey research, particularly random-digit-dialing (RDD) surveys, has not kept pace. Underrepresentation of Spanish speakers can limit the validity of survey estimates and increase the bias associated with such estimates. Moreover, Spanish speakers, particularly those of lower socioeconomic status, may be under-represented in public health statistics generated by these surveys and the health risks and health problems that they face may be inadequately described.

Several strategies can increase survey participation in surveys, whether they are targeted to the general population or to specific populations. These strategies include offering incentives, framing of the survey request, minimizing respondent burden, using 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 can fit every survey situation; therefore, it is important to tailor the design and materials because populations respond differently based on their characteristics, interest in the topic, cultural norms, and so forth.

Advance letters have been shown to improve overall response rates in telephone surveys (Link and Mokdad 2005), 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 although these populations likely have concerns and reasons for not participating that would differ from those of their English-speaking counterparts. As such, it may be important to tailor letters for these populations in an attempt to increase survey participation.

Although a tailored letter could be developed easily, identifying Spanish-speaking households to send advance letters to can be a complicated process. Nevertheless, companies providing telephone samples often are able to provide information about the likelihood of a particular telephone number including 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 as well as response of underrepresented Hispanic sample members.

Methods

As one of the largest, ongoing RDD telephone surveys, 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 350,000 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 improves overall state-level response rates by 5% to 6% (Link and Mokdad 2005; Hembroff, Rusz, Rafferty, McGee, & Ehrlich 2005). 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 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 of 2005), followed by a second phase from September through December 2005 to assess the effect of the tailored lead letter on response rates.
Initially, a Spanish language advance letter was developed. It was tailored to focus on issues thought anecdotally to be of concern to Spanish speakers in the United States. 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 seven 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 BRFSS. Focus group participants expressed a strong preference for the tailored letter; however, they had several recommendations for revision: (1) being more specific about the survey purpose; (2) clearly and briefly describing the survey participation benefits; (3) emphasizing that the results would help the Hispanic population; and (4) focusing on the need to talk with all kinds of people without additional detail. The focus group participants also recommended against several items, including use of the term “at random” in describing the household selection techniques. They believed that this wording diminished the importance of participating in the survey. They also commented on the survey length; 30 minutes was off-putting to many focus group members. The participants recommended retaining a paragraph stating that no other government agency will know that a person participated in the study. Such language imparted a sense of trust and confidence that no personal information would 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 identified the study sponsor and stated the purpose of the study, the topic of interview, how the results would be used, and who would be calling. It also emphasized the voluntary nature of participation and the 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 while conducting surveys 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 subsampled 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 mailing 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, nonmutually 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 use 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 particular 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, and 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 a 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, whereas 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 group, 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 35–49 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). Additionally, 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 receiving tailored letters were more likely to report having high blood pressure than those receiving the standard letter.

Conclusion

Overall, the tailored letter did not boost survey participation and did not increase the response rate among Hispanic sample members as anticipated. The standard letter group achieved the highest response rate, and demographic and survey estimates were similar for the groups receiving either the standard letter or the tailored letter. The differences that were observed were few and followed no discernible pattern. Therefore, we concluded although the standard letter reduces the level of nonresponse, it does not seem to bring in any different demographic groups.

Although this Spanish advance letter pilot did not yield the expected results of increasing participation among Spanish-speakers, this finding might be attributed to limitations with the current research. It is possible that different wording or highlighting of different issues may have had an effect. Or, perhaps too much emphasis was given to immigration issues. A greater emphasis on the benefits of participation to Hispanics (rather than to the state) might be beneficial. Furthermore, this research may apply only to Hispanics in the states included in this pilot test; other populations of Hispanics may have reacted differently.

More research is needed to identify and implement methods for boosting response rates of Spanish-speaking households, not only for BRFSS, but for general population surveys as well. Such research might include evaluation of all procedures for translating, contacting, and interviewing related to administering surveys to Spanish-speaking households. Additional investigation should assess how these procedures might 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

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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					
	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

Figure 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

Figure 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