Published in final edited form as:

J Health Commun. 2010 ; 15(Suppl 3): 252–263. doi:10.1080/10810730.2010.522697.

Providing Health Messages to Hispanics/Latinos: Understanding the Importance of Language, Trust in Health Information Sources, and Media Use

Marla L. Clayman,

Division of General Internal Medicine, and Robert H. Lurie Comprehensive Cancer Center of Northwestern University, Chicago, Illinois, USA

Jennifer A. Manganello,

Department of Health Policy, Management & Behavior, University at Albany School of Public Health, Albany, New York, USA

K. Viswanath,

Harvard School of Public Health and Dana Farber Cancer Institute, Boston, Massachusetts, USA

Bradford W. Hesse, and

Health Communication and Informatics Research Branch, National Cancer Institute, Bethesda, Maryland, USA

Neeraj K. Arora

Outcomes Research Branch, National Cancer Institute, Bethesda, Maryland, USA

Abstract

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Health communication is critical to promoting healthy lifestyles and preventing unhealthy behaviors. However, populations may differ in terms of their trust in and use of health information sources, including mass media, the Internet, and interpersonal channels. We used the 2005 Health Information National Trends Survey (HINTS) to test the hypothesis that Hispanics who are less comfortable speaking English would differ from Hispanics who are comfortable speaking English with respect to trust in health information sources and media use. Hispanics/Latinos comprised 9% of the 2005 HINTS sample (n=496). Respondents not born in the United States regardless of race/ethnicity and all Hispanics were asked, “How comfortable do you feel speaking English?” Responses of “completely,” “very,” or “native speaker” were combined into “comfortable

speaking English”: all other responses were categorized as “less comfortable speaking English.” Those comfortable speaking English reported higher trust for health information from newspapers ($p<.05$), magazines ($p<.05$), and the Internet ($p<.01$) compared with those less comfortable speaking English. They also reported more media exposure: daily hours listening to the radio and watching television (both $p<.05$) and days per week reading newspapers ($p<.05$). Hispanics comfortable speaking English reported much higher levels of Internet use (54% versus 14%, $p<.0001$). Hispanics who are not comfortable speaking English may be difficult to reach, not only because of language barriers and lower trust in media, but also because they report relatively little use of various media channels. These findings have important implications for health communications toward non-native speakers of English in general and Hispanics in particular.

Addressing known risk factors, such as improving poor dietary and exercise habits and being appropriately screened for diseases, can have large impacts on morbidity and mortality (Hiatt & Rimer, 1999; Leyden et al., 2005; Lloyd-Jones et al., 2009; Stein & Colditz, 2004). It has been demonstrated that health communication is one critical way to promote healthy lifestyles and prevent unhealthy behaviors (Hornik, 2002). It is also, however, well-documented that some populations may be more difficult to reach with health messages, even among those with access to healthcare and preventive services (Parry & Judge, 2005). It is therefore critical to extend the reach of health communication efforts to provide support for health that is universal and equitable across all segments of the population.

Analyses of national survey data point to a pervasive problem in which entire segments of the population, especially those with lower education levels or socioeconomic status (SES), appear to be excluded from easy access to information that is crucial for preventing disease and promoting health (Fox & Jones, 2009; Fox & Livingston, 2007). Reducing these access and knowledge gaps is crucial to prevent and ameliorate the unequal burden of disease borne by vulnerable populations (Viswanath, 2006; Viswanath et al., 2006).

This phenomenon may be particularly important with respect to the U.S. Hispanic population, as its members may not access and use the same information as non-Hispanics, due to language, cultural, and media use differences (Viswanath, 2006; Viswanath et al., 2006). For example, despite increases in the use of the Internet, wireless, and mobile technology, a “digital divide” between Hispanics and other groups still exists. A recent report indicated that fewer than one-third of Spanish-dominant Hispanics in the United States use the Internet (Fox & Livingston, 2007). Further, a report by the U.S. Census Bureau shows that more than half of those who reported speaking Spanish at home reported that they speak English less than “very well” (Shin & Bruno, 2003). Those who do not speak English well may have less access to accurate health information in the United States, particularly if they do not have access to bilingual health services and information sources.

Hispanics/Latinos are now the largest ethnic/racial minority group in the United States (U.S. Census Bureau Population Division, 2008). Like the overall U.S. population, the most prominent causes of death among Hispanics/Latinos are heart disease and cancer (National Center for Health Statistics, 2008). However, they are also subject to some significant health disparities, including higher rates than non-Hispanic Whites of some chronic diseases, including diabetes, some cancers, and asthma (U.S. Administration on Aging, 2002). They are also less likely to receive recommended cancer screenings (American Cancer Society, 2003). In addition, Hispanics are more likely to be overweight or obese and engage in less physical activity compared with non-Hispanic Whites (American Cancer Society, 2003).

However, in many studies, Hispanics are treated as one ethnic group. This single grouping of Hispanics/Latinos may mask the underlying heterogeneity among Hispanics and may not be helpful in understanding the health behaviors and health risks for particular

subpopulations (Weinick, Jacobs, Stone, Ortega, & Burstin, 2004). Previous studies using variables such as language of interview (Weinick et al., 2004), foreign birth (Goel, McCarthy, Phillips, & Wee, 2004), length of time in the United States, and scores on acculturation scales have acknowledged this fact; however, such studies often rely on cumbersome or inconsistent acculturation measures (Hunt, Schneider, & Comer, 2004), or time intensive data collection methods. The use of a single item of language proficiency as a proxy for acculturation may be advantageous in this instance, as it may more accurately reflect the media sources available to the respondents while acknowledging the heterogeneity within the Hispanic population.

The Changing Media Landscape and Trust in Sources of Health Information

Further complicating efforts to provide health information to the entire population is the changing media landscape. In the past several years, there has been a proliferation in the sources and amount of health information available to the public through various channels as well as an increase in the platforms to disseminate information. For example, in addition to the Internet, the number of broadcast networks and cable channels has greatly increased, with the average U.S. household having access to dozens of channels (Webster, 2005). Spanish-language television in the United States has undergone even more dramatic change: while the Hispanic population more than doubled from 1986 to 2004, the number of Spanish-language networks grew during the same time period from 3 to 73 (Coffey, 2007). Similarly, in 1970, there were five daily Spanish-language U.S.-based newspapers, while by 2003, that number had risen to 40, with several hundred other Spanish-language papers produced on a weekly or less-than-weekly basis (Whisler, 2004).

In addition, there are multiple ways to access media. For instance, one can watch an entertainment show on a television set, a DVD, the Internet, and even a cell phone. The range in content and sources of information means that consumers of health information may not actively seek such information but may still be exposed to it through routine use of mass media (Longo, 2005; Viswanath, 2005).

Given the plethora of media options available and the differing ways in which people choose to access them, two questions arise. First, how do individuals appraise information available from myriad channels that include conventional media such as radio and television and newer media such as the Internet? Second, how do population groups use these media sources differently? Previous studies have shown that commonly used sources of health information may vary by ethnicity (O'Malley, Kerner, & Johnson, 1999), race (Nicholson, Grason, & Powe, 2003), socioeconomic status (Hesse et al., 2005), and acculturation (O'Malley, Kerner, Johnson, & Mandelblatt, 1999). However, it is also true that certain groups may selectively use media outlets (such as television channels) that have similar programming, content, and demographic targets, potentially reinforcing existing norms and attitudes (Webster, 2005).

The Role of Trust in Sources of Health Information

Trust is an important component of the relationship between someone hearing a health-related message and acting upon it. A defining feature of trust is that it is relational (Gilson, 2003). In this context, the same health information would be perceived differently, depending on the source. Gilson states that as trust "is unequally distributed within societies, its benefits are likely also to be unequally distributed" (Gilson, 2003). This implies that trust in health information sources may vary, either at an individual or, potentially, at a population level. This variance may also influence health communication outcomes.

For example, the news media have long been recognized as important sources of health information for both the lay public and health professionals, but it is unclear whether people from different social groups use news media preferentially for health information and whether or not they trust information obtained (Meissner, Potosky, & Convisser, 1992; Phillips, Kanter, Bednarczyk, & Tastad, 1991; Yanovitzky & Blitz, 2000). Thus, professionals and organizations that provide health information messages through various media sources have an interest in ensuring that the target population both uses and trusts information from sources used.

The aim of this research is to determine if Hispanics residing in the United States who report differences in comfort speaking English also report differences in trust of sources of health information. No study to date has examined cross-channel trust for health information comparing English-speaking Hispanic respondents to Spanish-speaking Hispanic respondents. The 2005 Health Information National Trends Survey (HINTS), data afford an opportunity to examine whether self-identified Hispanics/Latinos who answer the questionnaire in Spanish trust sources of cancer information differently than those who answer in English. More specifically, we wished to examine the following:

1. How do Hispanics who are not comfortable speaking English differ from other Hispanics and non-Hispanic Whites in terms of trust in sources of health information?
2. Does our indicator of comfort speaking English explain variance in trust once other traditional sociodemographic variables (i.e., income, education, gender) and media use variables have been controlled for?

We chose the 2005 administration of HINTS to address these questions because it oversampled Hispanics in order to study informational barriers in this understudied population, the HINTS interview was conducted in Spanish as well as in English, and all respondents, regardless of language of interview, were asked a question regarding comfort in speaking English.

Methods

The HINTS is a random-digit-dial, national probability sample of the general adult population developed by the National Cancer Institute (Nelson et al., 2004). Details of the survey have been published elsewhere (Nelson et al., 2004). Briefly, HINTS is repeated cyclically to track trends, and we used data from 2005 ($n=5,586$). This represents the second administration of HINTS, which was conducted between February and August 2005. Hispanics/Latinos were oversampled, and the survey was administered in both Spanish and English. For this analysis, we only included Hispanics (of any race) and non-Hispanic Whites. Respondents who answered “yes” to the question “Are you Hispanic or Latino?” were coded as Hispanic, while those who responded their race only as White are coded as non-Hispanic Whites. The survey questionnaire and dataset are publicly available at <http://cancercontrol.cancer.gov/hints/>.

First, trust in information source was used as the primary dependent variable measured by asking the respondents “How much would you trust information about health or medical topics from... (newspapers and magazines)” and “In general, how much would you trust information from... (radio, television, Internet, family or friends, and doctor or other healthcare professional)?” Responses were on a 4-point scale ranging from “A lot” (1) to “Not at all” (4). These were reverse coded for analysis.

Media use was measured in the following ways. For television, radio, and Internet, media use was measured by asking respondents how many hours of these media they watched/

listened to on a typical weekday and during a typical weekend (48-hour period). For these three media types, we used the following formula to obtain use on a typical day: $[(\text{weekday use} \times 5) + (\text{weekend use})]/7$. For newspapers, respondents were asked how many of the last 7 days they read media newspaper. We grouped responses into the following categories: none, 1 day, 2 to 6 days, and 7 days.

Both sociodemographic and media use variables were used as covariates. The categories used for education follow: did not complete high school, high school graduate, some college, and college graduate or higher. Household income as asked was divided into five categories: <\$25,000, \$25,000–\$34,999, \$35,000–\$45,999, \$50,000–\$74,999, and \$75,000 or higher. We created a variable for age group that included the following categories: 29 years old or less, 30–49, and 50 and over. We also examined whether the respondent was employed or not, married or not, and had health insurance or not.

Respondents were asked, “Which one or more of the following would you say is your race,” with possible response categories of “Black or African American,” “White,” “Asian,” “American Indian or Alaska Native,” and “Native Hawaiian or Other Pacific Islander.” A separate question asking if the respondent considered him/herself to be Hispanic or Latino was used for ethnicity. All those who answered affirmatively to the Hispanic=Latino question are considered “Hispanic” for this analysis, regardless of race. All non-Hispanics who answered White as their only race are non-Hispanic whites. For the purposes of this study, only non-Hispanic Whites and Hispanics of any race are included for analysis.

People who were not born in the United States regardless of race/ethnicity and all Hispanics were asked, “How comfortable do you feel speaking English?” Responses of “completely,” “very,” or “native speaker” were combined into “comfortable speaking English,” while all other responses “some,” “little,” “none,” or “refused” were categorized as “less comfortable speaking English.” For analysis, self-identified Hispanics/Latinos were divided by comfort speaking English.

Analysis

Media trust ratings served as independent variables. Analyses were done including the sociodemographic variables as a block, and then adding in the media use variables in the next step. Regression analyses were completed using sampling weights provided in the public use dataset and the jackknife method of variance estimation. Non-Hispanic Whites are included in the analyses as a comparison group. Analyses were conducted using STATA SE version 10 (StataCorp, College Station, Texas), in order to account for the complex survey design.

Results

In the sample for whom race/ethnicity data are available, 496 respondents identified themselves as Hispanic or Latino (9.3% of the unweighted sample and 13% of the weighted sample) and 4,103 were non-Hispanic Whites. Of the Hispanics/Latinos, there were slightly fewer English responders ($n=225$, 45%) than Spanish responders ($n=271$, 55%). Thirty-six percent of Hispanics ($n=177$) were born in the United States, while 38% have been in the United States longer than 10 years and 26% came to the United States within 10 years of completing the survey. The same number of respondents reported being more comfortable ($n=248$) and less comfortable ($n=248$) speaking English. Hispanic respondents born in the United States were significantly more likely ($p<.0001$) to report being more comfortable speaking English (92%) compared with those who came to the United States more than 10 years ago (56%) and those who recently came to the United States. Fifteen percent of respondents completing the interview in Spanish reported being more comfortable speaking

English, while 7% of people completing the interview in English reported being less comfortable speaking English.

Sociodemographic characteristics of Hispanics comfortable speaking English, Hispanics less comfortable speaking English, and non-Hispanic Whites are presented in Table 1. The two groups of Hispanics did not differ significantly on age (mean 37 years and 38 years), although both groups were significantly younger than non-Hispanic Whites (mean 47 years, $p<.0001$). However, there were significant differences with respect to other sociodemographic variables that suggest that Hispanics comfortable speaking English were more similar to non-Hispanic Whites than to Hispanics less comfortable speaking English. Hispanics comfortable speaking English and non-Hispanic Whites reported higher household income levels than responders not comfortable speaking English—62% of Hispanics less comfortable speaking English reported incomes of less than \$25,000 per year compared with 35% of other Hispanics and 20% of non-Hispanic Whites, $p<.0001$. Similarly, a much lower proportion of non-Hispanic Whites and Hispanics comfortable speaking English reported less than high school education (9% and 21%) compared with Hispanic responders less comfortable speaking English (57%). Those less comfortable speaking English were also much less likely to have health insurance (36%, $p<.0001$) compared with the other two groups.

As shown in Table 2, Hispanic respondents reporting greater comfort speaking English consistently reported higher media use than those reporting less comfort speaking English, reporting greater television ($p<.05$), radio ($p<.05$), Internet ($p<.0001$), and newspaper ($p<.05$) use. Non-Hispanic Whites reported greater use of the Internet and newspapers than both groups of Hispanics ($p<.0001$).

In weighted analyses before adjustment for other variables, Hispanics comfortable speaking English compared with those less comfortable speaking English report significantly higher trust in health information from three sources: newspapers (2.79 vs. 2.53, $p<.05$), magazines (2.83 vs. 2.56, $p<.05$), and the Internet (3.04 vs. 2.58, $p<.01$). Non-Hispanic Whites and Hispanics comfortable speaking English had similar ratings of trust in all but two sources ($p<.05$). For physicians, Hispanics comfortable speaking English had lower trust ratings than non-Hispanic Whites. For the Internet, Hispanics comfortable speaking English had higher trust ratings than non-Hispanic Whites.

After adjustment for age group, gender, employment status, marital status, education level, annual household income, and health insurance status, any differences in trust ratings disappeared, except Hispanics comfortable speaking English remained more trusting of the Internet ($p<.05$) than Hispanics less comfortable speaking English. When media use variables were added to the models, no significant differences remained. Unadjusted and adjusted results for Hispanics compared by comfort speaking English are presented in Table 3.

Discussion

Although some research has documented differences within the group referred to as Hispanic, much health research, including research using national datasets, has treated people who identify as Hispanic/Latino as one relatively homogeneous group. The current analysis compares trust ratings and media use for health information among Hispanics comfortable and uncomfortable speaking English in a national survey. Because this is an analysis of communication and media, comfort speaking English is a particularly salient attribute. We found that Hispanics who are comfortable speaking English are a significantly different group than those who are not comfortable speaking English in terms of trust in

potential health information sources and media use. The data also show that Hispanics who are comfortable speaking English are more similar in many respects to non-Hispanic Whites than they are to Hispanics who are not comfortable speaking English. Most striking are the differences in use of the Internet.

Our sociodemographic and media use data are somewhat consistent with national media exposure data (Viswanath, 2005), including recent studies (Fox & Livingston, 2007; Livingston, Parker, & Fox, 2009) that indicate that English-dominant and bilingual Latinos use the Internet at higher rates than non-Hispanic Whites. Although Hispanics comfortable speaking English in our sample were not more likely to use the Internet than non-Hispanic Whites, they did have very high trust ratings for information on the Internet, even after accounting for socioeconomic and media use variables. In fact, after healthcare providers, Hispanics comfortable speaking English were most likely to trust the Internet as a source of health information. Although it appears in our data that socioeconomic factors are the principal variables driving differences in trust in information sources between both groups of Hispanics, it is important to note that the amount of media exposure is different for these two groups. That is, even if they were using the same media channel, the exposure to health messages would differ.

The group of Hispanics not comfortable speaking English appears to be particularly vulnerable with respect to information access: they are generally of low SES and low educational attainment (Hesse et al., 2005; Viswanath, 2006). This is congruent with the results of another recent study of Hispanics using the HINTS 2005 dataset: Spanish-responding Hispanics reported greater difficulties in searching for and understanding cancer information than English-responding Hispanics or non-Hispanics of any race (Vanderpool, Kornfeld, Rutten, & Squiers, 2009). Our results also indicate that Hispanics who are not comfortable speaking English could be difficult to reach using both traditional and new media channels. They appear to be infrequent users of several types of media, with one-third reporting less than 1 hour of television viewing per day, and the majority reporting no Internet use and less than 1 hour of radio per day.

A study of data collected more recently than this administration of HINTS (Livingston et al., 2009) found that, despite recent increases in Internet use, a gap remained between use by native- and foreign-born Hispanics. The authors propose that lack of fluency in reading English is a substantial barrier to Internet use. They also found that those who read well in Spanish were less likely to go online than those who read well in English, indicating that literacy itself may not be the chief barrier.

The HINTS dataset was not designed specifically to examine differences amongst Hispanic subgroups. It is known that there are variations by country of origin with respect to factors such as SES (Ramirez & de la Cruz, 2002), health behaviors, and health risks. (Ramirez, Suarez, Laufman, Barroso, & Chalela, 2000). This study does not address the wide variety of populations encapsulated in the terms “Hispanic” and “Latino.” However, it does indicate that, particularly for health communication studies at a national level, it can be misleading to report race/ethnicity data by Hispanics/Latinos as a single group.

We recognize that the dataset did not have detailed questions regarding which particular resources were used (such as which television channels, publications, or websites). It has been argued that even though multiple media channels exist, an individual is likely to use a unique set of a small number of media channels that are available, limiting the potential to make broad generalizations about information obtained from various sources (Webster, 2005). However, for groups such as Hispanics who are not comfortable speaking English, it is notable that they seem to consume little of the traditional mass media, even though

Spanish language print and broadcast media became more widely available in the years preceding the HINTS data collection. In that sense, it matters less which particular radio or television stations Hispanics who are not comfortable speaking English do listen to, as they are unlikely to receive messages from those sources. Further, the study does not address the rapidly evolving new media environment, including the use of social media such as Facebook, Twitter, and blogs. The Hispanics who are comfortable speaking English may be frequent users of these new methods of communication, as they have high usage of and trust in the Internet. However, for Hispanics who are less comfortable speaking English, the Internet and its associated content would not seem to be a good resource.

Conclusion

Understanding patterns for both media use and trust in health information sources is particularly useful when designing health promotion messages. Health communication strategies from various channels, both interpersonal and mass media, have increasingly important roles to play in improving and maintaining an increasingly diverse population's health (Viswanath, 2005).

Our study shows that Hispanics who are not comfortable speaking English have different trust and media use patterns than their counterparts who are comfortable speaking English. The analysis suggests that these poorer, less educated men and women might be especially receptive to messages given through aural and visual channels (radio messages, television, family/friends, doctors), but they may not be receptive to text-based mediated messages such as the Internet or in print media. However, as they report relatively little use of both radio and TV, these approaches might have even less effect than they would amongst heavier consumers of media. Importantly, an analysis that grouped all Hispanics/Latinos would not have discerned such information.

Acknowledgments

Dr. Clayman is currently funded by Award Number K12HD055884 from the Eunice Kennedy Shriver National Institute of Child Health & Human Development. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Eunice Kennedy Shriver National Institute of Child Health & Human Development or the National Institutes of Health. Further, this article contains the personal opinions of Drs. Arora and Hesse and does not reflect any official position of the National Cancer Institute.

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Table 1
Characteristics of study sample: English-responding and Spanish-responding Hispanics/
Latinos, weighted percentages, $n=4,599$

	Non-Hispanic White	Hispanic—more comfortable speaking English	Hispanic—less comfortable speaking English
<i>N</i>	4,103	248 (50% of Hispanics)	248 (50% of Hispanics)
Mean age (years) ^b	47.39	36.75	38.32
Gender (percent male)	47	53	53
Employed ^a	51	44	40
Married ^a	63	52	56
Highest level of education ^b			
<HS graduate	9	21	57
HS graduate	30	30	25
Some college	34	33	13
College graduate or higher	27	16	4
Income group ^b			
<\$25,000	20	35	62
\$25,000-\$50,000	25	22	24
\$50,000-\$75,000	23	21	11
\$75,000 or higher	33	22	2
Health insurance ^b	89	76	36

All values, except for *n*, are weighted.

^a $p < .05$.

^b $p \leq .0001$.

Table 2
Characteristics of media use: Non-Hispanic Whites, Hispanics comfortable speaking English, Hispanics not comfortable speaking English, weighted percentages, $n=4,599$

	Non-Hispanic White	Hispanic—more comfortable speaking English	Hispanic—less comfortable speaking English
Typical TV use per day ^a			
1 hour or less	25	18	32
2–3 hours	51	54	50
4 hours or more	24	28	18
Typical radio use per day ^a			
1 hour or less	54	49	66
2–3 hours	26	27	19
4 hours or more	21	23	16
Typical Internet use per day ^{b,c}			
No Internet use	35	45	86
1 hour or less	45	35	7
2–3 hours	16	13	5
4 hours or more	4	6	1
Typical weekly newspaper use ^{a,b}			
None	15	21	36
1 day	15	20	25
2–6 days	30	38	29
7 days	40	20	10

All values, except for N , are weighted percentages.

^a $p \leq .05$ for comparisons between Hispanics more comfortable speaking English and Hispanics—less comfortable speaking English.

^b $p \leq .0001$.

^c $p \leq .001$ for comparisons between Hispanics more comfortable speaking English and Hispanics less comfortable speaking English.

Table 3
Comparisons of trust in health information source ratings between Hispanics comfortable speaking English and not comfortable speaking English, weighted

	Unadjusted mean score		Adjusted mean score	
	Hispanic		Hispanic	
	More comfortable with English	Less comfortable with English	More comfortable with English	Less comfortable with English
TV	2.97±.06	2.89±.09	2.97±.06	2.93±.06
Radio	2.59±.08	2.59±.10	2.45±.07	2.40±.08
Internet ^a	3.05±.09	2.58±.16	3.06±.15	2.61±.23
Newspaper ^b	2.79±.08	2.53±.09	2.82±.08	2.63±.07
Magazine ^b	2.83±.08	2.56±.08	2.77±.08	2.47±.09
Family/friends	2.82±.07	2.93±.09	2.84±.06	2.97±.07
Doctor	3.51±.06	3.34±.08	3.52±.05	3.39±.07

^a Unadjusted <.01.

^b Unadjusted <.05.

Range 1–4, with 4 being the highest.

Adjusted models include age group, gender, employment status, marital status, education level, annual household income, health insurance status, and use of television, radio, newspapers, and Internet.