

ORIGINAL ARTICLE

Measuring media-related health and mental health information acquisition among Latino adults in the United States

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Abstract

Objectives: We developed and evaluated new media-related health information acquisition measures for U.S.-based Latino populations.

Methods: In 2021, a sample of U.S.-based Latino adults ($N = 1574$) self-completed a 20-min survey of health information acquisition measures across three language/cultural dimensions: Spanish media, Latino-tailored media in English, and general media in English. Socio-demographics were also ascertained. Means and standard deviations for the health acquisition measures were adjusted for age and sex and reported across nativity status.

Results: The sample was diverse across age, gender, race, ethnicity, socioeconomic status, migration, and language competency. Internal consistency reliability of developed scales was excellent overall and within age, gender, race, ethnicity, and socioeconomic subgroups (Cronbach's alphas = 0.86–0.94). English media scales had higher means overall indicating higher prolonged quantity (i.e., dosage) than Spanish media scales. In contrast, standard deviations for Spanish media scales were higher overall indicating broader reach at lower doses than English media scales.

Conclusions: Findings suggest English-language media is popular among Latino populations overall. However, Spanish-language media retains broad reach through both passive and active exposure. Our findings demonstrate the value of including more nuanced measurement of health information acquisition such as the scales developed in this study to improve health promotion among Latino populations.

KEYWORDS

Latino populations, media, mental health communication, public mental health, stigma

1 | INTRODUCTION

Appropriate use of mental healthcare can have long-lasting positive outcomes (Fergusson et al., 2007; Goodman & Whitaker, 2002). Yet Latino populations in the United States (U.S.)—those with ancestry

from Latin America—report low mental healthcare utilization despite high mental health burden (Le Cook et al., 2014). These mental health disparities exist in part due to mental illness stigma (hereafter “stigma”) which is higher in Latino versus Non-Latino White populations, although few studies were based on national data (DuPont-

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Reyes et al., 2020; Nadeem et al., 2007). Mass media including Internet, television, radio, magazines, newspapers, and social media are powerful in conveying mental health information such as knowledge about mental illnesses as well as their treatment and portrayals (Granello & Pauley, 2000; Wahl, 2003). Recent research suggests that mental health information is disparate across English- and Spanish-language mass media. For instance, exposure to any Spanish-language media versus only English-language media is associated with greater stigma among Latino youth, suggesting Spanish-language media as a potential source of stigma in Latino communities (DuPont-Reyes et al., 2019; Wang, 2019). However, extant literature is mostly limited to English-language media only, overlooking heterogeneity in media language/cultural preferences and potential disparities among Latino populations. This current study aims to evaluate the development of new measures assessing media-related health and mental health information acquisition to address stigma in Latino populations in the future. Indeed, minoritized populations including migrants and linguistic minorities in other contexts worldwide are also at risk of disparate health communication pointing to a universal challenge that our paper seeks to help address (Chiu, 2009; Kar & Cochran, 2019; Maldonado et al., 2020; Thomas et al., 2004).

Two meta-reviews assessing the impact of media portrayal of stigma and efficacy of anti-stigma interventions for media professionals demonstrated scant attention to Spanish-language media (Maiorano et al., 2017; Ross et al., 2019): across the 39 identified studies, none came from the 20 countries with Spanish as the official language, and no study from the U.S. assessed Spanish-language media or its audience (Maiorano et al., 2017; Ross et al., 2019). Studies examining the influence of media response to mass gun violence on stigma has also excluded Spanish-language media (Hoffner et al., 2017; McGinty et al., 2013; Metzl & MacLeish, 2015). In terms of mental health resources (e.g., media campaigns, advertisements of treatments), one study of three randomly drawn weeks of prime-time television found zero mental health advertisements in the popular Spanish-language Telemundo network compared to 11 in the media company's English-language NBC network (DuPont-Reyes et al., 2022). Another study comparing mental illness content in the largest Spanish-language and English-language newspapers in California found only 1% of Spanish-language stories provided help-seeking resources versus 55% of English-language stories (Entertainment Industries Council Inc., 2012). Thus, Spanish-language media is virtually absent in stigma prevention research. Failure to include Latino populations limits our understanding of how stigma prevention can close treatment gaps for Latino communities.

Health communication researchers have touched upon this knowledge gap, focusing on family communication around mental health and how Latino culture such as familismo and religiosity shapes community-level stigma (Abate et al., 2022; Ai et al., 2017; Guntzviller & Wang, 2019; Siegel et al., 2012). Nevertheless, little research explores how Latino communities are exposed to mental health information through media consumption and what kind of information is conveyed in their mass media preferences. One

exception is a recent study of web search results on depression targeting Latino adolescents (Vargas et al., 2021). These studies point to the need to improve our understanding of media use among Latinos particularly for acquiring health information (Clayman et al., 2010; Manganello et al., 2016; Rideout et al., 2011; Wilkin & Ball-Rokeach, 2006).

Improving understanding of media use among Latino populations requires new reliable measures that acknowledge the diversity of the population and the media landscape that this population encounters. Measurement of media use among Latino populations has typically come from subscales of acculturation measures that assess media use across two bicultural domains, Spanish- and English-language, and in print media that are no longer commonly used (Marin & Gamba, 1996; Phinney & Rosenthal, 1992). New measurements of media use are needed to account for the evolution of media such as social media and emerging Latino-tailored English-language media and that also capture amount used over a period (i.e., dose) (Rideout et al., 2011). Triangulating measures across acculturation, health communication, and mental health services research is necessary to further knowledge of media-related health information acquisition among diverse Latino groups.

Our current study addresses these research gaps that contribute, in part, to health disparities including in mental health. Our study aims to validate methodological approaches for strengthening future research in this area and prioritizes linguistic and cultural diversity of the Latino population. We describe our approach to achieving a convenience sample of Latinos to evaluate our newly developed measures of media-related health information acquisition. Attentiveness to these knowledge gaps in health communication is critical to address low mental healthcare use among Latino populations and attain health equity in the future.

2 | METHODS

2.1 | Sampling

The current study aimed to achieve a diverse sample of Latino residents in the U.S. versus national representativeness to ensure that underrepresented social groupings within the Latino population were included in the study. Qualtrics offers an online proprietary market research panel of individuals 13 years and older that mirrors worldwide census representation. Using this existing Qualtrics panel, U.S.-based Latino residents were invited to complete a 20-min survey assessing Spanish- and English-language media-related health information acquisition. A broad definition of "Latino" identity was provided to determine eligibility: "Not all Latin America was colonized by Spain, as Brazil was part of the Portuguese Empire and Britain, France, and the Netherlands colonized the Guyanas. "Hispanic" refers to individuals who are or have ancestors from a country where Spanish is spoken, indicating Spain's historical influence, and including people from Mexico, the Caribbean (Puerto Rico, Cuba, Dominican Republic), South America (Ecuador, Bolivia, Colombia,

Peru, etc.), and Central America (Honduras, Costa Rica, etc.). "Latino/o/x/e" refers to individuals who are or have ancestors from Latin America." Moreover, ethnic origin and age quotas were used with Qualtrics recruitment procedures to recruit a diverse Latino sample. Among those eligible, 2058 consented to complete the online survey using personal digital devices. Random checks inspected the survey database for accuracy and consistency in data entry. This current analysis focuses on participants 18 years and older ($N = 1574$) as the 13- to 17-year-old subsample ($n = 484$) are developmentally distinct consumers of media to be analyzed separately (Rideout et al., 2010, 2011). To assess the representativeness of social groupings following recruitment procedures, we compared the socio-demographics of the achieved study sample to U.S. national census data (U.S. Census Bureau, 2020). All study materials were offered in Spanish and English; 85.32% completed the survey in English. Participants received a \$5 gift card for their time and effort.

The survey adapted existing health information acquisition measures with established psychometric properties among adults. Additional items were developed to assess media consumption across various mediums/platforms (e.g., social media, television), languages (Spanish vs. English), and target audiences (Latino-oriented vs. general audiences). Prior to the study, we conducted four virtual focus group sessions among 11 bilingual Latino adult volunteers to obtain feedback regarding feasibility, acceptability, and face validity of all study materials. Each session (2–4 participants) lasted 1 h. A total of 25 questions were asked to all volunteers concerning Spanish-language back-translation, eligibility screening, consent form, provided mental health resources, content of the survey questions, survey platform usability, and other issues raised by the volunteers. In response to the feedback received and prior to survey launch, minor revisions to question wording and response categories were made to add clarity and enhance diversity and inclusion. Volunteers were provided a \$25 gift card. The Institutional Review Board at (BLINDED) approved the study protocol.

2.2 | Measures

2.2.1 | Media use

We adapted three sources of measures of media consumption (Table S1): Pew Research Center media consumption survey, Kaiser Family Foundation Generation M: Media in the Lives of 8–18-Year-Olds survey, and media use language subscale from the Bidimensional Acculturation Scale for Hispanics (BAS) (Marin & Gamba, 1996; Rideout et al., 2010; The Pew Research Center, 2000). Items from these sources were merged and revised to include contemporary forms of media including streaming subscription services and social media. We extended the media language subscale from the BAS from two dimensions of Spanish- and English-language media to an additional third dimension of English-language media tailored to Latino audiences. Overall, the revision assessed seven types of media use across Spanish, Latino-tailored-English, and general-English

platforms: print media; free, broadcast television; subscription-based television; radio/podcasts; Twitter; other social media (e.g., Facebook, Instagram, TikTok); and music streaming (e.g., Spotify, Pandora). Participants were asked how often they engage in each medium on an average day on a five-point Likert scale (1 = Never to 5 = Always). Total scores of all items were combined for each language/cultural dimension to create three subscales (Table S2): Spanish-language media use ($\alpha = 0.92$), Latino-tailored-English media use ($\alpha = 0.90$), and general-English media use ($\alpha = 0.86$); a Spanish/Latino media use subscale also emerged in the data ($\alpha = 0.94$).

2.2.2 | Information scanning

A previously validated scale for assessing exposure to health information from scanning various media was adapted for each language/cultural dimension (Biggsby & Hovick, 2018; Jensen et al., 2017; Shim et al., 2006). Five items assessed information scanning in television, print media, websites, social media, or radio/podcasts for each mental health (Table S3) and physical health (Table S7). Responses to all items were on a four-point Likert scale (1 = Not at all to 4 = A few times a week). Total scores of all items for each dimension of Spanish-language, Latino-tailored-English, and general-English were combined to create three subscales of information scanning for each mental health (Table S4; Cronbach's alphas = 0.92–0.94) and physical health (Table S8; Cronbach's alphas = 0.93–0.94).

2.2.3 | Information seeking

A previously validated scale assessing exposure to health information from help-seeking in various media was adapted for each language/cultural dimension (Biggsby & Hovick, 2018; Jensen et al., 2017; Shim et al., 2006). Five items assessed information seeking in television, print media, websites, social media, or radio/podcasts for a mental health (Table S5) and physical health (Table S9) problem for oneself, family member, or friend. Responses to all items were on a four-point Likert scale (1 = None to 4 = Always). Total scores of all items for each dimension of Spanish-language, Latino-tailored-English, and general-English were combined to create three subscales of information seeking for mental health (Table S6; Cronbach's alphas = 0.88–0.90) and physical health (Table S10; Cronbach's alphas = 0.87–0.90). Another configuration of these items by media type emerged: TV, radio, and print media grouped as a subscale (Cronbach's alphas = 0.93) while websites and social media grouped as another subscale (Cronbach's alphas = 0.89–0.90).

2.2.4 | Socio-demographic and mental health factors

Age, sex, ethnicity, race, nativity, education, and income were ascertained. Two items assessed help-seeking to healthcare experts

and family/friends for a mental or physical health problem of their own, family member, or friend (Table S11). Migration factors included an 18-item acculturation assessment comprised of language use and proficiency, and a 6-item ethnic attachment assessment regarding the extent of exploration, belonging, and commitment to Latino identity (Tables S12 and S13) (Marin & Gamba, 1996; Phinney & Rosenthal, 1992; Xu et al., 2004). Lastly, mental health factors were ascertained including the Patient Health Questionnaire-4, family history items, and stigma items from the General Social Survey (Tables S14–S16).

2.3 | Data analysis

First, descriptive analyses were conducted to characterize the full study sample (Table 1) and by U.S.-born and foreign-born nativity owing to significant differences in sub-sample characteristics. Pearson's chi-square tests were conducted to compare the achieved study sample with the national Latino population using U.S. Census Bureau (2020) data. Next, guided by the original scales that the measures were drawn to assess three language/cultural factors, composite scales for all media-related health information acquisition measures were developed using principal axis factor analysis. Eigenvalues, scree plots, unique and total variance, factor loadings, content validity, and internal consistency reliability were examined to assess best fit of the data. Scree plot elbow joints were examined to extract eigenvalues >0.5. Items with high loadings (>0.4) on the same factor were summed to create composite sub-scales after examining the factor loadings across all three factors and the content validity of the clustered items (Tables S1–S10). As a result, composite sub-scales by language/cultural domains and by media type were created for all media-related measures (Tables S1–S10). Finally, linear regression models with the sample age and sex variables were employed for each media-related health information acquisition continuous outcome variable in the full sample and by nativity subsamples. Predicted means, standard deviation, and 95% confidence intervals were then generated for each outcome. Results were considered significant at $p < 0.05$. All data analysis was performed using STATA/SE 16.1.

3 | RESULTS

3.1 | Study sample

U.S.-born participants comprised 66.65% of the sample (Table 1), similar to the national population of Latinos (62.78%) (U.S. Census Bureau, 2020). Also, like national estimates, the median age of the sample was 30 years (Table 1): the median age of the foreign-born sub-sample was 6 years older than the U.S.-born sub-sample (35 years vs. 29 years). About two-thirds of the full sample were female (68.12%): 74.28% among foreign-born and 65.03% among U.S.-born sub-samples. The sample included diverse race-ethnic groups:

the full sample consisted mostly of Mexican (32.33%) and Puerto Rican origin participants (20.73%), particularly in the U.S.-born sub-sample; in contrast, the foreign-born sub-sample predominantly comprised of North Andean South American (33.40%) origin including Colombian, Venezuelan, Peruvian, and Ecuadorian. While almost half of the sample reported White race (49.10%), also included were 6.98% Black, 2.37% American Indian/Alaskan Native, 7.17% Multi-racial, and 34.38% Other race. Using U.S. Census household income cut points, about a third of the study sample and in national data reported \$35K to <\$75K in household income. In contrast, 25.80% of the sample versus 15.20% nationally reported income <\$20K, and 22.73% of the sample versus 15.51% nationally reported \$20K to <\$35K. Finally, 17.41% of the sample versus 35.69% nationally reported \$75K+ income. Thus, the sample's income was overall lower than national data. However, our sample had higher educational attainment than national estimates: 63.00% reported "Associates/Trade/Some College" or "Bachelor's degree or more" versus 42.26% nationally. Foreign-born compared to U.S.-born participants reported higher education.

With respect to migration, the mean age of arrival in the foreign-born sub-sample was 20 years, about 10 years younger than national estimates (30 years). Also, 55.47% of the foreign-born sub-sample lived in the U.S. for 10+ years versus 72.50% nationally. In the study, 40.08% reported one U.S.-born parent/guardian and 34.12% reported a second U.S.-born parent/guardian. While about half of parents/guardians of the U.S.-born sub-sample were also U.S.-born, few parents/guardians of the foreign-born sub-sample were U.S.-born (<8%). Also, participants predominantly completed the survey in English (85.32%). As a reference, 70% of the national Latino population is English-language competent. As expected, Spanish acculturation was higher among foreign-born (Mean = 32.42 foreign-born vs. 25.06 U.S.-born), while English acculturation was higher among U.S.-born (Mean = 28.12 foreign-born vs. 33.48 U.S.-born). Latino attachment was high (Mean = 33.35) and similar across nativity sub-samples.

3.2 | Scale reliability and validity

Overall data fit well across three language/cultural domains of Spanish-language, Latino-tailored-English, and general-English, especially for media use and health information scanning; however, health information seeking also clustered well by media type (Tables S1–S10). Internal consistency reliability of all scales was good to excellent for the overall sample and within social groupings (Table 2; Cronbach's alphas = 0.86–0.94). Correlations (Table S17) between all media-related health information acquisition measures were positive from 0.22 to 0.83 (moderate-high). Correlations between Spanish acculturation and each Spanish/Latino-media scales were higher than for the general-English media scales, while correlations between English acculturation was higher for the general-English media scales than for the Spanish/Latino-media scales (Table S17).

TABLE 1 Characteristics of total purposive sample of Latino adult participants compared to national data; 2021 (N = 1574).

	Full sample		Foreign born		U.S. born		National
Age in years*, Median	30		35		29		30 ^a
Gender*, N %							
Female	1064	68.42	387	74.57	677	65.35	49.59% ^a
Male	491	31.58	132	25.43	359	34.65	50.41% ^a
Ethnic origin*, N %							
Mexican	507	32.33	61	11.71	446	42.84	62.87% ^a
Cuban	156	9.95	65	12.48	91	8.74	4.03% ^a
Dominican	87	5.55	33	6.33	54	5.19	3.54% ^a
Puerto Rican	325	20.73	61	11.71	264	25.36	9.86% ^a
Central American	166	10.59	81	15.55	85	8.17	10.02% ^a
North Andean South American	253	16.14	174	33.40	79	7.59	4.77% ^a
Southern Cone South American	33	2.10	24	4.61	9	0.86	0.93% ^a
Other Latinx group	41	2.61	22	4.22	13	1.25	3.18% ^a
Race*, N %							
Black/African American	109	6.98	26	4.99	83	7.97	2.35% ^a
American Indian/Alaskan Native	37	2.37	6	1.15	31	2.98	1.03% ^a
White	767	49.10	262	50.29	505	48.51	66.86% ^a
Multiracial	112	7.17	25	4.80	87	8.36	5.06% ^a
Other	537	34.38	202	38.77	335	32.18	26.13% ^a
Household income quartiles, N %							
\$0 to \$19,999	403	25.80	140	26.87	263	25.26	15.20% ^a
\$20,000 to \$34,999	355	22.73	118	22.62	237	22.77	15.51% ^a
\$35,000 to \$74,999	532	34.06	170	32.63	362	34.77	33.58% ^a
\$75,000+	272	17.41	93	17.85	179	17.20	35.71% ^a
Educational attainment, N %							
No high school degree	96	6.15	32	6.14	64	6.15	29.54% ^a
High school graduate or similar	474	30.35	123	23.61	351	33.72	28.20% ^a
Associate degree/trade school/some college	559	35.79	165	31.67	394	37.85	24.62% ^a
Bachelor degree/college graduate	425	27.21	200	38.39	225	21.61	17.64% ^a
Nativity, N %							
U.S. born	1041	66.65	Does not apply		1041	100.00	64.50% ^b
Foreign born	521	33.35	521	100.00	Does not apply		35.50% ^b
Age at arrival, M ± SD	Does not apply		20 ± 14		Does not apply		31 ^c
Length of time in the U.S., N % 10 or more years	Does not apply		55.47%		Does not apply		78.00% ^b
Parent/guardian 1 born in the U.S., N % Yes	626	40.08	41	7.87	585	56.20	Not available
Parent/guardian 2 born in the U.S., N % Yes	533	34.12	37	7.10	496	47.65	Not available
Survey language, N % English	1343	85.32	324	62.19	1009	96.93	English language competent ^d 70% ^b
English acculturation (0–40), M ± SD	31.70 ± 5.04		28.12 ± 6.12		33.48 ± 3.14		

(Continues)

TABLE 1 (Continued)

	Full sample	Foreign born	U.S. born	National
Spanish acculturation (0–40), <i>M</i> ± <i>SD</i>	27.48 ± 7.76	32.42 ± 4.83	25.06 ± 7.75	
Latino attachment (0–42), <i>M</i> ± <i>SD</i>	33.35 ± 7.24	33.02 ± 7.77	33.54 ± 6.97	

^aU.S. Census, 2019, 1-year estimates.

^bPew Research Center.

^cCenter for Immigration Studies, 2017.

^dGeneral Social Survey, 2018.

**p* < 0.05 for differences between purposive sample and national data.

3.3 | Media use

In Table 3, Spanish-language media use (Mean = 2.74; 95% CI = 2.73, 2.75) was on average “sometimes,” though greater in the foreign-born versus U.S.-born (3.11 vs. 2.55) sub-samples. Latino-tailored-English media use was also moderate (Mean = 2.87; 95% CI = 2.86, 2.88), and greater in foreign-born versus U.S.-born (3.02 vs. 2.79) sub-samples. General-English media also had moderate use (Mean = 3.30; 95% CI = 3.29, 3.30), and was lower in foreign-born versus U.S.-born (3.19 vs. 3.35) sub-samples. Histograms of media use outcomes (Figure S1) demonstrated that English-language media is used most often at very high doses while Spanish-language media is used at lower doses, suggestive of passive exposure with many also reporting no use.

3.4 | Mental health information acquisition

Mental health information scanning in Spanish-language media occurred about once per week on average (Table 4, Mean = 1.80; 95% CI = 1.79, 1.81), and was greater in foreign-born versus U.S.-born (1.92 vs. 1.74) sub-samples. Mental health information scanning in Latino-tailored-English media had a similar mean of 1.82 (95% CI = 1.81, 1.83), and was similar across foreign-born and U.S.-born (1.77 vs. 1.85) sub-samples. Mental health information scanning in general-English media had a higher mean of 2.04 (95% CI = 2.03, 2.05), and was lower in foreign-born versus U.S.-born (1.90 vs. 2.11) sub-samples.

Mental health information seeking was on average “sometimes” (Table 4). Spanish-language media had a mean of 1.74 (95% CI = 1.73, 1.75), and greater in foreign-born versus U.S.-born (1.77 vs. 1.72) sub-samples. Mental health information seeking in Latino-tailored-English media had a mean of 1.87 (95% CI = 1.86, 1.88), and lower in foreign-born versus U.S.-born (1.77 vs. 1.92) sub-samples. Mental health information seeking in general-English media had a mean of 1.91 (95% CI = 1.90, 1.92) and lower in foreign-born versus U.S.-born (1.76 vs. 1.98) sub-samples.

3.5 | Physical health information acquisition

Physical health information scanning in Spanish-language media occurred on average once per week (Table 5, Mean = 1.93; 95%

CI = 1.92, 1.94), and was greater in foreign-born versus U.S.-born (2.15 vs. 1.82) sub-samples. Physical health information scanning in Latino-tailored-English media had a mean of 1.97 (95% CI = 1.96, 1.98), and similar in foreign-born and U.S.-born (1.99 vs. 1.96) sub-samples. General-English media had the higher mean of 2.11 (95% CI = 2.11, 2.12), though lower in foreign-born versus U.S.-born (2.03 vs. 2.15) sub-samples.

Average response for physical health information seeking was “sometimes” (Table 5). Spanish-language media had a mean of 1.82 (95% CI = 1.81, 1.83), and was greater in the foreign-born versus U.S.-born (1.87 vs. 1.80) sub-samples. Physical health information seeking in Latino-tailored-English media had a mean of 1.89 (95% CI = 1.88, 1.90), and lower in the foreign-born versus U.S.-born (1.85 vs. 1.91) sub-samples. General-English media had a higher mean of 1.93 (95% CI = 1.92, 1.93), and lower in the foreign-born versus U.S.-born (1.85 vs. 1.96) sub-samples.

4 | DISCUSSION

This study generated new measures and knowledge about media-related health information acquisition among U.S.-based Latino populations to inform health promotion efforts. Overall, our measures demonstrated good construct validity and reliability and captured nuanced patterns in media use for future research among Latino populations. Such knowledge can help render effective future health promotion efforts that use mass media to quickly reach the young, diverse, and growing Latino population in the U.S. The study findings suggest that English-language media is used in higher doses among Latinos that prefer it (i.e., greater clustering of observations around higher means). Yet Latino populations also use significant dosage of Spanish-language media, thereby also encountering and seeking physical and mental health information on it via both passive and active exposure (i.e., greater dispersion of observations around high means). Together our findings suggest that health promotion efforts in English-language media have excellent potential to reach Latino populations who encounter it at high doses though these efforts could be undermined by lack of attention to and inclusion of Spanish-language media. Thus, Spanish-language media retains broad reach among diverse Latino populations and must be included in health promotion efforts. Further, health promotion efforts that aim to provide reliable physical and mental health information for the

TABLE 2 Description of outcome measures in the study; 2021 (N = 1574).

Measure	N items	Scoring	Sample item
Media use			Please indicate how often you participate in the following on an average day:
Spanish-language in general	7	1, never, to 5, always	Watch free, broadcast TV (e.g., Telemundo, Univision) in Spanish.
English-language tailored to Latinos	7	1, never, to 5, always	Use Latino-specific Twitter in English (e.g., #brownandproud #votelatino).
English-language in general	7	1, never, to 5, always	Watch non-Latino-specific free, broadcast TV (e.g., NBC, CBS, and FOX) in English.
Mental health scanning			Some people find information about mental health in the media even when they don't have a specific concern. Please indicate how often you observed this information in the following media in an average week:
Spanish-language in general	5	1, not at all, to 4, a few times per week	Read mental health content on a website (not social media) in Spanish?
English-language tailored to Latinos	5	1, not at all, to 4, a few times per week	Heard mental health content in Latino-specific radio/podcasts in English?
English-language in general	5	1, not at all, to 4, a few times per week	Watched mental health content in non-Latino specific TV programs in English?
Mental health seeking			From each of the following sources, how much have you actively looked for information about a mental health problem that you, a family member, or a friend had in an average week?
Spanish-language in general	5	1, not at all, to 4, a few times per week	Social media (e.g., Instagram, TikTok, and Facebook)
English-language tailored to Latinos	5	1, not at all, to 4, a few times per week	Radio or podcast program
English-language in general	5	1, not at all, to 4, a few times per week	Website (e.g., WebMD, CDC, and Google)
Physical health scanning			Some people find information about physical health in the media even when they don't have a specific concern. Please indicate how often you observed this information in the following media in an average week:
Spanish-language in general	5	1, not at all, to 4, a few times per week	Read physical health content in newspapers, magazines, or books in Spanish?
English-language tailored to Latinos	5	1, not at all, to 4, a few times per week	Watched physical health content in Latino-specific TV programs in English?
English-language in general	5	1, not at all, to 4, a few times per week	Heard physical health content in non-Latino-specific radio/podcasts in English?
Physical health seeking			From each of the following sources, how much have you actively looked for information about a physical health problem that you, a family member, or a friend had in an average week?
Spanish-language in general	5	1, not at all, to 4, a few times per week	Radio or podcast program
English-language tailored to Latinos	5	1, not at all, to 4, a few times per week	Newspapers, magazines, or books
English-language in general	5	1, not at all, to 4, a few times per week	Social media (e.g., Instagram, TikTok, and Facebook)

TABLE 3 Media use among total purposive sample of Latino adult participants from simple linear regression models; 2021 ($N = 1574$).

	Full sample, unadjusted			Full sample, adjusted for age and sex			Foreign born, adjusted for age and sex			U.S. born, adjusted for age and sex		
	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI
Spanish media use, $M \pm SD$	2.73	1.10	2.68, 2.79	2.74	0.20	2.73, 2.75	3.11	0.33	3.08, 3.14	2.55	0.19	2.54, 2.56
Latino-tailored in English media use, $M \pm SD$	2.87	1.04	2.81, 2.92	2.87	0.19	2.86, 2.88	3.02	0.29	3.00, 3.05	2.79	0.16	2.78, 2.80
General English media use, $M \pm SD$	3.30	0.93	3.25, 3.34	3.30	0.13	3.29, 3.30	3.19	0.18	3.17, 3.20	3.35	0.08	3.35, 3.36

TABLE 4 Mental health information scanning and seeking among Latinx adults from simple linear regression models; 2021 ($N = 1574$).

	Full sample, unadjusted			Full sample, adjusted for age and sex			Foreign born, adjusted for age and sex			U.S. born, adjusted for age and sex		
	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI
Mental health information scanning												
Spanish-language in general, $M \pm SD$	1.80	0.89	1.76, 1.84	1.80	0.17	1.79, 1.81	1.92	0.31	1.90, 1.95	1.74	0.15	1.73, 1.75
English-language tailored to Latinos, $M \pm SD$	1.82	0.88	1.78, 1.86	1.82	0.16	1.81, 1.83	1.77	0.21	1.75, 1.79	1.85	0.13	1.84, 1.86
English-language in general, $M \pm SD$	2.04	0.91	2.00, 2.09	2.04	0.20	2.03, 2.05	1.90	0.24	1.88, 1.92	2.11	0.16	2.10, 2.12
Mental health information seeking												
Spanish-language in general, $M \pm SD$	1.74	0.81	1.70, 1.78	1.74	0.16	1.73, 1.75	1.77	0.23	1.75, 1.79	1.72	0.15	1.71, 1.73
English-language tailored to Latinos, $M \pm SD$	1.87	0.78	1.83, 1.91	1.87	0.18	1.86, 1.88	1.77	0.18	1.75, 1.78	1.92	0.16	1.91, 1.93
English-language in general, $M \pm SD$	1.91	0.79	1.87, 1.95	1.91	0.17	1.90, 1.92	1.76	0.19	1.74, 1.78	1.98	0.14	1.97, 1.99
Mental health help seeking												
Informal family/friends, $M \pm SD$	2.31	1.03	2.26, 2.36	2.31	0.25	2.30, 2.32	2.10	0.34	2.07, 2.13	2.42	0.16	2.41, 2.43
Formal healthcare, $M \pm SD$	1.97	1.00	1.92, 2.02	1.97	0.07	1.96, 1.97	1.83	0.11	1.82, 1.84	2.04	0.03	2.04, 2.04

TABLE 5 Physical health information scanning and seeking among Latinx adults from simple linear regression models; 2021 ($N = 1574$).

	Full sample, unadjusted			Full sample, adjusted for age and sex			Foreign born, adjusted for age and sex			U.S. born, adjusted for age and sex		
	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI	Mean	SD	95% CI
Physical health information scanning												
Spanish-language in general	1.93	0.96	1.88, 1.98	1.93	0.15	1.92, 1.94	2.15	0.28	2.13, 2.18	1.82	0.15	1.81, 1.83
English-language tailored to Latinos	1.97	0.93	1.93, 2.02	1.97	0.17	1.96, 1.98	1.99	0.24	1.97, 2.01	1.96	0.14	1.95, 1.97
English-language in general	2.11	0.93	2.07, 2.16	2.11	0.13	2.11, 2.12	2.05	0.18	2.03, 2.07	2.15	0.10	2.14, 2.15
Physical health information seeking												
Spanish-language in general	1.82	0.79	1.78, 1.86	1.82	0.15	1.81, 1.83	1.87	0.21	1.85, 1.89	1.80	0.14	1.79, 1.80
English-language tailored to Latinos	1.89	0.81	1.85, 1.93	1.89	0.15	1.88, 1.90	1.85	0.19	1.83, 1.86	1.91	0.14	1.90, 1.92
English-language in general	1.93	0.78	1.89, 1.96	1.93	0.15	1.92, 1.93	1.85	0.19	1.84, 1.87	1.96	0.12	1.95, 1.97
Physical health help seeking												
Informal family/friends	2.32	1.02	2.27, 2.37	2.32	0.19	2.31, 2.32	2.20	0.26	2.17, 2.22	2.38	0.13	2.37, 2.38
Formal healthcare	2.08	1.02	2.03, 2.13	2.08	0.07	2.08, 2.08	2.03	0.10	2.02, 2.04	2.10	0.07	2.10, 2.11

public should consider two targets of TV/radio/print and Internet-based/social media campaigns.

Consideration of both passive and active Spanish-language media exposure among Latino populations is vital to public health because Spanish is a leading “power” language worldwide. In the U.S., Spanish is

the second most spoken language after English with more than 37 million speakers (Flores & Hugo Lopez, 2018). Spanish television networks in the U.S. have set record-high ratings in 2019, outperforming major English U.S. networks (Hugo Lopez, 2013). The U.S.-based Latino population is also young, diverse, and on track to

becoming the largest race/ethnic group in the U.S. Further, Latino populations are not the only consumers of Spanish-language media as Latino artists are mainstream. For example, the 2020 bilingual Super Bowl halftime show was headlined by two Latina performers (one U.S.-born and one foreign-born) along with two Latino guest performers (one U.S.-born and one foreign-born), drawing over 104 million viewers. In sum, our study findings and broader trends in socio-demographics, media, and culture necessitate new insights about the role of Spanish-language media as a major influencer of health and healthcare in the future. The Latino/Spanish media industry may hold great potential as a partner in public health innovation.

4.1 | Limitations and strengths

Latinos represent a dynamic population with changing acculturative preferences and behaviors; thus, longitudinal measurement would be ideal. The study also relied on recall of participants; however, this is a minor issue considering that the measures assessed highly relevant information about self that is encountered daily. The Qualtrics panel was also voluntary, yet the achieved study sample compares well to national data and still oversamples understudied Latino groups. Finally, our study provided necessary updated measurement on media use and health information acquisition in a diverse sample of U.S.-based Latino residents across age, gender, race, ethnicity, socioeconomic status, migration, language competency, and other factors. Given strong internal consistency and face validity from focus group volunteers and study participants, the measures demonstrated adequate construct validity overall.

5 | CONCLUSIONS

Findings from this study regarding health information acquisition among U.S.-based Latino populations across diverse social groupings demonstrate the importance of consideration of the influence of passive and active Spanish-language media exposure, and the emerging use of English-language media tailored for Latino audiences. Our new measures on health information acquisition will be useful for health and mental health promotion efforts focused on Latino populations thereby helping to foster a more equitable culture of health for Latino communities.

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CONFLICT OF INTEREST STATEMENT

No financial disclosures were reported by the authors of this paper.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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REFERENCES

- Abate, A., Bailey, C., & Venta, A. (2022). Attachment and social support in Latino young adults: Investigating the moderating role of *familismo*. *Journal of Cross-Cultural Psychology*, 53(3–4), 327–343. <https://doi.org/10.1177/00220221221077378>
- Ai, A. L., Carretta, H. J., & Aisenberg, E. (2017). Cultural strengths of Latino-American subgroups: Differential associations with their self-rated mental and physical health. *Journal of Cross-Cultural Psychology*, 48(9), 1349–1368. <https://doi.org/10.1177/0022022117723528>
- Bigsby, E., & Hovick, S. R. (2018). Understanding associations between information seeking and scanning and health risk behaviors: An early test of the structural influence model. *Health Communication*, 33(3), 315–325. <https://doi.org/10.1080/10410236.2016.1266575>
- Chiu, L. (2009). Culturally competent health promotion: The potential of participatory video for empowering migrant and minority ethnic communities. *International Journal of Migration, Health and Social Care*, 5(1), 5–14. <https://doi.org/10.1108/17479894200900002>
- Clayman, M. L., Manganello, J. A., Viswanath, K., Hesse, B. W., & Arora, N. K. (2010). Providing health messages to Hispanics/Latinos: Understanding the importance of language, trust in health information sources, and media use. *Journal of Health Communication*, 15(sup3), 252–263. <https://doi.org/10.1080/10810730.2010.522697>
- DuPont-Reyes, M. J., Hernandez-Munoz, J. J., & Tang, L. (2022). TV advertising, corporate power, and Latino health disparities. *American Journal of Preventive Medicine*, 63(4), 496–504. <https://doi.org/10.1016/j.amepre.2022.04.017>
- DuPont-Reyes, M. J., Villatoro, A. P., Phelan, J. C., Painter, K., & Link, B. G. (2019). Media language preferences and mental illness stigma among Latino adolescents. *Social Psychiatry and Psychiatric Epidemiology*, 55(7), 929–939. <https://doi.org/10.1007/s00127-019-01792-w>
- DuPont-Reyes, M. J., Villatoro, A. P., Phelan, J. C., Painter, K., & Link, B. G. (2020). Adolescent views of mental illness stigma: An intersectional lens. *American Journal of Orthopsychiatry*, 90(2), 201–211. <https://doi.org/10.1037/ort0000425>
- Entertainment Industries Council Inc. (2012). Analysis of English and Spanish language newspaper coverage of mental health issues in California. The California Mental Health Services Authority (CalMHSA).
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2007). Recurrence of major depression in adolescence and early adulthood, and later mental health, educational and economic outcomes. *British Journal of Psychiatry*, 191(4), 335–342. <https://doi.org/10.1192/bjp.bp.107.036079>
- Flores, A., & Hugo Lopez, M. (2018). *Among U.S. Latinos, the internet now rivals television as a source for news* [Online]. Pew Research Center. com. Retrieved June 28, 2022, from <https://www.pewresearch.org/fact-tank/2018/01/11/among-u-s-latinos-the-internet-now-rivals-television-as-a-source-for-news/>
- Goodman, E., & Whitaker, R. C. (2002). A prospective study of the role of depression in the development and persistence of adolescent obesity. *Pediatrics*, 110(3), 497–504. <https://doi.org/10.1542/peds.110.3.497>
- Granell, D. H., & Pauley, P. S. (2000). Television viewing habits and their relationship to tolerance toward people with mental illness. *Journal of Mental Health Counseling*, 22, 162.
- Guntzville, L. M., & Wang, N. (2019). Mother-adolescent communication in low-income, Latino families during language brokering: Examining the theory of resilience and relational load. *Journal of Family Communication*, 19(3), 228–242. <https://doi.org/10.1080/15267431.2019.1628764>
- Hoffner, C. A., Fujioka, Y., Cohen, E. L., & Atwell Seate, A. (2017). Perceived media influence, mental illness, and responses to news

- coverage of a mass shooting. *Psychology of Popular Media Culture*, 6(2), 159–173. <https://doi.org/10.1037/ppm0000093>
- Hugo Lopez, M. (2013). What Univision's milestone says about U.S. demographics. Retrieved from <https://www.pewresearch.org/fact-tank/2013/07/29/what-univisions-milestone-says-about-u-s-demographics/>
- Jensen, J. D., Liu, M., Carcioppolo, N., John, K. K., Krakow, M., & Sun, Y. (2017). Health information seeking and scanning among US adults aged 50–75 years: Testing a key postulate of the information overload model. *Health Informatics Journal*, 23(2), 96–108. <https://doi.org/10.1177/1460458215627290>
- Kar, B., & Cochran, D. M. (2019). *Risk communication and community resilience*. Routledge.
- Le Cook, B., Zuvekas, S. H., Carson, N., Wayne, G. F., Vesper, A., & McGuire, T. G. (2014). Assessing racial/ethnic disparities in treatment across episodes of mental health care. *Health Services Research*, 49(1), 206–229. <https://doi.org/10.1111/1475-6773.12095>
- Maiorano, A., Lasalvia, A., Sampogna, G., Poci, B., Ruggeri, M., & Henderson, C. (2017). Reducing stigma in media professionals: Is there room for improvement? Results from a systematic review. *The Canadian Journal of Psychiatry*, 62(10), 702–715. <https://doi.org/10.1177/0706743717711172>
- Maldonado, B. M. N., Collins, J., Blundell, H. J., & Singh, L. (2020). Engaging the vulnerable: A rapid review of public health communication aimed at migrants during the COVID-19 pandemic in Europe. *Journal of Migration and Health*, 1–2, 100004. <https://doi.org/10.1016/j.jmh.2020.100004>
- Manganello, J. A., Gerstner, G., Pergolino, K., Graham, Y., & Strogatz, D. (2016). Media and technology use among Hispanics/Latinos in New York: Implications for health communication programs. *Journal of Racial and Ethnic Health Disparities*, 3(3), 508–517. <https://doi.org/10.1007/s40615-015-0169-9>
- Marin, G., & Gamba, R. J. (1996). A new measurement of acculturation for Hispanics: The Bidimensional Acculturation Scale for Hispanics (BAS). *Hispanic Journal of Behavioral Sciences*, 18(3), 297–316. <https://doi.org/10.1177/0739986396018300>
- McGinty, E. E., Webster, D. W., & Barry, C. L. (2013). Effects of news media messages about mass shootings on attitudes toward persons with serious mental illness and public support for gun control policies. *American Journal of Psychiatry*, 170(5), 494–501. <https://doi.org/10.1176/appi.ajp.2013.13010014>
- Metzl, J. M., & MacLeish, K. T. (2015). Mental illness, mass shootings, and the politics of American firearms. *American Journal of Public Health*, 105(2), 240–249. <https://doi.org/10.2105/AJPH.2014.302242>
- Nadeem, E., Lange, J. M., Edge, D., Fongwa, M., Belin, T., & Miranda, J. (2007). Does stigma keep poor young immigrant and U.S.-born Black and Latina women from seeking mental health care? *Psychiatric Services*, 58(12), 1547–1554. <https://doi.org/10.1176/ps.2007.58.12.1547>
- Phinney, J. S., & Rosenthal, D. A. (1992). Ethnic identity in adolescence: Process, context, and outcome. In *Adolescent identity formation* (pp. 145–172). Sage Publications, Inc.
- Rideout, V., Lauricella, A., & Wartella, E. (2011). *Children, media, and race: Media use among White, Black, Hispanic, and Asian American children*. Center on Media and Human Development, School of Communication, Northwestern University.
- Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). *Generation M2: Media in the lives of 8- to 18-year-olds*. Henry J. Kaiser Family Foundation.
- Ross, A. M., Morgan, A. J., Jorm, A. F., & Reavley, N. J. (2019). A systematic review of the impact of media reports of severe mental illness on stigma and discrimination, and interventions that aim to mitigate any adverse impact. *Social Psychiatry and Psychiatric Epidemiology*, 54(1), 11–31. <https://doi.org/10.1007/s00127-018-1608-9>
- Shim, M., Kelly, B., & Hornik, R. (2006). Cancer information scanning and seeking behavior is associated with knowledge, lifestyle choices, and screening. *Journal of Health Communication*, 11(sup001), 157–172. <https://doi.org/10.1080/10810730600637475>
- Siegel, J. T., Alvaro, E. M., Crano, W. D., Lienemann, B. A., Hohman, Z. P., & O'Brien, E. (2012). Increasing social support for depressed individuals: A cross-cultural assessment of an affect-expectancy approach. *Journal of Health Communication*, 17(6), 713–732. <https://doi.org/10.1080/10810730.2011.635775>
- The Pew Research Center. (2000). *Internet sapping broadcast news audience*. Pew Research Center, Biennial News Consumption Survey. Retrieved from <https://www.pewresearch.org/politics/2000/06/11/internet-sapping-broadcast-news-audience/>
- Thomas, S. B., Fine, M. J., & Ibrahim, S. A. (2004). Health disparities: The importance of culture and health communication. *American Journal of Public Health*, 94(12), 2050. <https://doi.org/10.2105/AJPH.94.12.2050>
- U.S. Census Bureau. (2020). Current Population Survey. Annual social and economic supplement. Retrieved from <https://www.census.gov/data/tables/2020/demo/hispanic-origin/2020-cps.html>
- Vargas, L., Comello, M. L. G., & Porter, J. H. (2021). The web's potential to provide depression literacy resources to Latino teens: A missed opportunity? *Howard Journal of Communications*, 32(4), 366–381. <https://doi.org/10.1080/10646175.2020.1819480>
- Wahl, O. (2003). Depictions of mental illnesses in children's media. *Journal of Mental Health*, 12(3), 249–258. <https://doi.org/10.1080/0963823031000118230>
- Wang, W. (2019). Stigma and counter-stigma frames, cues, and exemplification: Comparing news coverage of depression in the English- and Spanish-language media in the U.S. *Health Communication*, 34(2), 172–179. <https://doi.org/10.1080/10410236.2017.1399505>
- Wilkin, H. A., & Ball-Rokeach, S. J. (2006). Reaching at risk groups: The importance of health storytelling in Los Angeles Latino media. *Journalism*, 7(3), 299–320. <https://doi.org/10.1177/14648849060605513>
- Xu, J., Shim, S., Lotz, S., & Almeida, D. (2004). Ethnic identity, socialization factors, and culture-specific consumption behavior. *Psychology and Marketing*, 21(2), 93–112. <https://doi.org/10.1002/mar.10117>

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