

Who Cares What Others Think? The Role of Latinas' Acculturation in the Processing of HPV Vaccination Narrative Messages

NATHAN WALTER¹

SHEILA T. MURPHY

University of Southern California, USA

LAUREN B. FRANK

Portland State University, USA

LOURDES BAEZCONDE-GARBANATI

University of Southern California, USA

This study investigated the role played by level of acculturation in the effect of narrative persuasion on health-related outcomes. A random sample of 186 Mexican American females watched either a narrative designed to increase human papillomavirus (HPV) vaccine uptake or an equivalent nonnarrative film. While message format failed to exert a direct effect on vaccination norms and behavioral intent, participants' level of acculturation played an important role in the processing of the message. Specifically, when treating acculturation as a moderator, consistent effects emerged for less acculturated Latinas on various research outcomes, including descriptive and injunctive norms regarding HPV vaccine uptake. These findings extend the discussion on health communication through storytelling by calling attention to the importance of cultural factors in the framework of narrative persuasion.

Keywords: narrative persuasion, acculturation, social norms, HPV vaccine, Latinas

The use of health messages embedded in narratives among scholars and practitioners has been constantly growing in recent decades (Braddock & Dillard, 2016; Shen, Sheer, & Li, 2015). A key

Nathan Walter: nathanw@usc.edu

Sheila T. Murphy: smurphy@usc.edu

Lauren B. Frank: lfrank@pdx.edu

Lourdes Baezconde-Garbanati: baezcond@usc.edu

Date submitted: 2016–09–28

¹ The authors would like to thank Katalin Balint, Helena Bilandzic, and the three anonymous reviewers for their guidance and thoughtful comments.

Copyright © 2017 (Nathan Walter, Sheila T. Murphy, Lauren B. Frank, Lourdes Baezconde-Garbanati). Licensed under the Creative Commons Attribution Non-commercial No Derivatives (by-nc-nd). Available at <http://ijoc.org>.

argument in favor of the use of narrative approaches to health promotion has been the ability to target cultural groups through stories that resonate with specific audiences (Baezconde-Garbanati et al., 2014; Wang & Singhal, 2016). But despite the growing use of narrative persuasion in health and social campaigns, the research literature has been largely silent about the role played by audience's acculturation in the interpretation and adoption of narrative-consistent beliefs. This is surprising given that acculturation has been outlined as a critical barrier, a health risk, and a predictor of numerous health outcomes (Lorenzo-Blanco, Unger, Baezconde-Garbanati, Ritt-Olson, & Soto, 2012; Schwartz et al., 2014). In concurrence with recent attempts to link entertainment education with acculturation (Unger Cabassa, Molina, Contreras, & Baron, 2013), the researchers of the current study conducted an experiment to evaluate the role played by Latinas' level of acculturation in responding to a story specifically designed to increase human papillomavirus (HPV) vaccine uptake.

HPV Vaccination Among Latin-American Adolescents

Invasive cervical cancer is among the deadliest but also the most preventable cancers worldwide for women (World Health Organization, 2015). One of the safest and most effective prevention strategies for cervical cancer is the HPV vaccine (Gerend, Zapata, & Reyes, 2013). According to the Centers for Disease Control and Prevention (CDC), the HPV vaccine is recommended for adolescent boys and girls at age 11 or 12, and it is considerably less effective for women over the age of 26 and men over the age of 21 (CDC, 2015) because of engagement in sexual activity. However, rates of vaccine uptake have been disappointing, with only 60% of adolescent (ages 13–17) females receiving even one dose and 39.7% receiving the complete three-dose treatment (CDC, 2015). Even lower uptake of the HPV vaccine was recorded for adolescent (ages 13–17) males, with 41.7% receiving at least one dose and 33.6% receiving the complete three-dose treatment (CDC, 2015). Although medical advancements have contributed to the mitigation of cervical cancer incidence worldwide, unfavorable trends continue to emerge among subpopulations who do not adequately comply with cervical cancer detection and prevention guidelines and who fail to follow-up with recommended treatments (World Health Organization, 2015).

While some studies report vaccine uptake among Latino adolescents to be comparable to that of non-Latinos (Laz, Rahman, & Berenson, 2012; Watts et al., 2009), other results are less encouraging. For example, a study that analyzed predictors of HPV vaccination among daughters of Latina mothers indicated that only 18% of daughters had received even one dose of the vaccine (Gerend et al., 2013), making Latinas "especially susceptible to disparate health outcomes as compared with their non-Latina white counterparts" (Yeganeh, Curtis, & Kuo, 2010, p. 4186). In a comparable study that analyzed factors affecting HPV vaccine uptake among Latino parents of adolescent sons, most parents intended to accept HPV vaccination if recommended by a doctor, but only 30% of sons were actually vaccinated (Perkins et al., 2012). In terms of barriers to HPV uptake for Latino adolescents, along with the lack of recommendations by physicians, lower levels of acculturation have been established as another major obstacle (Gerend et al., 2013). For instance, Luque et al. (2010) reported that compared with Anglo-American women, less acculturated Latinas were unlikely to be aware of HPV and the HPV vaccine. A similar pattern of results emerged from Gerend et al.'s (2013) analysis of Latina mothers, indicating that higher levels of acculturation were associated with having their daughter vaccinated for HPV. Based on

this introduction, it appears that HPV vaccination offers an interesting and challenging context from which to evaluate the interplay between health-related narratives and Latinas' levels of acculturation.

Narratives and Persuasion

Narratives or stories have been a useful tool for targeting diverse populations to alleviate disparities and positively affect knowledge, attitudes, and behavior across many health domains (Baezconde-Garbanati et al., 2014; Kreuter et al., 2010; Murphy et al., 2015). Although knowledge, attitudes, and behavior are considered the generic measurable outcomes associated with exposure to health storylines, narratives are especially well positioned to create a shift in perceived social norms (Moyer-Gusé, 2008). Narratives have facilitated normative beliefs in contexts such as acceptance of Western values by immigrants (Wojcieszak, Azrout, Boomgaarden, Alencar, & Sheets, 2015), recruitment of Cornea donors (Bae, 2008), compliance with mammography among African American women (Kreuter et al., 2010), and screening of cervical cancer (Moran, Murphy, Frank, Baezconde-Garbanati, 2013). Simply put, if stories depict characters who engage in activities that prevent diseases (e.g., character who gets the HPV vaccination), viewers may come to believe that those activities are more prevalent and generally viewed as beneficial (Green, 2006).

This proliferation of empirical evidence regarding the capacity of narratives to influence audience's beliefs about health has helped to shift the focus of research from assessing whether narratives are effective to investigating their boundary conditions (Weber & Wirth, 2014). In particular, recent studies have shined a light on the moderating variables that can either enhance or attenuate the effectiveness of narrative persuasion, including narrative perspective (Hoeken, Kolthoff, & Sanders, 2016), transportability (Mazzocco, Green, Sasota, & Jones, 2010), perceived realism (Busselle & Bilandzic, 2008), and need for affect (Appel & Richter, 2010). Hence, it is safe to conclude that narrative persuasion is not a homogenous process and that a variety of factors can intervene, either positively or negatively. For instance, cultural differences may directly relate to the underlying mechanisms of narrative persuasion. A growing body of knowledge suggests that individual goals are typically subordinate to group goals for those from collectivist cultures (Lapinski, Rimal, Devries, & Lee, 2007; Markus & Kitayama, 1991). Thus, for members of collectivist cultures, personal behaviors are "contingent on the will of the group, and conformity . . . is considered a mechanism for maintaining harmony" (Lapinski et al., 2007, p. 135). In other words, while members of individualist cultures are less concerned with what "others" may think, people with a collectivist orientation tend to have more stable and salient referent groups and to be more chronically aware of social norms.

Thus, conceptualizations that focus mainly on narrative engagement as a vehicle for persuasion run the risk of inappropriately overgeneralizing the experience of audience members. The purpose of the present study is to provide an examination of the proposition that the effectiveness of narrative persuasion is significantly influenced by the audience's levels of acculturation. Specifically, we focus on Latinas as an interesting case study to examine the link between level of acculturation and persuasion, underscoring normative influence as an important outcome in the process of narrative persuasion for less acculturated individuals.

The Case for Acculturation in Narrative Persuasion

Acculturation has been described as a process of learning and adoption that takes place as people are exposed to a nonnative culture (Miranda, Bilot, Peluso, Berman, & Van Meek, 2006; Padilla & Perez, 2003). Findings consistently show that life in a dual cultural world bears major ramifications for health-related behaviors (Cano et al., 2016). For instance, as Hispanic women acculturate, their health profile (e.g., alcohol use, tobacco use, sexual behavior, food consumption) begins to resemble that of the U.S. non-Hispanic White women population, whereas health behaviors for less acculturated women remain more embedded in, and likely influenced by, their culture of origin (Bethel & Schenker, 2005). Therefore, as individuals acculturate, they may internalize the norms of the host culture and be less affected by ethnic customs and by the cultural identity of their minority group (Unger et al., 2000). One of the key differences between Hispanic cultures and U.S. mainstream culture operates along the continuum of individualism–collectivism (Heinrichs et al., 2006), with the former being predominantly associated with U.S. mainstream culture, whereas community, family, and cultural traditions tend to be more salient for less acculturated Latinos.

Several scholars argue that social norms in the U.S. mainstream are less restrictive than traditional Latino norms (Marks, Cantero, & Simoni, 1998). This finding is consistent with previous research documenting that the family and community contexts are much more dominant for Latinos, making peer norms highly salient and easily enforced (Van de Vijver & Phalet, 2004). Thus, as noted by Elder, Ayala, Parra-Medina, & Talavera (2009), health communication targeting Latinos should attend to collectivist concerns, such as behaving in accord with acceptable social norms.

The relevance of perceived social norms to the persuasion process stems from the distinct motivational aspects associated with two subcategories of perceived social norms: descriptive norms and injunctive norms (Rimal & Lapinski, 2015). Descriptive norms reflect beliefs regarding the perceived prevalence of specific behaviors among similar others. They influence behavior because of the expectancy that if most others are doing it, then it must be the right thing to do. For instance, a field experiment of food choices on-campus demonstrated that healthy descriptive norms result in healthy food choices (Mollen, Rimal, Ruiters, & Kok, 2013). Thus, the perceived popularity of a focal behavior in our environment is often a central predictor for behavioral change (Larimer, Turner, Mallett, & Geisner, 2004). Injunctive norms, in contrast, deal with the perceived social approval from important others regarding a specific behavior (Mabry & Turner, 2015). Injunctive norms can enhance compliance with health messages when individuals expect the behavior to be approved by authority figures and other important referents. For example, when Latinas believed that their partners, parents, and friends would not support their decision to schedule a Pap test, they were significantly less likely to comply with the advocated procedure compared with Latinas who perceived a more supportive social environment (Walter, Murphy, Frank, & Ball-Rokeach, forthcoming).

Traditionally, descriptive and injunctive norms were expected to be influenced by actual others, but fictional stories may encourage shifts in normative beliefs as well (Green, 2006). In particular, assessments of social norms have been shown to be influenced when narratives are told by individuals

perceived as similar to the audience or with whom the audience identifies (Hinyard & Kreuter, 2007). The literature suggests that culturally grounded narratives are a natural choice for identifying and shaping health messages for less acculturated audiences, because they reflect the underlying values and norms of the culture within an approachable context (Larkey & Hecht, 2010). If narratives are the source for many cultural norms and beliefs, then it follows logically that narratives can effectively serve as surrogates for normative beliefs regarding social approval.

According to Bae (2008), the underlying process of narrative persuasion may be contingent on cultural orientation. To this end, for less acculturated Latinas, a shift in descriptive and injunctive norms regarding health-related behaviors may be a necessary step for narrative persuasion; whereas, consistent with U.S. mainstream culture, acculturated individuals may rely more on individual goals and be less susceptible to normative pressure. In fact, studies that examined the response of less acculturated Latinas to narrative persuasion lend some credence to this argument. Namely, in the context of breast cancer screening, Borrayo and others' results demonstrate that involvement with narratives leads to greater behavioral intent; however, the effect is mediated through perceived social norms (Borrayo, 2004; Borrayo, Buki, & Feigal, 2005; Borrayo & Jenkins, 2001). Even in cases of highly engaging narratives, changes to normative beliefs may be a prerequisite of persuasion for less acculturated audiences. Based on this empirical research, we predict both that narratives will affect normative beliefs and that this relationship will be moderated by Latinas' level of acculturation. Figure 1 summarizes the research hypotheses.

- H1: Compared with Latinas who receive cervical cancer prevention information in a non-narrative format, those women who receive the same information in a fictional narrative format will have (a) higher levels of descriptive norms, (b) injunctive norms, and (c) behavioral intent to vaccinate adolescent daughters and sons.*
- H2: The effect of narrative exposure on HPV-related outcomes will be moderated by acculturation, such that less acculturated Latinas in the narrative condition will experience a greater shift in (a) descriptive norms, (b) injunctive norms, and (c) behavioral intent to vaccinate adolescent daughters and sons, compared with their acculturated counterparts.*

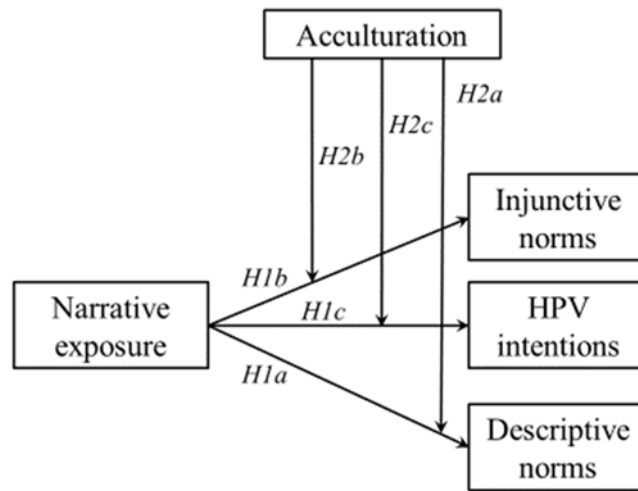


Figure 1. Theoretical model for the moderated effect of narrative exposure on HPV vaccine-related outcomes.

Method

Participants and Procedure

In total, 186 Mexican American females living in the greater Los Angeles area took part in the experiment. Participants were recruited with random digit dial (RDD) and Mexican American geographic-targeted lists that were associated with lower levels of acculturation. To secure representation of less acculturated Latinas, cell phone numbers as well as landlines were included in the sample. Ages of the participants ranged from 27 to 47 years with an average of 40 ($SD = 5.23$) years. After consenting to participate in the experiment, the participants were randomly assigned to either a narrative or a nonnarrative viewing condition and were then presented with a questionnaire designed to measure the constructs of interests and of relevant sociodemographic variables. Specifically, participants received a DVD of either the narrative or the nonnarrative film, and then they were recontacted for the posttest two weeks later. Before taking the posttest, respondents completed a recall test that included several simple noncervical cancer-related questions about the films to ensure that they viewed their DVD. To increase the fit between the narrative and the audience, researchers administered the stimuli and the questionnaires in Spanish. After completing the questionnaire, participants were compensated with gift cards.

Material

The experimental material consisted of two versions of an 11-minute film designed to highlight key facts and misconceptions about the detection (Pap tests) and prevention (HPV vaccine) of cervical cancer. The narrative, *Tamale Lesson*, portrayed a Mexican American family amidst the preparations for their youngest daughter's *quinceañera*, or 15th birthday. The interactions among four women (designed to model different perspectives toward HPV detection and prevention) unfold a cervical cancer-related plot, wherein Lupita (the oldest daughter) shares her recent abnormal Pap test results, which sparks a lively

discussion with her younger sister, her mother, and her mother's friend. Although the nonnarrative stimulus is similar in the key facts contained, and in the length and the high quality of the video, it takes a different approach. Set in a laboratory, the nonnarrative film features health providers and patients who discuss key facts associated with cervical cancer detection and prevention. Before participants were exposed to the stimuli, the study used 12 focus groups to verify that both films resonated with those from a Mexican American culture. Much of the dialogue in the films was taken directly from the barriers reported by women via focus groups.

Measures

Dependent variables. Intentions to vaccinate adolescent daughter/son served as the two-outcome variables. Specifically, the item asked participants to imagine they had a 13-year-old daughter/son and then to estimate the likelihood of their having her/him vaccinated with the HPV vaccine on a 10-point Likert scale ranging from 1 (*not at all likely*) to 10 (*extremely likely*). Descriptive social norms were assessed with two 10-point Likert scale items, on which respondents were asked to imagine 10 women like themselves with a 13-year-old daughter/son and then to estimate how many would have their daughters/sons vaccinated against HPV. To measure HPV vaccination-related injunctive social norms, participants were asked to assess the extent to which they were confident that various important referents (e.g., mother, female relatives, female friends) would approve of their vaccinating their daughter/son ($\alpha = .82$ and $.79$, respectively). These items were measured on a 10-point Likert scale, from 1 "not at all confident" to 10 "extremely confident." Previous studies determined that these specific referents had a significant influence on decisions associated with cervical cancer detection and prevention (Gerend et al., 2013).

Moderator. Level of acculturation was assessed with six items on a 4-point scale ranging from 1 (*not at all*) to 4 (*very well*), adapted from Marín and Gamba's (1996) acculturation scale. The items included "How well do you speak English?" and "How well do you understand television programs in English?" The reliability for the scale was $\alpha = .98$. In addition, the questionnaire measured various health-related and sociodemographic variables, including general health, education, marital status, employment status, having health coverage, and having a son/daughter at the relevant age for HPV vaccination. The hypotheses were tested using Hayes's (2013) PROCESS macro (Model 1; 10,000 bootstrapped samples, 95% CI).

Results

The profile of the sample is depicted in Table 1. On average, participants were 40-year-old homemakers who completed 11 years of schooling, had health coverage, were married, and had moderate levels of acculturation. More importantly, tests for the differences across experimental conditions did not reveal any significant results, which supports the claim that the randomization to narrative and nonnarrative conditions was successful. With that in mind, given the higher proportion of mothers to sons, $\chi^2(1) = 2.45, p = .11$, in the narrative condition and the greater representation of mothers to daughters, $\chi^2(1) = 3.60, p = .06$, in the nonnarrative condition, as well as an unequal distribution of household income, $\chi^2(9) = 16.63, p = .06$, the moderation analysis treated having a son/daughter and household

income as covariates. In addition, to ensure that there were no significant differences between parents of adolescents and participants who did not have children at the relevant age for vaccination, we ran a 2×2 ANOVA, which did not reveal any interaction effects on research outcomes.² Further, the assumption of normal distribution of residuals for all dependent variables was examined with the Shapiro-Wilks test. According to the results, the residuals for all six variables met the requirements of normality ($p > .05$). However, considering that for small sample sizes normality tests have little power to reject the null hypothesis (Ghasemi & Zahediasl, 2012), normality was also assessed visually with a series of P-P plots. The visual inspection corroborated the normality tests, given that there were only minimal deviations from the normality reference line.

Table 2 presents the main research outcomes by experimental condition. Interestingly, the results of the independent samples t -test did not provide any evidence for H1, predicting that exposure to an HPV vaccine-related narrative will have a direct effect on research outcomes, including normative beliefs and behavioral intentions.

Table 1. Descriptive Statistics (Means, SDs, and Percentages) for Research Variables by Experimental Condition and t -Test/Chi-Square Test.

Variables	Full sample	Narrative	Nonnarrative	Significance test and p -value
Age	40 (5.23)	40.06 (5.43)	39.94 (4.98)	$t = 0.16, p = .87$
Acculturation	2.57 (1.12)	2.44 (1.14)	2.74 (1.08)	$t = 1.76, p = .09$
General health	4.64 (1.11)	4.72 (1.12)	4.53 (1.11)	$t = 1.12, p = .30$
Education	11.07 (4.50)	11.30 (4.77)	10.76 (4.11)	$t = 0.83, p = .33$
Household income (%)				$\chi^2(9) = 16.63, p = .06$
\leq \$20,000	35.5	33.4	38.3	
\$20,000 to \leq \$40,000	35	40.9	27.4	
\$40,000 to \leq \$60,000	19.3	14	26	
$>$ \$60,000	10.2	14.1	8.3	
Health coverage (%)				$\chi^2(1) = 0.01, p = .96$
Yes	79	79.2	78.8	
Have a son (%)	44.7	51	32	$\chi^2(1) = 2.45, p = .11$
Have a daughter (%)	63.6	57.9	71.2	$\chi^2(1) = 3.60, p = .06$
Born in the U.S. (%)	21.4	21.5	21.2	$\chi^2(1) = 0.01, p = .94$
Marital status (%)				$\chi^2(5) = 7.95, p = .16$

² Interaction between experimental condition and having a son on descriptive norms for sons, $F(1, 185) = 0.50, p = .74$; descriptive norms for daughters, $F(1, 185) = 2.67, p = .11$; injunctive norms for sons, $F(1, 185) = 0.11, p = .73$; injunctive norms for daughters $F(1, 185) = 0.14, p = .71$; HPV intent for sons, $F(1, 185) = 0.12, p = .73$; HPV intent for daughters, $F(1, 185) = 0.47, p = .50$. Interaction between experimental condition and having a daughter on descriptive norms for sons, $F(1, 185) = 0.60, p = .44$; descriptive norms for daughters, $F(1, 185) = 1.58, p = .21$; injunctive norms for sons, $F(1, 185) = 0.35, p = .56$; injunctive norms for daughters, $F(1, 185) = 2.10, p = .15$; HPV intent for sons, $F(1, 185) = 0.53, p = .47$; HPV intent for daughters, $F(1, 185) = 0.17, p = .90$.

Married	65.6	64.2	67.5	
Separated	3.8	6.6	0	
Divorced	3.2	2.8	3.8	
Widowed	2.2	2.8	1.2	
Single (never married)	15.6	17	13.8	
Living with partner	9.7	6.6	13.8	
Employment status (%)				$\chi^2(7) = 6.83, p = .45$
Full time	28.9	31.8	25	
Part time	11.2	11.2	11.2	
Self-employed	4.3	3.7	5	
Laid off	6.4	5.6	7.5	
Homemaker	46	42.1	51.2	
Student	0.5	0.9	0	
Permanently disabled	1.1	0	0	

Note. Group comparisons (narrative vs. nonnarrative) are chi-square analyses for categorical variables and independent samples *t*-tests for continuous measures; degrees of freedom are 184 for *t*-tests.

Using PROCESS (Model 1 set at 10,000 bootstrapped samples), we evaluated the role of acculturation as a moderator for the effect of narrative exposure on normative beliefs. Table 3 provides a complete outline for the direct and moderated effects of narrative exposure and acculturation on research outcomes. As expected, acculturation was shown to significantly moderate the effect of narrative exposure on descriptive norms, $b_{daughter} = -.78, SE = .33, 95\% CI [-1.4, -.14]$; $b_{son} = -.77, SE = .36, 95\% CI [-1.5, -.06]$, and injunctive norms, $b_{daughter} = -.67, SE = .31, 95\% CI [-1.5, -.05]$; $b_{son} = -.66, SE = .29, 95\% CI [-1.2, -.09]$. Concurring with H2a and H2b, it appears that the narrative had stronger effects on normative beliefs for less acculturated individuals compared with participants in the nonnarrative condition and/or more acculturated participants. Interestingly, the analysis did not record any significant direct or moderated effects on intentions to vaccinate sons or daughters. Thus, there was no support for H2c. Figures 2 and 3 illustrate the significant interaction between narrative exposure and level of acculturation on normative beliefs, separately for adolescent girls and boys.

Table 2. Summary of Principal Outcome Measures by Experimental Condition and Group Comparisons with Independent Samples *t*-Tests.

Variable	Narrative	Nonnarrative	<i>t</i> -value and <i>p</i> -value
Descriptive norms for daughter	5.78 (2.48)	5.71 (2.43)	$t = 0.22, p = .81$
Injunctive norms for daughter	8.30 (2.14)	7.95 (2.37)	$t = 1.04, p = .29$
Descriptive norms for son	5.22 (2.82)	5.18 (2.69)	$t = 0.07, p = .93$
Injunctive norms for son	8.51 (2.07)	8.18 (2.19)	$t = 1.03, p = .30$
Vaccination intentions for daughter	9.34 (1.59)	8.83 (2.04)	$t = 1.84, p = .08$
Vaccination intentions for son	9.12 (2.02)	9.08 (2.14)	$t = 0.11, p = .88$

Note: $N = 186$. Higher scores indicate higher levels on each of the measures. Standard deviations are in parentheses.

Table 3. Direct and Moderated Effects of Narrative Exposure and Acculturation on Research Outcomes.

Moderating variables	Descriptive norms		Injunctive norms		Vaccination intent	
	Daughter estimate (SE) 95% CI	Son estimate (SE) 95% CI	Daughter estimate (SE) 95% CI	Son estimate (SE) 95% CI	Daughter estimate (SE) 95% CI	Son estimate (SE) 95% CI
Narrative exposure	1.67 ⁺ (.93) [-.16, 3.5]	1.53 (1.02) [-1.5, 3.6]	1.49 ⁺ (.89) [-.27, 3.2]	1.34 ⁺ (.81) [-.26, 2.9]	.27 (.66) [-1.1, 1.6]	1.49 ⁺ (.83) [-.16, 3.1]
Level of acculturation	-.29 (.25) [-.21, .79]	-.24 (.28) [-.78, .30]	-.17 (.24) [-.65, .30]	-.26 (.22) [-.70, .17]	-.30 ⁺ (.18) [-.65, .05]	-.15 (.23) [-.60, .29]
Narrative exposure × acculturation	-.78* (.33) [-1.4, -.14]	-.77* (.36) [-1.5, -.06]	-.67* (.31) [-1.3, -.05]	-.66* (.29) [-1.2, -.09]	-.33 (.23) [-.80, .12]	-.27 (.29) [-.85, .30]

Note. ⁺*p* < .10, **p* < .05, ***p* < .01, ****p* < .001. Effects tested with 10,000 bootstrapped samples.

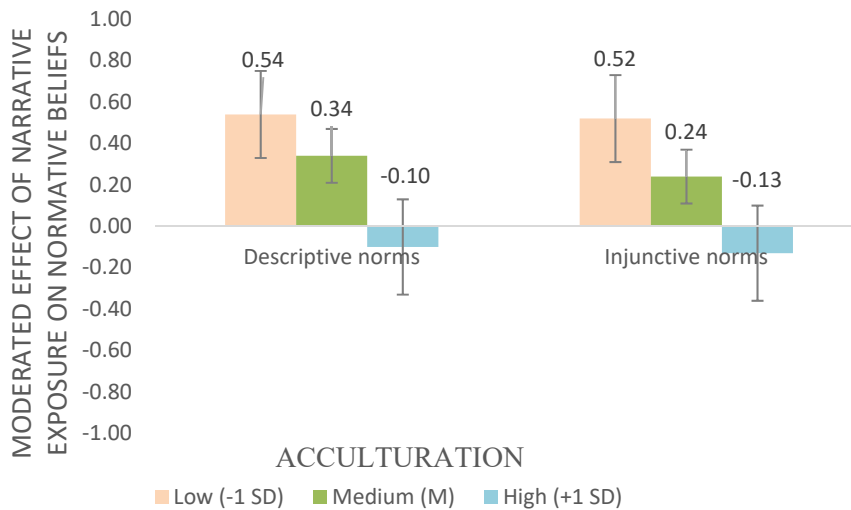


Figure 2. The moderated effect of narrative exposure on descriptive and injunctive norms for the intention to vaccinate adolescent daughter, by level of acculturation.

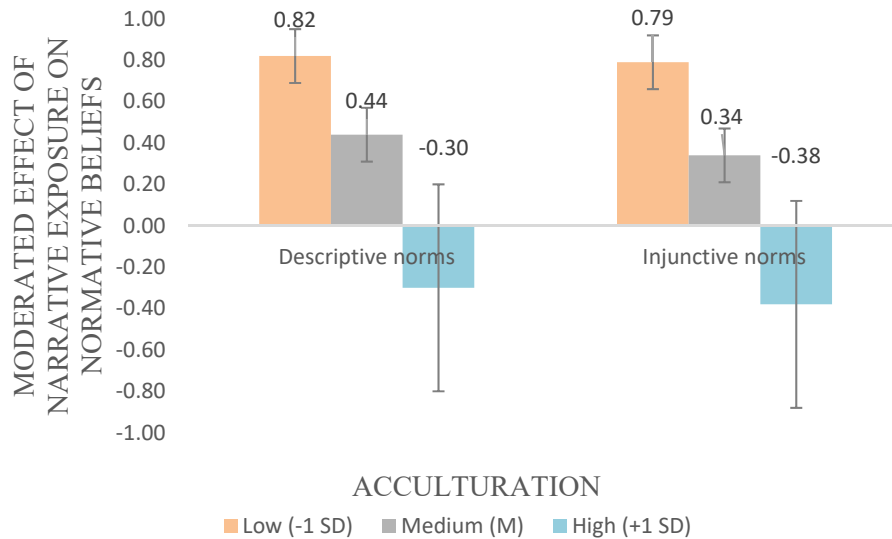


Figure 3. The moderated effect of narrative exposure on descriptive and injunctive norms for the intention to vaccinate adolescent son, by level of acculturation.

Discussion

This article calls attention to the importance of cultural factors in the framework of narrative persuasion. In particular, we outline acculturation as a relevant construct with notable implications for the ways in which people interpret health-related narratives. As the results demonstrate, when we are dealing with less acculturated participants, normative beliefs emerge as a relevant outcome of narrative persuasion. Specifically, as indicated by the moderation analysis, compared with acculturated Latinas, their less acculturated counterparts tend to experience a shift in descriptive and injunctive norms when exposed to the HPV vaccination message in a format of a narrative. This finding coincides with previous literature showing that health-related decision making for less acculturated Latinas is often family based and community oriented (Baezconde-Garbanati et al., 2014; Elder et al., 2009). Thus, for less acculturated individuals, information regarding the prevalence of health-related behaviors and their social approval is perhaps more salient. Conversely, the results for acculturated individuals closely mimic persuasion patterns associated with U.S. mainstream culture, where exposure to a narrative will not necessarily shape normative perceptions. In concert with previous analyses of cultural barriers to health-related decision making, these results suggest that information regarding the audience's level of acculturation could contribute to the validity of narrative persuasion mechanisms.

In addition, the current study puts forth a theoretical proposition that may help disentangle contradictory results of previous attempts to assess the role of social norms within the context of narrative persuasion (Paluck, 2009; Wojcieszak et al., 2015). It appears that health-related messages embedded in narratives can shift normative beliefs, primarily among less acculturated individuals. Conversely,

audiences for whom peer norms are not as salient are less likely to change their beliefs regarding normative health behaviors. Simply put, the link between acculturation and normative cues may explain why educational strategies intended to reach less acculturated individuals through factual information have too often failed (Borrayo, 2004). The current results suggest that culturally sensitive narratives that offer information in the context of social norms are, perhaps, especially suitable vehicles for engaging less acculturated populations.

Another contribution of the current investigation is an attempt to highlight the potential role acculturation may play in narrative persuasion. While there is general agreement that health status is related to levels of acculturation (Miranda et al., 2006), the underlying mechanisms by which acculturation affects the processing of health information are often assumed rather than tested. Thus, a focused and systematic investigation into the antecedents, mediators, and moderators that interact with acculturation in the process of narrative persuasion could greatly advance this scientific area of inquiry. At the same time, paying more attention to cultural variables could substantially contribute to theories of narrative persuasion. Indeed, a closer examination of the items that constitute the various measures of narrative involvement strongly supports the assertion that narrative persuasion focuses almost exclusively on the experience of the autonomous individual. Thus, one can make the claim that narrative persuasion research tends to operate under the assumption of individuality associated with Western societies. This gap is especially perplexing considering that entertainment education interventions often focus on collectivist cultures (for a review see Papa & Singhal, 2009), where the sociocultural context is, presumably, a better predictor of health behavior than are individual attitudes (Lapinski & Rimal, 2005; Paluck, 2009; Rimal & Real, 2005).

With that in mind, it is important to acknowledge that the current study recorded only borderline direct effects of message format on intentions about HPV vaccination. This discrepancy can be traced to several potential factors. First, the current analysis did not account for various mediating variables, such as narrative engagement, identification, and reactance, that can perhaps better distinguish the differential effects of narrative and nonnarrative messages. Second, the relatively high means of behavioral intent, in both conditions, may suggest a ceiling effect, given that scores tended to cluster toward the higher end of the scale. Third, it can be argued that the sample employed in the current study was not ideal for answering questions associated with intent. It stands to reason that intentions regarding HPV vaccination could be more accurately gauged when focusing strictly on parents of adolescents. Likewise, the current study failed to record a relationship between level of acculturation and normative beliefs about HPV vaccination. This is especially surprising given that previous studies found a significant link between Latin Americans' level of acculturation and cervical cancer-related beliefs (Harmon, Castro, & Coe, 1997; Shah, Zhu, Wu, & Potter, 2006). This discrepancy can be attributed to two factors. First, while many studies examining social approval in the context of cervical cancer among the Latin American community focused on samples of adolescents and young adults (Bartlett & Peterson, 2011), it could be harder to replicate these results with a sample of adults. Second, on an operational level, the injunctive norms scale used in the study asked only about very close referents (i.e., romantic partners, mothers, and female friends). Hence, a less exclusive list of relevant referents might have yielded different results (Shulman et al., 2017).

Limitations

Although the current study sought to improve on existing analyses of narrative persuasion, it is not free of limitations. First, the fact that the study focused on a specific subpopulation, a particular health risk, and a single stimulus suggests that our conclusions may suffer from problems of external validity and generalizability. For instance, the current data cannot provide answers to more nuanced questions about the role played by normative influence, including whether less acculturated Latinas are more influenced by social norms generally or by social norms in their culture of origin. At this point, it can be argued that Latinas are either more susceptible to normative cues in general, or specifically to traditional Latino norms. Thus, more research is needed to better understand the interplay between acculturation and narrative persuasion vis-à-vis diverse audiences and various health disparities. Second, keeping in mind that our hypotheses dealt with perceptions about HPV vaccination, the fact that our sample was not limited to parents of adolescents poses a notable threat to the interpretation of the results. With that in mind, this limitation is somewhat ameliorated by the attempt to recruit a random sample from a population that is often undersampled or completely overlooked in studies. Third, while the current study tended to emphasize the role played by normative beliefs, meta-analytic evidence about persuasion suggests that normative constructs are generally found to be a weak predictor of behavioral intention (Armitage & Conner, 2001; Godin & Kok, 1996). Hence, the ability of normative beliefs engendered by narratives to affect health-related behavior should not be taken for granted.

Conclusion

While acknowledging these limitations, the findings represent a step forward toward a more integrative framework of narrative persuasion for health communication. Indeed, health campaigns can be used to change beliefs and teach new behaviors, as long as they account for the fact that the audience's cultural background and social environment can either reinforce or attenuate persuasion. By keeping in mind that human agency is only one part of a larger ecosystem that includes cognitive, emotional, cultural, and normative factors, future narrative persuasion research could reaffirm Bandura's (1989) claim that people are "neither autonomous nor simply mechanical conveyers of animating environmental influences" (p. 1175).

References

- Appel, M., & Richter, T. (2010). Transportation and need for affect in narrative persuasion: A mediated moderation model. *Media Psychology, 13*, 101–135. doi:10.1080/15213261003799847
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology, 40*, 471–499. doi:10.1348/014466601164939
- Bae, H. S. (2008). Entertainment-education and recruitment of cornea donors: The role of emotion and issue involvement. *Journal of Health Communication, 13*, 20–36. doi:10.1080/10810730701806953

- Baezconde-Garbanati, L. A., Chatterjee, J. S., Frank, L. B., Murphy, S. T., Moran, M. B., Werth, L. N., . . . O'Brien, D. (2014). Tamale lesson: A case study of a narrative health communication intervention. *Journal of Communication in Healthcare, 7*, 82–92. doi:10.1179/1753807614Y.0000000055
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*, 1175–1184. doi:10.1037/0003-066X.44.9.1175
- Bartlett, J. A., & Peterson, J. A. (2011). The uptake of human papillomavirus (HPV) vaccine among adolescent females in the United States: A review of the literature. *The Journal of School Nursing, 27*, 434–446. doi:10.1177/1059840511415861
- Bethel, J. W., & Schenker, M. B. (2005). Acculturation and smoking patterns among Hispanics: A review. *American Journal of Preventive Medicine, 29*, 143–148. doi:10.1016/j.amepre.2005.04.014
- Borrayo, E. A. (2004). Where's Maria? A video to increase awareness about breast cancer and mammography screening among low-literacy Latinas. *Preventive Medicine, 39*, 99–110. doi:10.1016/j.yjmed.2004.03.024
- Borrayo, E. A., Buki, L. P., & Feigal, B. M. (2005). Breast cancer detection among older Latinas: Is it worth the risk? *Qualitative Health Research, 15*, 1244–1263. doi:10.1177/1049732305281337
- Borrayo, E. A., & Jenkins, S. R. (2001). Feeling healthy: So why should Mexican-descent women screen for breast cancer? *Qualitative Health Research, 11*, 812–823. doi:10.1177/104973201129119550
- Braddock, K., & Dillard, J. P. (2016). Meta-analytic evidence for the persuasive effect of narratives on beliefs, attitudes, intentions, and behaviors. *Communication Monographs, 83*, 1–24. doi:10.1080/03637751.2015.1128555
- Busselle, R., & Bilandzic, H. (2008). Fictionality and perceived realism in experiencing stories: A model of narrative comprehension and engagement. *Communication Theory, 18*, 255–280. doi:10.1111/j.1468-2885.2008.00322.x
- Cano, M. Á., Schwartz, S. J., Castillo, L. G., Unger, J. B., Zamboanga, B. L., Romero, A. J., . . . Pattarroyo, M. (2016). Health risk behaviors and depressive symptoms among Hispanic adolescents: Examining acculturation discrepancies and family functioning. *Journal of Family Psychology, 30*, 254–265. doi:10.1037/fam0000142
- CDC (Centers for Disease Control and Prevention). (2015). Teen vaccination coverage. Retrieved from <http://www.cdc.gov/vaccines/parents/vacc-coverage-teens.html>

- Elder, J. P., Ayala, G. X., Parra-Medina, D., & Talavera, G. A. (2009). Health communication in the Latino community: Issues and approaches. *Annual Review of Public Health, 30*, 227–251. doi:10.1146/annurev.publhealth.031308.100300
- Gerend, M. A., Zapata, C., & Reyes, E. (2013). Predictors of human papillomavirus vaccination among daughters of low-income Latina mothers: The role of acculturation. *Journal of Adolescent Health, 53*, 623–629. doi:10.1016/j.jadohealth.2013.06.006
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism, 10*, 486–489. doi:10.5812/ijem.3505
- Godin, G., & Kok, G. (1996). The theory of planned behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion, 11*, 87–98. doi:10.4278/0890-1171-11.2.87
- Green, M. C. (2006). Narratives and cancer communication. *Journal of Communication, 56*, 163–183. doi:10.1111/j.1460-2466.2006.00288.x
- Harmon, M. P., Castro, F. G., & Coe, K. (1997). Acculturation and cervical cancer: Knowledge, beliefs, and behaviors of Hispanic women. *Women & Health, 24*, 37–57. doi:10.1300/J013v24n03_03
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Heinrichs, N., Rapee, R. M., Alden, L. A., Bögels, S., Hofmann, S. G., Ja Oh, K., . . . Sakano, Y. (2006). Cultural differences in perceived social norms and social anxiety. *Behaviour Research and Therapy, 44*(8), 1187–1197. doi:10.1016/j.brat.2005.09.006
- Hinyard, L. J., & Kreuter, M. W. (2007). Using narrative communication as a tool for health behavior change: A conceptual, theoretical, and empirical overview. *Health Education & Behavior, 34*, 777–792. doi:10.1177/1090198106291963
- Hoeken, H., Kolthoff, M., & Sanders, J. (2016). Story perspective and character similarity as drivers of identification and narrative persuasion. *Human Communication Research, 42*, 292–311. doi:10.1111/hcre.12076
- Kreuter, M. W., Holmes, K., Alcaraz, K., Kalesan, B., Rath, S., Richert, M., . . . Clark, E. M. (2010). Comparing narrative and informational videos to increase mammography in low-income African American women. *Patient Education and Counseling, 81*, 6–14. doi:10.1016/j.pec.2010.09.008
- Lapinski, M. K., & Rimal, R. N. (2005). An explication of social norms. *Communication Theory, 15*, 127–147. doi:10.1111/j.1468-2885.2005.tb00329.x

- Lapinski, M. K., Rimal, R. N., Devries, R., & Lee, E. L. (2007). The role of group orientation and descriptive norms on water conservation attitudes and behaviors. *Health Communication, 22*, 133–142. doi:10.1080/10410230701454049
- Larimer, M. E., Turner, A. P., Mallett, K. A., & Geisner, I. M. (2004). Predicting drinking behavior and alcohol-related problems among fraternity and sorority members: Examining the role of descriptive and injunctive norms. *Psychology of Addictive Behaviors, 18*, 203–212. doi:10.1037/0893-164X.18.3.203
- Larkey, L. K., & Hecht, M. (2010). A model of effects of narrative as culture-centric health promotion. *Journal of Health Communication, 15*, 114–135. doi:10.1080/10810730903528017
- Laz, T. H., Rahman, M., & Berenson, A. B. (2012). An update on human papillomavirus vaccine uptake among 11–17-year-old girls in the United States: National Health Interview survey, 2010. *Vaccine, 30*, 3534–3540.
- Lorenzo-Blanco, E. I., Unger, J. B., Baezconde-Garbanati, L., Ritt-Olson, A., & Soto, D. (2012). Acculturation, enculturation, and symptoms of depression in Hispanic youth: The roles of gender, Hispanic cultural values, and family functioning. *Journal of Youth and Adolescence, 41*, 1350–1365. doi:10.1007/s10964-012-9774-7
- Luque, J. S., Castañeda, H., Tyson, D. M., Vargas, N., Proctor, S., & Meade, C. D. (2010). HPV awareness among Latina immigrants and Anglo-American women in the southern United States: Cultural models of cervical cancer risk factors and beliefs. *NAPA Bulletin, 34*, 84–104. doi:10.1111/j.1556-4797.2010.01053.x
- Mabry, A., & Turner, M. M. (2015). Do sexual assault bystander interventions change men's intentions? Applying the theory of normative social behavior to predicting bystander outcomes. *Journal of Health Communication, 21*, 276–292. doi:10.1080/10810730.2015.1058437
- Marín, 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. doi:10.1177/07399863960183002
- Marks, G., Cantero, P. J., & Simoni, J. M. (1998). Is acculturation associated with sexual risk behaviours? An investigation of HIV-positive Latino men and women. *AIDS Care, 10*, 283–295. doi:10.1080/713612418
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224–253. doi:10.1037/0033-295X.98.2.224
- Mazzocco, P. J., Green, M. C., Sasota, J. A., & Jones, N. W. (2010). This story is not for everyone: Transportability and narrative persuasion. *Social Psychological and Personality Science, 1*, 361–368. doi:10.1177/1948550610376600

- Miranda, A. O., Bilot, J. M., Peluso, P. R., Berman, K., & Van Meek, L. G. (2006). Latino families: The relevance of the connection among acculturation, family dynamics, and health for family counseling research and practice. *The Family Journal, 14*, 268–273. doi:10.1177/1066480706287805
- Mollen, S., Rimal, R. N., Ruiters, R. A. C., & Kok, G. (2013). Healthy and unhealthy social norms and food selection: Findings from a field-experiment. *Appetite, 65*, 83–89. doi:10.1016/j.appet.2013.01.020
- Moran, M. B., Murphy, S. T., Frank, L. B., & Baezconde-Garbanati, L. (2013). The ability of narrative communication to address health-related social norms. *International Review of Social Research, 3*, 131–149. doi:10.1515/irsr-2013-0014
- Moyer-Gusé, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive effects of entertainment-education messages. *Communication Theory, 18*, 407–425. doi:10.1111/j.1468-2885.2008.00328.x
- Murphy, S. T., Frank, L. B., Chatterjee, J. S., Moran, M. B., Zhao, N., Amezola de Herrera, P., . . . Baezconde-Garbanati, L. A. (2015). Comparing the relative efficacy of narrative vs nonnarrative health messages in reducing health disparities using a randomized trial. *American Journal of Public Health, 105*, 2117–2123. doi:10.2105/AJPH.2014.302332
- Padilla, A. M., & Perez, W. (2003). Acculturation, social identity, and social cognition: A new perspective. *Hispanic Journal of Behavioral Sciences, 25*, 35–55. doi:10.1177/0739986303251694
- Paluck, E. L. (2009). Reducing intergroup prejudice and conflict using the media: A field experiment in Rwanda. *Journal of Personality and Social Psychology, 96*, 574–587. doi:10.1037/a0011989
- Papa, M. J., & Singhal, A. (2009). How entertainment-education programmes promote dialogue in support of social change. *Journal of Creative Communications, 4*, 185–208. doi:10.1177/097325861000400304
- Perkins, R. B., Apte, G., Marquez, C., Porter, C., Belizaire, M., Clark, J. A., . . . Pierre-Joseph, N. (2012). Factors affecting human papillomavirus vaccine utilization among White, Black, and Latino parents of sons. *The Pediatric Infectious Disease Journal, 32*, 38–44. doi:10.1097/INF.0b013e31826f53e3
- Rimal, R. N., & Lapinski, M. K. (2015). A re-explication of social norms, ten years later. *Communication Theory, 25*, 393–409. doi:10.1111/comt.12080
- Rimal, R. N., & Real, K. (2005). How behaviors are influenced by perceived norms: A test of the theory of normative social behavior. *Communication Research, 32*, 389–414. doi:10.1177/0093650205275385

- Schwartz, S. J., Unger, J. B., Des Rosiers, S. E., Lorenzo-Blanco, E. I., Zamboanga, B. L., Huang, S., . . . Szapocznik, J. (2014). Domains of acculturation and their effects on substance use and sexual behavior in recent Hispanic immigrant adolescents. *Prevention Science, 15*, 385–396. doi:10.1007/s11121-013-0419-1
- Shah, M., Zhu, K., Wu, H., & Potter, J. (2006). Hispanic acculturation and utilization of cervical cancer screening in the US. *Preventive Medicine, 42*, 146–149. doi:10.1016/j.ypmed.2005.10.002
- Shen, F., Sheer, V. C., & Li, R. (2015). Impact of narratives on persuasion in health communication: A meta-analysis. *Journal of Advertising, 44*, 105–113. doi:10.1080/00913367.2015.1018467
- Shulman, H. C., Rhodes, N., Davidson, E., Ralston, R., Borghetti, L., & Morr, L. (2017). The state of the field of social norms research. *International Journal of Communication, 11*, 1192–1213.
- Unger, J. B., Cabassa, L. J., Molina, G. B., Contreras, S., & Baron, M. (2013). Evaluation of a fotonovela to increase depression knowledge and reduce stigma among Hispanic adults. *Journal of Immigrant and Minority Health, 15*, 398–406. doi:10.1007/s10903-012-9623-5
- Unger, J. B., Cruz, T. B., Rohrbach, L. A., Ribisl, K. M., Baezconde-Garbanati, L., Chen, X., . . . Johnson, C. A. (2000). English language use as a risk factor for smoking initiation among Hispanic and Asian American adolescents: Evidence for mediation by tobacco-related beliefs and social norms. *Health Psychology, 19*, 403–410. doi:10.1037/0278-6133.19.5.403
- Van De Vijver, F. J., & Phalet, K. (2004). Assessment in multicultural groups: The role of acculturation. *Applied Psychology, 53*, 215–236. doi:10.1111/j.1464-0597.2004.00169.x
- Walter, N., Murphy, S. T., Frank, L. B., & Ball-Rokeach, S. J. (forthcoming). The power of brokerage: Case study of normative behavior, Latinas and cervical cancer. *Communication Research*.
- Wang, H., & Singhal, A. (2016). *East Los High*: Transmedia edutainment to promote the sexual and reproductive health of young Latina/o Americans. *American Journal of Public Health, 106*, 1002–1010. doi:10.2105/AJPH.2016.303072
- Watts, L. A., Joseph, N., Wallace, M., Rauh-Hain, J. A., Muzikansky, A., Growdon, W. B., . . . del Carmen, M. G. (2009). HPV vaccine: A comparison of attitudes and behavioral perspectives between Latino and non-Latino women. *Gynecologic Oncology, 112*, 577–582. doi:10.1016/j.ygyno.2008.12.010
- Weber, P., & Wirth, W. (2014). When and how narratives persuade: The role of suspension of disbelief in didactic versus hedonic processing of a candidate film. *Journal of Communication, 64*, 125–144. doi:10.1111/jcom.12068

Wojcieszak, M., Azrout, R., Boomgaarden, H., Alencar, A. P., & Sheets, P. (2015). Integrating Muslim immigrant minorities: The effects of narrative and statistical messages. *Communication Research, 44*, 582–607. doi:10.1177/0093650215600490

World Health Organization. (2015). Human papilloma virus (HPV) and cervical cancer: Fact sheet number 380. Retrieved from <http://www.who.int/mediacentre/factsheets/fs380/en/>

Yeganeh, N., Curtis, D., & Kuo, A. (2010). Factors influencing HPV vaccination status in a Latino population; and parental attitudes towards vaccine mandates. *Vaccine, 28*, 4186–4191. doi:10.1016/j.vaccine.2010.04.010