Communication Faculty Publications and Presentations

Communication

Telling Stories, Saving Lives: Creating Narrative Health Messages

Lauren B. Frank
Portland State University, lfrank@pdx.edu

Sheila T. Murphy
University of Southern California

Joyee S. Chatterjee
University of Southern California

Meghan B. Moran
San Diego State University

Lourdes Baezconde-Garbanati
University of Southern California

Let us know how access to this document benefits you.

Follow this and additional works at: https://pdxscholar.library.pdx.edu/comm_fac

Part of the Health Communication Commons

Telling stories, saving lives: Creating narrative health messages

Lauren B. Frank

Department of Communication, Portland State University

Sheila T. Murphy

Annenberg School for Communication and Journalism, University of Southern California

Joyee S. Chatterjee

Annenberg School for Communication and Journalism, University of Southern California

Meghan B. Moran

School of Communication, San Diego State University

Lourdes Baezconde-Garbanati

Institute for Health Promotion and Disease Prevention Research, Department of Preventive

Medicine, Keck School of Medicine, University of Southern California

Abstract

Increasingly, health communication practitioners are exploring the use of narrative storytelling to convey health information. For this study, a narrative film was produced to provide information about the Human Papillomavirus (HPV) and cervical cancer prevention. The storyline centered on Lupita, a young woman recently diagnosed with HPV who informs her family about HPV and the availability of the HPV vaccine for her younger sister. The objective was to examine the roles of identification with characters and narrative involvement (made up of three dimensions: involvement, perceived relevance, and immersion) on perceived response efficacy, perceived severity, and perceived susceptibility to HPV and behavior (discussing the HPV vaccine with a health care provider). A random sample of 450 European American, Mexican American, and African American women between the ages of 25 to 45 living in the Los Angeles area was surveyed by phone before, two weeks after, and six months after viewing the film. The more relevant women found the narrative to their own lives at two weeks, the higher they perceived the severity of the virus and the perceived response efficacy of the vaccine. Also at two weeks, identifying with characters was positively associated with perceived susceptibility to HPV but negatively associated with perceived severity. At six months, identification with specific characters was significantly associated with perceived threat and behavior. These findings suggest that different aspects of narrative health messages should be manipulated depending on the specific beliefs and behaviors being targeted. Implications for narrative message design are discussed.

Keywords: narrative, personal relevance, transportation, identification, perceived severity, perceived susceptibility, message design

Telling stories, saving lives: Creating narrative health messages

Increasingly, narratives are being used to disseminate health messages. Narrative approaches are of particular interest because research has demonstrated that audiences can be transported into narratives (Green & Brock, 2000) and identify with story characters in a way that leads to changes in relevant health-related knowledge, attitudes, beliefs, and behaviors (Murphy, Frank, Moran, & Patnoe-Woodley, 2011). However, not all stories are created equal, and narrative effects may differ depending on the characteristics of the storyline, the characters, and the audience (Houston et al., 2011; Larkey & Hecht, 2010; McQueen, Kreuter, Kalesan, & Alcaraz, 2011; Murphy, Frank, Chatterjee, & Baezconde-Garbanati, 2013; Unger, Cabassa, Molina, Contreras, & Baron, 2013). Thus, more research is necessary to determine precisely how specific aspects of the story and the audience can interact to promote the desired health outcome. The current study contributes to this area by examining the processing of a narrative designed to promote cervical cancer prevention. Specifically, we examined the respective roles played by identification with characters and narrative involvement (including three dimensions: involvement, perceived relevance, and immersion) on response efficacy, perceived severity, perceived susceptibility, and behavior. Prior to describing the details of our study, we briefly review relevant literature on cervical cancer (the health topic featured in our narrative) and key elements of narrative processing.

Cervical Cancer and Human Papillomavirus (HPV)

Cervical cancer is an important public health problem for women, with over half a million new cases and a quarter million deaths reported annually worldwide (Ferlay et al., 2011). In the United States Latina women experience severe health disparities and are at especially high risk of cervical cancer with both much higher incidence (13.86 vs. 7.70 per 100,000; Barnholtz-

Sloan et al., 2009) and higher mortality rates (1.5 times the risk of non-Hispanic White women; Downs, Smith, Scarinci, Flowers, & Parham, 2008). Potentially contributing to these elevated rates are large health communication gaps. Less than 70% of Latina women in recent national surveys were aware of HPV, and of those who were aware of HPV, only 70% were aware of the availability of a vaccine (Kobetz et al., 2010). Moreover, a recent survey revealed that 36% of Latina immigrants felt they were not at risk for cervical cancer, a belief associated with a lack of knowledge of cervical cancer risk factors (Garces-Palacio & Scarinci, 2012).

Such mistaken beliefs are worrisome because perceived vulnerability may be crucial in motivating preventive actions. The health belief model (see summary in Champion & Skinner, 2008) highlights the importance of outcome expectancies in impacting behavior change. In particular, perceived threat is the combination of perceived severity and perceived susceptibility. For HPV, perceived severity would be the perceived negative impact getting HPV would have on one's life. Perceived susceptibility is an individual's assessment of the likelihood of contracting HPV.   The combination of these constructs, or the fear that one might personally be in danger of contracting a serious illness, provokes individuals to take precautions. Additionally, the ability of a preventive action to reduce the threat, known as response efficacy, has likewise been shown to motivate preventive behavior. Thus, the primary outcomes of interest for this study were perceived severity, perceived susceptibility, and perceived response efficacy of the recommended HPV vaccination.

Narratives in Health Communication

According to Kreuter and colleagues (2007), a narrative can be defined as "a representation of connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit or explicit messages about the topic being addressed" (p.

222). Specifically, narrative health messages often feature storylines that follow a standard format with an initial development of story and character background, a subsequent buildup to a climax, and a final resolution (Baranowski, Buday, Thompson, & Baranowski, 2008; Green & Brock, 2000). The narrative health message created for this study was an 11-minute English language film called *Tamale Lesson,* which depicts a Mexican American family preparing to celebrate the youngest daughter's quinceañera, or 15th birthday party. The film was designed based on extensive formative research with the primary intended audience (Mexican American women) to identify barriers to cervical cancer prevention behavior including perceptions of susceptibility to HPV and knowledge of means to prevent it (Baezconde-Garbanati et al., 2014). For example, our focus group discussions provided us with actual dialogue and character descriptions that were incorporated into the film to ensure that it would be relevant to our target audience. The film opens with a scene in which the eldest daughter, Lupita, is talking with her boyfriend about her recent diagnosis with the HPV. Connie, the middle sister, overhears Lupita and questions her about HPV, a disease with which she is unfamiliar. During the course of their conversation about HPV, the sisters are joined by their mother, Blanca, and her friend, Petra. Lupita shares key facts about HPV and its relation to sex and cervical cancer. The HPV discussion ends with Lupita pointing out that her youngest sister, Rosita, could be vaccinated against HPV. The storyline and the characters were deliberately crafted to promote involvement with the narrative and identification with the characters.

Narrative involvement. According to Green and Brock's (2000) conceptualization, transportation into a narrative world is a distinct mental process involving a convergence of attention, imagery, and feelings. This notion of being absorbed into the storyline distinguishes narrative processing from overtly persuasive messages (Moyer-Gusé, 2008). Slater and Rouner's

(2002) work on the extended elaboration likelihood model (EELM), found that "absorption in the narrative may motivate deeper processing of a different kind" (p. 187) and may lead viewers to endorse attitudes and behaviors promoted in the narrative, while reducing counterarguing that can occur when viewers are exposed to overtly persuasive messages. Similarly, in the entertainment overcoming resistance model (EORM), Moyer-Gusé (2008) suggested how transportation and character involvement overcome different forms of persuasive resistance such as perceived invulnerability or selective avoidance (also see Moyer-Gusé & Nabi, 2010).

Busselle and Bilandzic (2008, 2009; Bilandzic & Busselle, 2011) have argued that the concept of transportation does not sufficiently capture the multiple ways in which viewers may engage with a narrative. In their analyses with the transportation scale, they have found that it yielded distinct factors including involvement in the story plot, relevance or relation of the film to one's own life, and immersion or concentration on the film (Bilandzic & Busselle, 2011). Additional work has led them to develop a narrative engagement scale that includes four dimensions: narrative understanding, attentional focus, narrative presence, and emotional engagement (Busselle & Bilandzic, 2009). Although using Green and Brock's work on transportation as a starting place in examining narrative involvement, we followed Busselle and Bilandzic's lead in exploring potential nuance in how people engage with narratives.

In conjunction with this line of research, research in health communication has also focused on the role of absorption in a narrative in affecting health-related knowledge, attitude, and behavior change (Morgan, Movius, & Cody, 2009; Moyer-Gusé, Chung, & Jain, 2011; Moyer-Gusé & Nabi, 2010; Murphy, et al., 2013; Smith, Downs & Witte, 2007; van Leeuwen, Renes & Leeuwis, 2012). For instance, Murphy et al. (2011) found that transportation was the key mechanism thorough which changes in knowledge, attitudes, and behavior were affected

after viewing a cancer storyline in *Desperate Housewives*, a popular prime time program in the United States. Another study on the effectiveness of narratives on attitudes and beliefs found that African American women who reported being more transported into a breast cancer narrative showed increased persuasion and reduced counterarguing (McQueen et al., 2011). The current study attempts to add to the literature in narrative persuasion and health communication by exploring the role of narrative involvement in assessments of perceived vulnerability. The intervention was assessed not only within two weeks of exposure (post-test) but also six months later in order to assess long-term change.

> H1: Narrative involvement will be positively associated with response efficacy, perceived severity, and perceived susceptibility to contracting HPV (a) at post-test and (b) at the six-month follow-up.

Identification. Identification has been theorized as another key mechanism through which narrative persuasion takes place (de Graaf, Hoken, Sanders, & Beentjes, 2011; Slater & Rouner, 2002). Identification can be understood as the

> imaginative process through which an audience member assumes the identity, goals, and perspective of a character. Identification is hypothesized to be promoted by technical production features and audience and character attributes and is expected to increase involvement with messages and decrease the chances of critical interpretation. (Cohen, 2001, p. 261)

Traditionally, narrative-based interventions have relied on the modeling of behaviors by similar others as one of the foundational mechanisms of behavior change (Sabido, 2004; Singhal & Rogers, 2004). In Sabido's original formulation, entertainment education (EE) narratives typically had positive characters who demonstrated the desired behavior (positive role models or

protagonists), negative characters who defied the desired behavior (negative role models or antagonists), and transitional characters who started out not practicing or questioning the desired behavior but through the course of the narrative changed and began to demonstrate the desired behavior (transitional role models; Sabido, 2004). Drawing from Bandura's (2004) social cognitive theory (SCT), which specifies that learning takes place through observing others and modeling the observed behaviors, Sabido's EE strategy specifically requires that audience members "achieve identification" with key characters (Sabido, 2004, p. 70). By allowing audience members to mentally engage with a specific character and temporarily assume that character's role, identification facilitates the process whereby an audience member becomes absorbed in the narrative (Tal-Or & Cohen, 2010).

In the past decade, health communication and narrative researchers have shown a renewed interest in understanding the mechanisms underlying identification and its impact on knowledge, attitude, and behavior (Banerjee & Greene, 2012; Moyer-Gusé, et al., 2011; Murphy, et al., 2013). Moyer-Gusé's (2008) EORM suggests that

> While identifying with a character, viewers imagine themselves doing, thinking, or feeling something they ordinarily would not because they are experiencing it vicariously as the character…. This experience may be uniquely effective at conveying perceived vulnerability to a viewer. (p. 418)

A recent study by Moyer-Gusé and colleagues (2011) found that after exposure to an entertainment narrative about sexual health, identification influenced behavior by increasing self-efficacy and reducing counterarguing. However, their findings also raise "interesting questions about the complex interrelationships among identification with different types of characters and

perceived vulnerability" (p. 402) with the authors theorizing that identification with certain characters did not influence perceived vulnerability.

Based on prior research, the narrative in the current study was designed to have a variety of role models. Lupita served as a strong positive role model through her knowledge of HPV, her willingness to have regular Pap tests to detect any abnormal cells that might develop into cervical cancer, and her advocacy for her younger sister to be vaccinated against HPV. However, Lupita simultaneously served as a negative role model who came to this knowledge too late, given that she had already contracted HPV. Blanca, the girls' mother, had Pap tests in the past but had not considered having her daughters vaccinated against HPV until Lupita pointed out this option. Thus, for the issue of HPV vaccination, Blanca served as a transitional character. Likewise, her middle daughter, Connie, was a transitional character who learned a great deal about cervical cancer prevention during the course of the narrative. Connie was positioned as a naïve audience member who learned about HPV as viewers did. These characters also differed in their risk factors for cervical cancer and HPV: Lupita was single and sexually active, Blanca was married and in a monogamous sexual relationship, and Connie had never been sexually active. To examine identification, we included assessments of similarity, liking, wishful identification, and parasocial interaction with each of these characters. Thus, we hypothesized:

> H2: Identification with specific characters will be associated with participants' response
>
> efficacy, perceived severity, and perceived susceptibility to contracting HPV (a) at post-
>
> test and (b) at the six-month follow-up.

Additionally, the longitudinal nature of this study allowed us to study actual behavior as opposed to behavioral intent. More specifically, at the six month follow-up we assessed whether

audience members had talked with a healthcare provider about HPV vaccination. Doctors and medical professionals are important sources for disseminating information about cervical cancer prevention, especially for Hispanic women (Drewry, Garces-Palacio, & Scarinci, 2010; Watts et al., 2009). Moreover, a large body of health communication literature indicates that the effects of a narrative message include interpersonal discussion about that message (see Chatterjee, Bhanot, Frank, Murphy, & Power, 2009; Frank et al., 2012; Southwell & Yzer, 2008). Given the previous research, the sample, and time frame for this study, discussion with a healthcare provider was an appropriate preventive behavior on which to focus. Thus, we hypothesized that

H3: Behavior at the six-month follow-up will be associated with (a) narrative

involvement, (b) identification with specific characters, (c) response efficacy, (d)

perceived severity, and (e) perceived susceptibility to HPV.

Methods

Procedures

Participants were recruited for a series of three phone interviews through random digit dialing.[1] The survey population consisted of European American, Mexican American, and African American women who lived in the greater Los Angeles metropolitan area, were 25 to 45 years old, and did not have a previous diagnosis of cervical cancer. This multi-ethnic sample was included intentionally in hopes of achieving greater variability in identification with the characters. Additionally, because the narrative was in English, participants had to be fluent in English. Participants were assessed for eligibility and then asked to complete the pre-test survey ($N = 450$). This survey assessed knowledge, attitudes, behaviors, and multiple theoretical constructs about cervical cancer and HPV (Murphy et al., 2013). After completing the pre-test phone survey, participants were mailed the narrative film (stimulus described above) and asked

to watch it by themselves. Two weeks later, participants were contacted to complete the post-test survey. When participants could correctly answer questions designed as a manipulation check to verify they had watched the narrative, a post-test survey was conducted via phone ($N =$ 377; 84% response rate). Women who did not complete the post-test were not re-contacted to complete the follow-up survey. Six months later, participants were contacted a third time to complete the follow-up survey ($N = 353$; 94% response rate).

Participants

In sum, 353 women (129 European Americans, 117 Mexican Americans, and 107 African Americans) completed all three surveys. The women's ages averaged 38 years ($SD =$ 5.8). Thirteen percent of participants had a high school education or less, 35% had some college or vocational school, 28% had received a bachelor's degree, and 21% had some post-graduate education. The majority of the participants (60%) were married, with an additional 9% having been married previously and 31% having never married.

Measures

Narrative involvement. Transportation into the narrative was measured at post-test using a scale adapted from Green and Brock (2000) to account for participants viewing a film rather than reading the narrative. Response options were 10-point Likert-type scales anchored at "1 = *strongly disagree*" and "10 = *strongly agree*." On the basis of Bilandzic and Busselle's (2011) work and because we similarly hoped to examine the nuance in narrative involvement, the items from the transportation scale were analyzed using principle components factor analysis with promax rotation to account for potential correlations among the sub-scales. A three-factor solution accounted for 61.5% of the total variance. As was the case for Bilandzic and Busselle (2011), involvement in the story plot (three items, including "I wanted to learn how the film

ended," α = 0.45), relevance for the viewer's life (two items, including "The events in the film

are relevant to my everyday life," α = 0.65), and immersion into the film (three items, including

"After I finished watching the film, I found it easy to put out of my mind"—reverse coded, α =

0.52) were the three factors.[2] These three separate factors were each entered in subsequent

regression equations.

      Identification with specific characters. Four aspects of identification (liking,

similarity, wishful identification, and parasocial interaction) with each character were measured

at post-test (Moyer-Gusé, 2008; Murphy et al., 2011, 2013). Participants could respond using

10-point scales anchored at "1 = *not at all*" and "10 = *a great deal.*" Specifically, participants

were asked, "How much would you like to be like," "How similar are you to," "How much do

you like," and "How much do you feel like you know" each of the three primary women in the

film who discussed HPV vaccination. Lupita was identified to participants as "the eldest

daughter who was on the phone with her boyfriend," Connie as "the middle daughter who goes

to the clinic at the end," and Blanca as "the mother." Factor analysis using varimax rotation was

done for each character and showed that the four components of identification loaded on a single

item with good reliability (Lupita: 57% variance explained, α = 0.75; Connie: 60% variance

explained, α = 0.77; Blanca 65% variance explained, α = 0.82). Thus, a composite identification

score was assigned to each viewer for each of the three story characters.

      Dependent variables. Response efficacy, perceived severity, and perceived

susceptibility were measured at pre-test, post-test, and again at the six-month follow-up using

10-point Likert-type scales. The response efficacy of the HPV vaccination was assessed by

asking, "How effective do you think getting the HPV vaccine is in preventing cervical cancer?"

with answer choices ranging between "1 = *not at all effective*" and "10 = *extremely effective.*"

Perceived severity was measured by asking, "What impact do you think having the Human Papillomavirus (not the vaccine, the virus) would have on your life?" with choices from "1 = *it will have virtually no impact*" to "10 = *it will have a severe impact.*" Similarly, "What do you think your chances of getting HPV (not the vaccine, the virus) are?" was used to assess perceived susceptibility with answers anchored at "1 = *this will definitely not happen to you in your lifetime*" and "10 = *this will definitely happen to you in your lifetime.*" At the six month follow-up, participants were asked whether they had "discussed the HPV vaccine with a doctor, nurse or health care provider." Possible response options were yes or no.

Results

Means and standard deviations are included in Table 1. Participants varied greatly in how relevant they perceived the storyline to be to their lives, but most reported fairly high levels of immersion into the film. Identification with Connie, the middle sister who had never had sex, and Blanca, the mother, were higher than identification with Lupita, the sister who was diagnosed with HPV.

[Insert Table 1 About Here]

The first hypothesis suggested that involvement with the narrative, *Tamale Lesson*, would be associated with participants' response efficacy, perceived severity, and perceived susceptibility (see Table 2). At post-test after controlling for race/ethnicity and participants' pre-test efficacy level in multiple linear regressions, relevance ($\beta = 0.16$, $p < .01$) and immersion ($\beta = 0.08$, $p < .05$) were positively associated with perceived efficacy of the HPV vaccine. Relevance of the storyline was also positively associated with perceived severity of getting HPV at post-test ($\beta = 0.19$, $p < .01$); however, plot involvement, relevance, and immersion were not associated with perceived susceptibility. At the six month follow-up, relevance of the storyline remained

positively associated with perceived response efficacy ($\beta = 0.12$, $p < .05$). However, none of the factors were associated with either perceived susceptibility or severity at six month follow-up.

[Insert Table 2 About Here]

The second hypothesis predicted that participant's level of identification with each of the three main characters would impact their perceived susceptibility to HPV, perceived severity of HPV, and perceived efficacy of the HPV vaccine. At post-test, identification was related to both perceived susceptibility and perceived severity, but in opposite directions. Specifically, identification with Lupita, the daughter who revealed her HPV diagnosis, was negatively associated with perceived severity of HPV ($\beta = -0.11$, $p < .05$) but positively associated with perceived susceptibility to the virus ($\beta = 0.13$, $p < .05$). Identification with her mother, Blanca, was similarly negatively associated with perceived severity ($\beta = -0.13$, $p < .03$). Identification with Connie, the middle sister, was not significantly related to severity, susceptibility, or efficacy. At the six month follow-up, the pattern changed. Identification with Lupita was positively associated with response efficacy ($\beta = 0.11$, $p < .05$) and perceived susceptibility ($\beta = 0.13$, $p < .02$) at follow-up. However, identification with her sister Connie, who had no experience with HPV, was positively associated with perceived severity ($\beta = 0.12$, $p < .05$). The relationship between identification with Blanca and perceived severity was no longer statistically significant.

The third hypothesis suggested that narrative involvement, identification, response efficacy, perceived severity, and perceived susceptibility would each be associated with behavior at the six month follow-up. The specific behavior examined was whether participants had talked to a doctor or other health care professional about the HPV vaccine in the previous six months. Twenty-seven percent ($N = 96$) had spoken with their doctors about the HPV vaccine. None of

the factors relating to narrative involvement were associated with having these conversations (see Table 3). Identifying with Lupita was negatively associated with talking to a health care professional (OR = 0.86, $p < .05$), but identifying with her mother had a positive association (OR = 1.27, $p < .001$). Perceived susceptibility was associated with a greater likelihood of talking to a health care professional about the HPV vaccine (OR = 1.11, $p < .05$).

[Insert Table 3 About Here]

Discussion

Different reactions to the narrative, *Tamale Lesson*, had differing relationships with HPV-related outcomes. Relevance of the narrative to the audience was particularly important for both *perceived response efficacy* (belief that getting the HPV vaccination would actually reduce risk) and *perceived severity* (assessment of the negative impact that contracting HPV would have on their lives) even after controlling for participant's own pre-test beliefs. Specifically, the more relevant that women found the narrative to their own lives, the more effective they felt that getting the HPV vaccine was in preventing cervical cancer. Notably, this relationship between personal relevance and perceived response efficacy remained significant six months after viewing the film.

Relevance was also positively associated with perceived severity of HPV immediately after viewing the film, though that effect diminished over time. Previous research has long established the importance of targeting campaign messages to specific audiences (see Noar, 2006 for a review). However, the current study goes further in suggesting that the relevance of the story to a viewer's life may be even more important than other aspects of the plot or immersion in producing effects. Of the various measures of narrative involvement, feeling that the storyline was relevant was most related to measures of narrative impact. Relevance has not been

incorporated into other measures of narrative engagement (Busselle & Bilandzic, 2009), but this research suggests it as an important additional concept to be examined on its own when measuring narrative effects. Moreover, when developing narrative health messages, close attention should be paid to the ability for audiences to relate personally to issues and events portrayed. Formative research with the specific intended audience is crucial for message design to be both relevant and culturally appropriate (Larkey & Hecht, 2010). Community-based participatory research and qualitative research such as focus groups may be extremely valuable in this regard.

Identification with specific characters proved particularly important in relation to both perceived severity and susceptibility to the health issue portrayed. However, our study underscores the complex and nuanced ways that identifying with specific characters may relate to health-related beliefs. Although identification with a character who was diagnosed with HPV was positively related to perceived susceptibility, it was negatively associated with perceived severity of getting HPV. In other words, participants who identified with Lupita were more likely to feel that they, too, might contract HPV, but that it was not a big deal if they did. At the six month follow-up, identification with Lupita was still positively associated with perceived susceptibility. Moreover, identification with Lupita was also positively associated with perceived response efficacy of the HPV vaccine. However, identification with Lupita was negatively associated with behavior. The picture that emerges is that identification with Lupita—the character with the greatest knowledge of HPV and how it can be treated or prevented—was most important in relation to perceived response efficacy and perceived threat. This might be explained by the fact that within the first few minutes of *Tamale Lesson* it is clearly established that Lupita herself had contracted HPV but seems to be relatively calm and

self-assured in terms of how to deal with it. Not surprisingly, therefore, identifying with Lupita was also associated with decreased perceived severity of the virus. With respect to HPV, the women in this study began with relatively high levels of perceived severity, but their perceived susceptibility to HPV was comparatively low. Thus, identifying with Lupita improved precisely the construct most in need of change, namely perceived susceptibility. Future research should examine how to target this construct without any negative effects on perceived severity.

    Six months after viewing the narrative, identification with Connie, the middle sister who was not yet sexually active, was significantly associated with perceived severity of HPV. As the younger sister with no knowledge of HPV, Connie expressed great dismay at Lupita's diagnosis. The relationship between identifying with Connie and perceived severity did not appear immediately following viewing the narrative, but emerged over time. There was a delayed relationship, such that those women who identified with Connie later came to view contracting HPV as more likely to have a substantial negative impact on their lives.

At the six-month follow-up, one of the strongest factors associated with actual behavior—discussing the HPV vaccine with a doctor, nurse, or health care provider—was identification with Blanca, the mother. Previous research has found sleeper effects for narrative persuasion such that changes in beliefs following narrative exposure increase over time (Appel & Richter, 2007). Likewise, the relationship between identification with main characters and perceived vulnerability has also been found to increase over time (Moyer-Gusé & Nabi, 2010). Moyer-Gusé and Nabi (2010) suggested these sleeper effects could be due to discounting of the source being a narrative over time. However, in both of these previous studies, these sleeper effects were found just two weeks after exposure to the narrative. The current study found delays six months later. Such delayed effects highlight the importance of doing long-term

longitudinal research. It may be that the discounting of a narrative source is amplified over the long-term. Additionally, it is of particular interest that only identification with Connie and Blanca showed these delayed effects. They may have been deemed less credible sources than the knowledgeable Lupita who shared information about cervical cancer and HPV vaccination, and identification with less knowledgeable characters may prove especially prone to delayed effects. Further research should explore these possibilities.

Lessons Learned

In addition to underscoring the need to study the longer-term effects of health interventions, the current research provided other lessons. For instance, designing a narrative intervention may involve incorporating more complex characters who do not always fit into simple categorization as positive, negative, or transitional role models. Moreover, health scholars have long recognized the importance of specificity of a target behavior in message design (e.g., Fishbein, 1980). Thus, narratives designed to promote behavior change need to carefully specify both the precise behaviors and the ways in which specific characters relate to those behaviors. Formative research can determine which theoretical constructs are most related to behavior for an intended audience (Noar, 2006). If, as was the case here, perceived susceptibility needs to be increased more than perceived severity, then a character such as Lupita is an excellent role model. However, if it was deemed necessary to elevate perceived severity instead, a more frightening narrative or one that focuses on a character who struggles with the diagnosis or disease may prove more effective. As was the case for *Tamale Lesson*, response efficacy can be impacted not only by showing a character engaged in a behavior that proves effective but also through modeling of character attitudes through interpersonal discussion. Such conversations can be woven into narrative interventions naturally, rather than necessarily

demonstrating each targeted behavior and its consequences.

Limitations and Future Research

This research benefited from its use of a random sample of women, its theoretically-based narrative film written specifically for the purpose of studying narrative persuasion, and its longitudinal design. To our knowledge this is the first study of its kind conducted with multiethnic populations. However, the study included some limitations. Due to constraints on the length of the survey and an effort to avoid survey fatigue, certain dependent variables were measured with only a single item. Thus, it was not possible to test the reliability of these items. Moreover, the measures used for narrative engagement had low scale reliability. Measures of narrative engagement that are reliable across a variety of types of narratives and viewing conditions are necessary for further development of the field.

Additionally, only a single narrative was examined, and replication showing the impact of narrative across a range of health topics is required. Future research should also manipulate story plots and character actions to further determine how they relate to narrative effects. The current study suggests that precisely which character a viewer identifies with is quite important. The average age of our sample (38 years) was such that women might be more likely to identify with the mother Blanca than either of her daughters if identification was based on demographic similarity alone. The multi-ethnic sample likewise might relate to variations in identification based on similarity. However, as was the case with our participants, identification encompasses a broader spectrum of connections to a character. Our measure of identification with each character incorporated similarity, liking, wishful identification, and parasocial interaction. These different facets of identification may not all have the same impact, so future research should further explore the nuances of identification. Further, audience members may identify

differently with positive, negative, and transitional characters, and may identify with each of

multiple characters to varying degrees. Understanding these distinctions better could help health

practitioners provide nuanced messages for multiple target audiences within the same narrative.

For example, in the current study, mothers contemplating vaccinating their children might have

identified most strongly with Blanca, while single, sexually active women may have seem

themselves in Lupita, and those not yet sexually active with Connie. Previous research has

shown the promise of tailoring health messages to specific individuals over and above targeting

to groups (Noar, Harrington, Van Stee, & Aldrich, 2011). Based on the results here, combining

tailored approaches with narrative health messages may be a promising area for future research.

For example, participants could provide information about their baseline perceived vulnerability

for a specific health risk online, and key phrases and characters in an online print or animated

narrative could be varied to better influence that specific individual.

Conclusion

Previous health communication research has overwhelmingly highlighted the importance

of theory in crafting successful health communication interventions (Noar, 2006). In this paper,

we looked at two important theoretical elements of narrative message design: storyline and

characters. First and foremost, this research underscores the need to ensure that persuasive

narratives are relevant to the lives of their intended audience because if not, they will fail. Our

findings further suggest that different aspects of narrative messages should be manipulated

depending on the specific beliefs and behaviors being targeted for change. By conducting

formative research with the intended audience, researchers can develop a narrative to be highly

relevant. Finally, our results also caution that particular attention needs to be paid to positive,

negative, and transitional role models because identifying with particular characters can produce

long lasting effects that may differ from shorter-term effects. These are critical considerations

for the development of health messages in general, but they become even more critical when

addressing sensitive topics such as cervical cancer and in the promotion of health messages to

populations suffering large health disparities.

Endnotes

[1]This study is part of a larger experimental trial. For more information on the complete study design, see Murphy et al., 2013.

[2]Given the low reliability of these measures of narrative engagement, the analyses reported here were also run with single item versions of each (e.g. "I found my mind wandering while watching the film" – reverse coded in lieu of immersion). The pattern of results (including level of statistical significance, directions of effects, and approximate effect size) matched those reported here for all analyses.

References

Appel, M., & Richter, T. (2007). Persuasive effects of fictional narratives increase over time.

    Media Psychology, *10*, 113-134.

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*(2), 82-92.

Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior,*

    31(2), 143–164.

Banerjee, S. C., & Greene, K. (2012). Role of transportation in the persuasion process: Cognitive

    and affective responses to antidrug narratives. *Journal of Health Communication*, *17*(5),

    564–581.

Baranowski, T., Buday, R., Thompson, D. I., & Baranowski, J. (2008). Playing for real: Video

    games and stories for health-related behavior change. *American Journal of Preventive*

    Medicine, *34*, 74-82.

Barnholtz-Sloan, J., Patel, N., Rollison, D., Kortepeter, K., MacKinnon, J., & Giuliano, A.

    (2009). Incidence trends of invasive cervical cancer in the United States by combined

    race and ethnicity. *Cancer Causes Control, 20*(7), 1129-1138.

Bilandzic, H., & Busselle, R. (2011). Enjoyment of films as a function of narrative experience,

    perceived realism and transportability. *Communications, 36*(1), 29–50.

Busselle, R. W., & Bilandzic, H. (2008). Fictionality and perceived realism in experiencing

    stories: A model of narrative comprehension and engagement. *Communication Theory,*

    18, 255- 280.

Busselle, R., & Bilandzic, H. (2009). Measuring narrative engagement. *Media Psychology*,

12(4), 321-347.

Champion, V. L., & Skinner, C. S. (2008). The health belief model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 45-65). San Francisco, CA: Jossey-Bass.

Chatterjee, J. S., Bhanot, A., Frank, L. B., Murphy, S. T., & Power, G. (2009). The importance of interpersonal discussion and self-efficacy in knowledge, attitude, and practice models. *International Journal of Communication*, *3*, 607-634.

Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society, 4*(3), 245-264.

de Graaf, A., Hoken, H., Sanders, J., & Beentjes, W. J. (2011). Identification as a mechanism of narrative persuasion. *Communication Research*, *20*(10), 1–22.

Downs, L. S., Smith, J. S., Scarinci, I., Flowers, L., & Parham, G. (2008). The disparity of cervical cancer in diverse populations. *Gynecol Oncol, 109*(2 Suppl), S22-30.

Drewry, J., Garces-Palacio, I. C., & Scarinci, I. (2010). Awareness and knowledge about human papillomavirus among Latina immigrants. *Ethnicity & Disease*, *20*, 327-333.

Ferlay J., Shin H.R., Bray F., Forman D., Mathers C., & Parkin, D.M. (2011). *Cancer incidence and mortality worldwide in 2008.* Lyon: International Agency for Research on Cancer.

Fishbein, M. (1980). A theory of reasoned action: Some applications and implications. *Nebraska Symposium on Motivation, 27*, 65-116.

Frank, L. B., Chatterjee, J. S., Chaudhuri, S., Lapsansky, C., Bhanot, A., & Murphy, S. T. (2012). Conversation and compliance: Role of interpersonal discussion and social norms in public communication campaigns. *Journal of Health Communication, 17*(9), 1050-1067.

Garces-Palacio, I. C., & Scarinci, I. C. (2012). Factors associated with perceived susceptibility to cervical cancer among Latina immigrants in Alabama. *Maternal and Child Health Journal*, *16*(1), 242-248.

Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology, 79,* 701–721.

Houston, T. K., Allison, J. J., Sussman, M., Horn, W., Holt, C. L., Trobaugh, J., & Hullett, S. (2011). Culturally appropriate storytelling to improve blood pressure: A randomized trial. *Annals of Internal Medicine*, *154*(2), 77-84.

Kobetz, E., Kornfeld, J., Vanderpool, R. C., Finney Rutten, L. J., Parekh, N., … & Menard, J. (2010). Knowledge of HPV among United States Hispanic women: Opportunities and challenges for cancer prevention. *Journal of Health Communication, 15*(Suppl 3), 22-29.

Kreuter, M. W., Green, M. C., Cappella, J. N., Slater, M. D., Wise, M., Storey, D., & Woolley, S. (2007). Narrative communication in cancer prevention and control: A framework to guide research and application. *Annals of Behavioral Medicine*, *33*, 221–235.

Larkey, L. K., & Hecht, M. (2010). A model of effects of narrative as culture-centric health promotion. *Journal of Health Communication, 15*(2), 114-135.

McQueen, A., Kreuter, M. W., Kalesan, B., & Alcaraz, K. I. (2011). Understanding narrative effects: The impact of breast cancer survivor stories on message processing, attitudes, and beliefs among African American women. *Health Psychology*, *30*(6), 674–682.

Morgan, S. E., Movius, L., & Cody, M. J. (2009). The power of narratives: The effect of entertainment television organ donation storylines on the attitudes, knowledge, and behaviors of donors and nondonors. *Journal of Communication*, *59*(1), 135–151.

Moyer-Gusé, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive

effects of entertainment-education messages. *Communication Theory, 18*(3), 407–425.

Moyer-Gusé, E., Chung, A. H., & Jain, P. (2011). Identification with characters and discussion

of taboo topics after exposure to an entertainment narrative about sexual health. *Journal*

of Communication, 61(3), 387–406.

Moyer-Gusé, E., & Nabi, R. L. (2010). Explaining the effects of narrative in an entertainment

television program: Overcoming resistance to persuasion. *Human Communication*

Research, *36*, 26-52.

Murphy, S. T., Frank, L., B., Chatterjee, J. S., & Baezconde-Garbanati, L. (2013). Narrative

versus nonnarrative: The role of identification, transportation, and emotion in reducing

health disparities. *Journal of Communication*, *63*(1), 116-137.

Murphy, S. T., Frank, L. B., Moran, M. B., & Patnoe-Woodley, P. (2011). Involved, transported,

or emotional? Exploring the determinants of change in knowledge, attitudes, and

behavior in entertainment-education. *Journal of Communication, 61*(3), 407-431.

Noar, S. (2006). A 10-year retrospective of research in health mass media campaigns: Where do

we go from here? *Journal of Health Communication*, *11*, 21-42.

Noar, S. M., Harrington, N. G., van Stee, S. K., & Aldrich, R. S. (2011). Tailored health

communication to change lifestyle behavior. *American Journal of Lifestyle Medicine,*

5(2), 112-122.

Sabido, M. (2004). The origins of entertainment-education. In A. Singhal, M. J. Cody, E.M.

Rogers, & M. Sabido (eds.), *Entertainment-education and social change: History,*

research, and practice (pp. 61-74). Mahwah, NJ: Lawrence Erlbaum Associates.

Singhal, A., & Rogers, E. M. (2004). The status of entertainment-education worldwide. In A.

Singhal, M. J. Cody, E.M. Rogers, & M. Sabido (Eds.), *Entertainment-education and*

social change: History, research, and practice (pp. 3-20). Mahwah, NJ: Lawrence

Erlbaum Associates.

Slater, M. D., & Rouner, D. (2002). Entertainment education and elaboration likelihood:

Understanding the processing of narrative persuasion. *Communication Theory*, *12*, 173-

191.

Smith, R. A., Downs, E. & Witte, K. (2007). Drama theory and entertainment education:

Exploring the effects of a radio drama on behavioral intentions to limit HIV transmission

in Ethiopia. *Communication Monographs, 74*(2), 133-153.

Southwell, B. G., & Yzer, M. C. (2008). The roles of interpersonal communication in mass

media campaigns. In C. Beck (Ed.), *Communication yearbook 31* (pp. 420–462). New

York: Lawrence Erlbaum.

Tal-Or, N., & Cohen, J. (2010). Understanding audience involvement: Conceptualizing and

manipulating identification and transportation. *Poetics*, *38*(4), 402–418.

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.

van Leeuwen, L., Renes, R. J., & Leeuwis, C. (2012). Televised entertainment-education to

prevent adolescent alcohol use: Perceived realism, enjoyment, and impact*. Health

Education & Behavior, 20*(10), 1-13.

Watts, L. A., Joseph, N., Wallace, M., Rauh-Hain, J. A., Muzikansky, A., Growden, W. B., &

del Carmen, M. G. (2009). HPV vaccine: A comparison of attitudes and behavioral

perspectives between Latino and non-Latino women. *Gynecological Oncology, 112*, 577-

582.

Table 1

Means and Standard Deviations

	Pre-test (N = 377)	Post-test (N = 377)	Follow-up (N = 353)
Response efficacy	7.9 (2.2)$_a$	8.2 (2.1)$_b$	8.2 (2.0)$_b$
Perceived severity	7.7 (2.5)$_b$	7.3 (2.5)$_a$	7.2 (2.6)$_a$
Perceived susceptibility	3.9 (2.7)	3.8 (2.7)	3.8 (2.7)
Plot	-	6.6 (1.8)	-
Relevance	-	5.0 (2.7)	-
Immersion	-	7.9 (1.8)	-
Identification			
With Lupita	-	5.1 (2.0)	-
With Connie	-	5.7 (2.2)	-
With Blanca	-	5.9 (2.2)	-

Note: Scales could range from 1 to 10. Standard deviations are in parentheses. Means in the

same row with no subscripts in common differ at $p < .05$ by the Bonferroni method.

Table 2

Effects of Narrative Involvement and Identification with Characters on Response Efficacy,

Perceived Severity, and Perceived Susceptibility at Post-test (N = 377) and Follow-up (N = 353)

	Post-test at 2 Weeks			Follow-up at 6 Months		
	Response Efficacy	Perceived Severity	Perceived Susceptibility	Response Efficacy	Perceived Severity	Perceived Susceptibility
Pre-test level	0.64**	0.48**	0.62**	0.57**	0.48**	0.59**
Race/ethnicity [a]						
Mexican American	0.05	0.11*	0.01	0.05	0.23**	0.05
African American	-0.10*	0.10	-0.01	-0.07	0.10	0.01
Plot	-0.01	0.01	-0.08	0.06	0.00	-0.03
Relevance	0.16**	0.19**	0.04	0.12*	-0.09	-0.06
Immersion	0.08*	0.05	-0.04	0.00	0.07	-0.04
Identification						
With Lupita	0.05	-0.11*	0.13*	0.11*	-0.06	0.13*
With Connie	-0.06	0.03	0.01	-0.03	0.12*	0.01
With Blanca	-0.02	-0.13*	-0.05	-0.04	-0.06	-0.02
Adjusted R^2	0.47	0.33	0.42	0.39	0.30	0.38

Note: Standardized beta coefficients from regression models.

* $p < .05$. ** $p < .01$.

[a] Reference is European American

Table 3

Effects of Narrative Involvement, Identification with Characters, Response Efficacy, Perceived Severity, and Perceived Susceptibility on Behavior (Talking to a Health Care Professional about the HPV Vaccine) at Follow-up (N = 353)

	Odds Ratio	95% Confidence Interval	p
Race/ethnicity [a]			
Mexican American	1.36	0.67-2.72	.39
African American	1.43	0.71-2.87	.31
Plot	1.16	0.98-1.37	.08
Relevance	1.00	0.89-1.13	.99
Immersion	1.02	0.89-1.17	.80
Identification			
With Lupita	0.86	0.73-1.00	.05*
With Connie	1.04	0.90-1.20	.59
With Blanca	1.27	1.10-1.47	.01**
Response Efficacy	1.15	0.99-1.33	.06
Perceived Severity	0.99	0.89-1.10	.79
Perceived Susceptibility	1.11	1.01-1.22	.03*

[a] Reference is European American

* $p < .05$. ** $p < .01$.