The Ability of Narrative Communication to Address Health-related Social Norms

Meghan Bridgid MORAN[*]

San Diego State University

Sheila T. MURPHY

University of Southern California

Lauren B. FRANK

Portland State University

Lourdes BAEZCONDE-GARBANATI

University of Southern California

Abstract: Social norms are an important predictor of health behavior and have been targeted by a variety of health communication campaigns. However, these campaigns often encounter challenges related to the socially specific context in which norms exist: specifically, the extent to which the target population identifies with the specific reference group depicted and the extent to which the target population believes the campaign's message. We argue that because of its capacity to effect identification among viewers, narrative communication is particularly appropriate for impacting social norms and, consequently, behavioral intention. This manuscript presents the results of a randomized trial testing the effectiveness of two films – one narrative, one non-narrative – in changing perceived social norms and behavioral intention regarding Pap testing to detect cervical cancer. Results of the study indicate that the narrative film was in fact more effective at producing positive changes in perceived norms and intention.

Keywords: *narrative communication, identification, perceived social norm, behavioral intention, cervical cancer.*

Introduction

Perceived social norms, or what an individual believes others are doing or would approve of, play an important role in health behavior. A wide body of research has found evidence linking perceived norms to a variety of health

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behaviors, such as alcohol use (Keyes, Schulenberg, O'Malley, Johnston, Bachman, Guohua & Hasin, 2012), condom use (Albarracin, Kumkale & Johnson, 2004) andcancer screening (Smith-McLallen & Fishbein, 2008). As a result, many health communication campaigns seek to impact behavior by changing social norms. But despite the role perceived norms play in predicting behavior, the evidence for the success of norm-based campaigns is mixed (Campo et al., 2003). We argue that many of these campaigns fail because they do not address the 'social' aspect of social norms. That is, in order to be successful, a social norms campaign must locate the targeted normative belief within a specific social context. To do this, the campaign must identify the appropriate reference group and address the targeted norm in a way that will resonate within the target population.

Narrative communication (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': Kreuter, Holmes, Alcaraz, Kalesan, Rath, Richert,… Clark, 2007: 222) is uniquely capable of impacting perceived norms in a contextually appropriate way. Although an expanding body of research identifies narrative communication as an innovative way to impact knowledge, attitudes and behavior (Kreuter, Green, Cappella, Slater, Wise, Storey,…Woolley, 2007), research that examines the influence of narrative communication on targeted social norms is virtually nonexistent. The current manuscript addresses this gap,

arguing that narrative communication, because of its ability to increase viewer identification with characters, is uniquely positioned to impact social norms. We testthis assumptionby analyzing the results of an experimental study comparing two 11-minute health communication films – a narrative and a non-narrative – that contain the identical information regarding the cause, prevention and treatment of cervical cancer. Prior to doing so, however, we first briefly review the relevant literature on perceived social norms, interventions that seek to change behavior by targeting social norms, and the characteristics of narrative communication that make it appropriate for social norms campaigns.

Perceived Social Norms

Perceived social norms are defined as frames of reference through which the world is understood (Sherif, 1936). In practice, the construct of social norms is divided into two sub-constructs: descriptive norms and subjective (or injunctive) norms. Descriptive norms are typically defined as 'what is commonly done,' while subjective norms are defined as 'what is commonly approved and disapproved [of]' (Kallgren, Reno &Cialdini, 2000: 2002).

Perceived social norms have been linked to myriad health behaviors including condom use (Albarracin, Kumkale and Johnson, 2004), HIV-risk behaviors (Latkin, Forman, Knowlton and Sherman, 2003) substance use (Etcheverry & Agnew, 2008) and drunk driving (DeJong and Hingson,

1998). Most relevant for present purposes is evidence that social norms play an important role in predicting cancer-screening behavior. McLallen and Fishbein (2008) found that both subjective and descriptive norms contributed significantly to intentions to get a mammogram (to screen for breast cancer), colonoscopy (to screen for colorectal cancer) and PSA test (to screen for prostate cancer).

Several theoretical approaches have traditionally been used to conceptualize the mechanisms through which social norms affect behavior. The social norms approach (Berkowitz, 2004a; Perkins, 2003; Perkins & Berkowitz, 1986) provides theoretical reasoning for why perceived norms should play such a role, arguing thatbecause individuals are motivated to act in ways similar to relevant others (e.g. a reference group) their perception of a reference group's behavior will influence his or her subsequent behavior (Berkowitz, 2004b). Social identity theory (Tajfel, 1978; Tajfel & Turner, 1979) offers an additional way to conceptualize the mechanism through which norms shape behavior. According to social identity theory, individuals have numerous identities based on their self-categorization as members of various groups. The social categories to which one belongs are cognitively represented as prototypes. A prototype is one's perception of a group's defining behaviors, values, attitudes and beliefs – in other words, the perception of a group's norms. According to social identity theory, when individuals begin to identify as group members, they begin to think of themselves in terms of the group's prototype. It is through this process, known as depersonalization,

that the perceived norm of a group subsequently influences behavior. Recently, the integrative model of behavioral prediction (IMBP; Fishbein, 2000) – an extension of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein &Ajzen, 1975) and theory of planned behavior (Ajzen, 1985, 1991; Ajzen & Madden, 1986) – hypothesized that perceived norms impact behavior in conjunction with several other factors (attitudes, self-efficacy, environmental constraints and skills and abilities).

It must be noted that each of these frameworks focuses on *perceived* social norms, not *actual* social norms. There are several key implications stemming from this conceptualization. First, perceived social norms are always specific to a particular social context (Sherif, 1936; Terry & Hogg, 1996). That is, what is normative for one context (e.g. a library) may not be normative for another context (e.g. a party). Thus social norms are formed by referring to relevant others in order to infer appropriate conduct. These groups of relevant others, known as reference groups (Rimal & Real, 2005) may be small (e.g. a group of close friends) to very large (e.g. an entire community). Moreover, this focus on perceivedas opposed to actual social norms implies a relationship between what is actually occurring in a social context, and what an individual perceives to be normative. An individual's perceived norm may or may not align with the actual norm (that being the actual prevalence of a behavior or extent to which others approve of a behavior: Lapinski & Rimal, 2005). Although perceived norms often bear some relationship to actual social norms, perceived

social norms operate at the level of the individual while actual social norms operate at the level of the group or community.

Interventions Targeting Norms to Change Behavior

Because social norms operate as individual-level cognitive constructs or beliefs,many health communication campaigns – which typically seek to change behavior at the individual-level – have targeted perceived norms as predictors of health behavior. According to the integrative model of behavioral prediction, campaigns can impact behavior by changing the strength of a behavior-related belief, such as a perceived norm (Fishbein & Yzer, 2003). In this instance, if a behavior is positively associated with perceived norms (e.g. women who believe most of their friends and colleagues have had mammogramshave stronger intentions to get mammograms themselves), a health communication campaign might seek to target women whodo not have that perceived norm (e.g. women who believe that their friends and colleagues have not had a mammogram) and attempt to change or correct that social norm in hopes of producing change in behavioral intentions and, ultimately, behavior.

The majority of campaigns seeking to impact perceived norms are premised on the assumption that increasing or correcting a perceived norm will result in a subsequent increase in the desired healthy behavior. The bulk of these campaigns focus on reducing unsafe alcohol use among college students (Keyes, 2012). Because of the wide body of literature describing and evaluating these campaigns to reduce unsafe alcohol use among college students, we focus our description on these campaigns but acknowledge that this approach has been used with other behaviors (e.g. Gerber, Green & Larimer, 2008; Kilmartin, Smith, Green, Heinzen, Kuchler & Kolar, 2008).

Research indicates that a large number of college students have an inflated perceived norm, believing their peers engage in unsafe alcohol use at a much higher rate than they actually do (Campo et al., 2003; Perkins & Berkowitz, 1986). As a result, several interventions sought to reduce unsafe alcohol use by providing students with accurate information regarding the correct norm. For example, anintervention poster might read '80 per cent of X University students had fewer than four alcoholic beverages last weekend.' However, despite the strong theoretical underpinnings (Berkowitz, 2004a; Perkins, 2003; Perkins & Berkowitz, 1986), many of these interventions received limited empirical support for their effectiveness. One meta-analysis of students at 118 colleges found that there was no decrease in general drinking behavior among schools that implemented social norms interventions relative to schools that did not receive social norms interventions (Wechsler et al., 2003). Many evaluations of interventions have garnered similar, disappointing results (Campo et al., 2003; Russell, Clapp & DeJong, 2005; Thombs, Dotterer, Olds, Sharp and Raub, 2004).

There are several reasons that may explainwhy many of these

campaigns had limited success at producing behavior change. First, the information that interventions present about social norms must be believable: interventions have failed because the target audience did not believe the intervention's claims (Smith, Atkin, Martell, Allen and Hembroff, 2006). Second, the reference group used in the intervention must be the appropriate group for a given behavior. More specifically, an individual must identify with the reference group in question (Rimal & Real, 2003) and perceive low social distance between themselves and the reference group (Yanovitzky et al., 2006). For example, the appropriate reference group for a college student is often their group of friends, not the undergraduate population more generally.

Because perceived norms are individual representations of societal phenomena, health communication campaigns targeting perceived norms must represent those societal phenomena as accurately as possible. Communicating the campaign's message in a believable way and using a reference group with whom the target audience identifies are crucial components for doing this. In the following section, we argue that narrative communication has the ability to increase viewers' identification with characters in the story, making it particularly well-suited to address the drawbacks of traditional social norms campaigns.

Narrative Communication

Traditionally, interventions to affect social norms have been largely fact-based, primarily providing information regarding a norm. Although these interventions present accurate information regarding an actual norm, they often lack contextual details that could increase the believability of the intervention's claims or increase audience identification with the reference group in the intervention. Kreuter and colleagues (2007) identify several aspects of narrative communication that facilitate its role in health communication campaigns. Of these, one in particular – identification – makes narrative communication particularly well suited for social norms campaigns.

Identification with characters has been defined in a variety of ways, such as a viewer's perceived similarity to (e.g. Slater & Rouner, 2002), liking of (e.g. Basil, 1996), wanting to be like (e.g. Eyal& Rubin, 2003) or feeling like he or she knows a certain character (e.g. Murphy, Frank, Moran & Patnoe-Woodley, 2011), as well as the cognitive processes of taking the point of view of a character (e.g. Cohen, 2001, 2006) and relating to a character (e.g. Wilkin et al., 2007). The process of identification is an important mediator of narrative communication's effects: those who identify more strongly with a character are more likely to be influenced by that character's words and actions (Banerjee & Greene, 2012; de Graaf, Hoeken, Sanders, &Beentjes, 2011; Igartua& Barrios, 2012; McQueen, Kreuter, Kalesan & Alcaraz, 2011; Murphy et al., 2011). According to social identity theory, reference groups tend to exert influence only when an individual identifies with that group. Thus, the ability of narrative

communication to present characters who are fully fleshed out and with whom audience members identify is a key reason why it is well-suited for social norms interventions.

Identification also has an indirect effect on outcomes associated with exposure to narrative communication via its relationships withseveral other constructs known to enhance the effectiveness of narrative communication. In particular, identification with characters can producehigh levels of engagement with a storyline (Murphy et al., 2011). This concept, known as transportation (Green & Brock, 2000), results in decreased counter arguing against messages in the narrative (Green & Brock, 2000; Kreuter et al., 2007; Slater & Rouner, 2002), since viewers' cognitive resources are devoted to the storyline. Additionally, audience members who are highly transported are more likely to experience the narrative's events and messages as though they were occurring in the 'real world' (Green & Brock, 2000). Because of both the direct and indirect role identification plays in facilitating the effects of narrative communication, it is crucial to explore its role in changing perceived norms.

Current Study

It is well documented that narrative communication has the ability to produce identification in audience members. This capability makes narrative communication particularly appropriate for campaigns targeting perceived social norms for two reasons. First, narrative's ability to produce identification with characters

may increase the relevance of the reference group presented in the campaign for audience members. Second, identification's impact on transportation can result in reduced counter-arguing and increased perceived realism, making it more likely that audience members will accept the normative message communicated by the campaign. The current research thus investigates the relative efficacy of a fictional narrative vs. a more traditional non-narrative film to (a) change a perceived norm via increased identification and (b) increase behavioral intention via perceived norm. Specifically, we look at a perceived norm and behavioral intention regarding Pap (*Papanicolaou)* tests to detect cervical cancer. Although this research focuses on cervical cancer, our results may have implications for a variety of health conditions. Figures 1 and 2 illustrate the proposed relationships between the variables of interest. We hypothesize the following:

H1: A narrative film focusing on cervical cancer prevention via Pap tests will be more effective at increasing the perceived social norm regarding the number of women who get regular Pap tests than the identical information presented in a non-narrative film.

H2: The association between film type (narrative vs. non-narrative) and perceived social norm will be mediated by identification, such that the narrative film will produce higher levels of identification in viewers, which will in turn produce increased perceived norms.

H3: A narrative film focusing on cervical prevention via Pap tests will be more effective at increasing behavioral intention to get a Pap test than the identical information presented in a non-narrative film.

H4: The association between film type (narrative vs. non-narrative) and behavioral intention to get a Pap test will be mediated by perceived norm, such that the narrative film will produce an
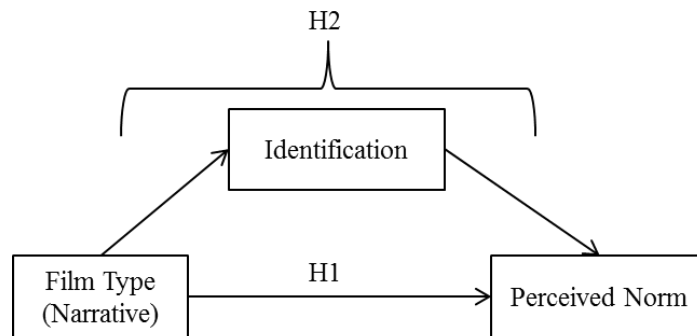

Figure 1. *Hypothesized relationships between film type, identification and perceived norm*
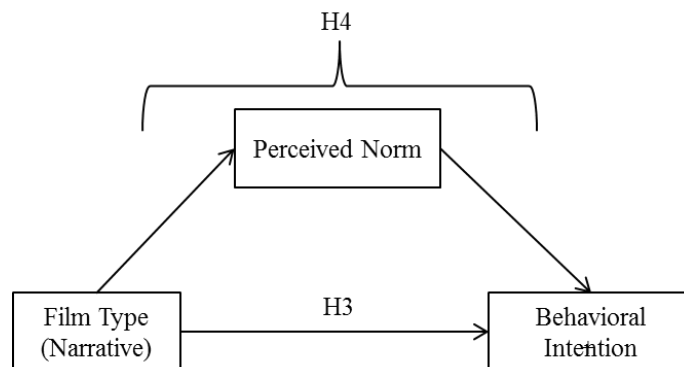
Figure 2. *Hypothesized relationships between film type, perceived norm and behavioral intention.*

increase in the perceived norm which will, in turn, produce an increase in behavioral intention.

Methods

African American, European American, Korean American and Mexican American women were sampled via a random digit dial procedure and randomly assigned to view either

a narrative or non-narrative film containing the identical information about cervical cancer prevention and detection. Participants completed a pre-test and post-test.

Materials

Two 11-minute films were produced, each conveying the same ten facts and persuasive message regarding cervical cancer and its prevention and treatment.

The narrative film, *The Tamale Lesson*, centers on the Romero family as they prepare for their youngest daughter Rosita's Quinceañera (15th birthday celebration). The oldest daughter, Lupita, has just received a diagnosis of having an HPV (Human Papilloma Virus) infection, which sparks a discussion regarding HPV, cervical cancer and Pap tests between Lupita, her middle sister Connie, her mother and her mother's friend Petra, who is in her fifties. In the film, Lupita uses a chicken to demonstrate what a Pap test entails and the film concludes with Connie, her mother and Blanca at the clinic to get Pap tests. The non-narrative film, *It's Time*, is a more traditional, fact-based film, which uses doctors and real women to present facts about cervical cancer and its treatment and prevention. The non-narrative film similarly featured predominantly Hispanic individuals. Because perceived similarity is an important component of identification, we chose to have both films feature predominantly Hispanic individuals to ensure sufficient variation in audience identification with film characters.Both films contained messages designed to impact perceived norms regarding Pap tests.

Manipulation Check

The rough cuts of both films were pre-tested in eight focus groups (two for each ethnic group) to ensure that the only significant difference was in their narrative/non-narrative format. In particular, focus groups indicated that the films' focus on Hispanic characters was not a barrier to engaging with and enjoying the film. Focus groups also found that women of all ethnicities were able to relate to the Quinceañera storyline in the narrative and felt both films were believable. Additional testing of the narrative film among Mexican Americans, European Americans and African Americans (see Murphy, Frank, Chatterjee and Baezconde-Garbanati, 2013) found that, although Mexican Americans did identify more strongly with the characters, there was sufficient variation in identification for all three ethnic groups. To ensure that the facts were clearly displayed in each film, research assistants identified where each fact was located in the film, for how long it was discussed and the precise wording. This confirmed that each fact was presented equally across films.

Experimental procedure

A random digit dial (RDD) procedure was used to recruit 843 participants in Los Angeles County, USA. The research protocol was approved by the researchers' university IRB. Participants were given a pretest to establish their baseline on several constructs, including perceived Pap test norms and behavioral intention to get a Pap test in the next two years. Participants were then randomly assigned to receive in the mail a DVD of either the narrative or non-narrative film. Participants were re-contacted for a posttest survey two weeks after the pretest. Before beginning the posttest, participants were asked whether they had viewed the DVD and were asked to answer several questions about the film to confirm that they had

in fact viewed it. Participants who had not viewed the film were asked to watch the film and were then re-contacted to complete the posttest. Participants who had viewed the film completed the posttest that measured perceived social norms and behavioral intentions, among other constructs. All interviewing was conducted by California Survey Research Services, Inc. Up to six call attempts were made to sampled numbers to complete the pre-test survey, and up to 35 attempts were made to re-contact individuals for the posttest survey. Participants received gift cards as compensation for their participation in the study.

Participants

To be eligible for participation in this study, participants needed to be female, between the ages of 25-45 (as this is the age for which Pap testing is most relevant), have had no previous diagnosis of cervical cancer and self-identify as European American, African American, Mexican American or Korean American. Because the films were in English, participants also had to be fluent in English. A total of 843 women completed both surveys.Just under one-third of the sample was Mexican American (30.0 per cent, N = 253), 31.9 per cent (N = 269) was European American, 28.4 per cent (N = 239) was African American and 9.7 per cent (N = 82) was Korean American. The average age was 38.16 years (SD = 5.70). The majority of the women in this sample had some form of health insurance (86.1 per cent, N = 726). A small percentage (3.2 per cent, N = 27) had never gotten a Pap test, and 4.7 per

cent (N = 38) had not had a Pap test within the past three years.

Measures

Perceived norms. In both the pretest and posttest, participants were asked to imagine ten women like themselves. Participants were then asked, 'How many of these ten women do you think have regular Pap tests?' Responses ranged from 0 to 10. Perceived norms have been shown to have a medium to strong effect on behavioral intentions (Rivis & Sheeran, 2003) and are additionally an important predictor of behavior (Rimal & Real, 2003). We followed Rimal and Real (2003) and Frank, Chatterjee, Chaudhuri, Lapsansky, Bhanot, and Murphy (2012) in using a single question to assess perceived descriptive norms.

Behavioral intention. In both the pretest and the posttest, participants were asked 'How likely is it that you will get a Pap test within the next two years?' Responses ranged from '1=not at all likely' to '10=extremely likely.' We opted to measure behavioral intention rather than behavior because, due to the long recommended interval between Pap tests (three to five years for women aged 25-45 years: Moyer, U.S. Preventive Services Task Force, 2012), measuring behavior was not feasible for this study. Behavioral intention has been found to be an acceptablepredictor of medical screening behavior (Sheeran, Conner & Norman, 2001) and more specifically, cervical cancer screening behavior (Cooke & French, 2008).

Identification. Identification was measured by asking participants how much they liked, felt like they knew,

felt they were similar to, and wanted to be like 'the characters in the film.' Responses were on a ten-point scale ranging from '1=strongly disagree' to '10=strongly agree.' These items were averaged to create one measure for identification, ranging from 1 to 10.

Film type. Film type (narrative vs. non-narrative) was coded dichotomously so that '0' indicated that the participant had viewed the non-narrative film and '1' indicated that the participant had viewed the narrative film.

Covariates. We controlled for ethnicity (whether the participant was Mexican American)and recency of the participant's last Pap test (ranging from 0 months to 120 or more months (including women who had never received a Pap test). Additionally, because it has been argued that level of education may moderate the impact of narrative communication (Kreuter et al., 2007), we accounted for the moderating effect of education level (college degree or less vs. some graduate education or higher) on response to the film.

Data analysis

Data were analyzed using SPSS 18.0. Table 1 presents descriptive statistics by film type on key variables in our sample. To test our hypotheses that the narrative film would result in a significantly higher perceived norm (H1) and behavioral intention (H3) regarding getting a regular pap test, a between-subjects ANCOVA was conducted, with film type (narrative or non-narrative) entered as a fixed factor, pre-test value of the dependent

variable (perceived norm or behavioral intention), recency of the participant's last Pap test and ethnicity (Mexican American) and education level entered as covariates. We additionally tested the interaction effect between film type and education level. To test our hypotheses that the impact of film type on perceived norm would be mediated by identification (H2) and our hypothesis that the relationship between film type and behavioral intention would be mediated by perceived norm (H4), we used Hayes' (2012) procedure for estimating conditional indirect effects of an independent variable on a dependent variable via a mediating variable. This procedure enabled us to account for the potential moderating role of educational level on participants' response to the film. This procedure can be implemented through an SPSS macro titled 'PROCESS' available at Hayes' personal website (www. afhayes.com). We ran a separate analysis for each hypothesis. The first analysis controlled for perceived norm at the time of the pre-test, whether or not the participant was Mexican American, and recency of the participant's last Pap test. The second analysis controlled for perceived norm and behavioral intention at the time of the pre-test, whether or not the participant was Mexican American, and recency of the participant's last Pap test. Both analysis accounted for the moderating effect of education level. To further investigate the relationships between all of the variables of interest, a structural equation model was tested using LISREL. Power analysis indicated that our sample provided sufficient power (.80) to detect a relationship between the variables of

Table 1: *Sample Descriptive Statistics*

	Non-narrative (N = 423)		Narrative (N = 420)	
	%	N	%	N
Mexican American	30.300	128	29.800	125
European American	31.000	131	32.900	138
African American	29.600	125	27.100	114
Korean American	9.200	39	10.200	43
≤ High school degree	19.400	82	17.900	75
Never had a Pap test	2.900	12	3.600	15
	M	SD	M	SD
Age	38.260	5.592	38.050	5.808
Recency of last Pap test (in months)	12.740	13.396	14.19	17.41
Pre-test perceived norm	6.260	2.340	6.220	2.410
Pre-test behavioral intention	9.430	1.810	9.370	2.037
Identification(a)	5.572	2.185	6.113	2.106

(a) Differences in means are significant at p < .001.

interest at a two-sided .05 significance level, if the true change in the dependent variables is .091 standard deviations per one standard deviation change in the independent variable. We will be able to detect changes as small as .178 standard deviations change.

Results

Results of our analysis testing perceived Pap test norms by film type indicated that viewers of the narrative film and viewers of the non-narrative film did not differ significantly on post-test perceived norms ($F(1, 818) =.000$, $p = .989$, $\eta^2 = .000$). However, film type did have a conditional effect on post-test perceived norm as a result of participant education level ($F(1,818) = 4.582$, $p < .05$, $\eta^2 = .006$), such that women with lower education levels had higher perceived norms as a result

of watching the narrative film. This relationship is depicted graphically in Figure 3. There was no difference in posttest behavioral intention to get a Pap test between women who viewed the narrative and women who viewed the non-narrative film ($F(1, 638) = 0.013$, $p = .909$, $\eta^2 = .000$), nor was there a conditional effect as a result of participant education level ($F(1,832) = 1.144$, $p = .285$, $\eta^2 = .001$). Table 2 presents actual and adjusted descriptive statistics for perceived norm and behavioral intention by film type.

Results of our test of identification as a mediator of the relationship between film type and perceived norm indicated that viewing the narrative film was positively associated with identification (b(SE) = .527(.164), $p< .01$). Identification was negatively associated with perceived norm (b(SE)
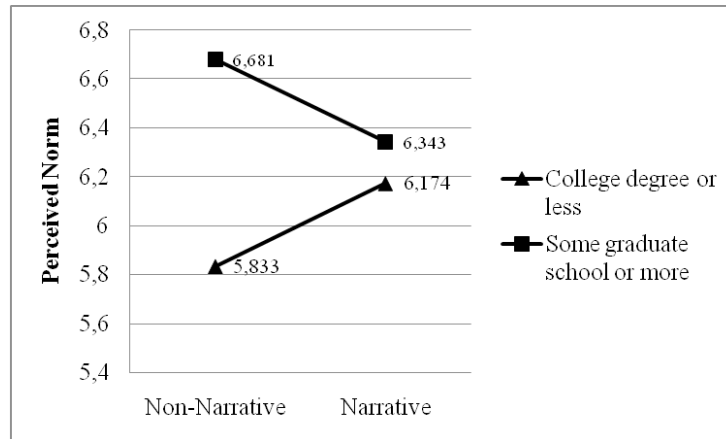
Figure 3. *Effects of film type on perceived norm by education level*

Table 2: *Descriptive statistics for perceived norm and behavioral intention by film type*

	Observed mean	Adjusted mean	SE	N
Perceived Norm(a)				
Narrative	6.200	6.259	0.112	418
Non-narrative	6.070	6.257	0.112	420
Behavioral Intention(b)				
Narrative	9.620	9.659	0.062	420
Non-narrative	9.680	9.748	0.061	423

(a) Controlling for pre-test perceived norm

(b) Controlling for pre-test behavioral intention

= -.-.130, *p*< .001). Education level did not moderate this relationship. In the model containing identification, film type did not have a statistically significant direct effect (b(SE) = .256(.137), *p*=.062.

Results of our analysis testing the indirect effect of film type on behavioral intention via perceived norm indicated that perceived norm did act as a mediating variable. Specifically, viewing the narrative film was positively associated with perceived norm (b(SE) = .354(.155), *p*< .05) and perceived norm was positively associated with behavioral intention (b = .040, *p*< .05). Film type did not have a direct effect(b(SE) = .037(.075), *p* = .627) on behavioral intention. Consistent with our initial analysis, the indirect effect of film type on behavioral intention was moderated by education level, such that viewing the narrative film was associated with

increased perceived norm among those with lower education levels, while viewing the narrative film was associated with decreased perceived norms among those with higher education levels.

Our structural equation model tested the simultaneous effects of film type and identification on perceived norms and behavioral intentions, while controlling for pretest perceived norms, behavioral intentions, and recency of last Pap test. The model was a good fit to the data, $\chi^2(12) = 16.5$, $p = .17$, root mean square error of approximation (RMSEA) = 0.02 (90%
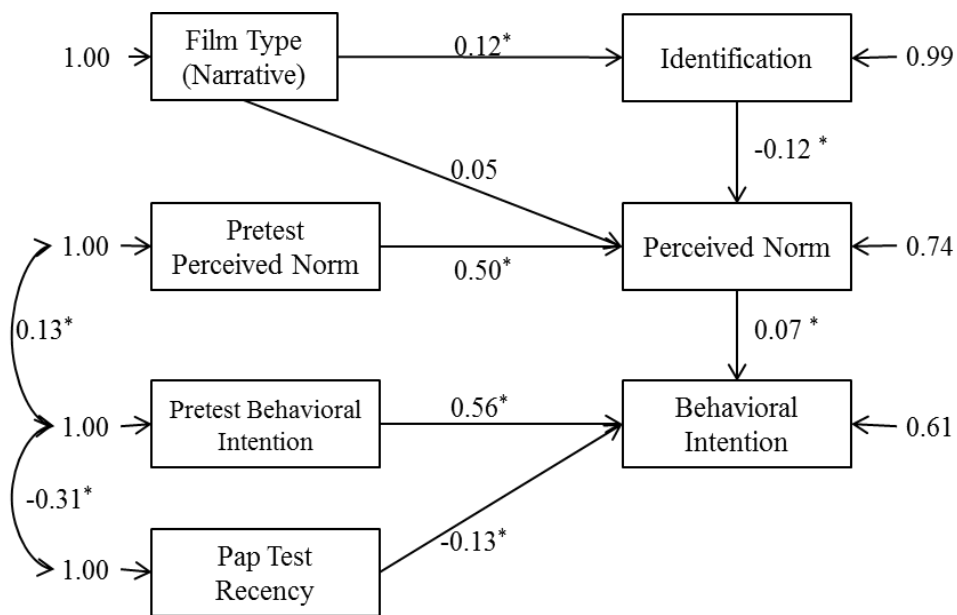

Figure 4. *Structural equation model representing relationships between film type, identification, perceived norm and behavioral intention*

confidence interval: 0.0 – 0.045); CFI = 0.99. Results indicated that all of our proposed paths, with the exception of the direct effect of film type on perceived norm, were statistically significant ($p < .05$). Figure 4 presents the results from the structural equation model analysis.

Discussion

This study sought to test the efficacy of narrative versus non-narrative health communication materials at impacting perceived social norms and behavioral intention via perceived norms. Our hypotheses rested upon several theoretical premises. First, according to the integrative model of behavioral prediction (Fishbein, 2000) and social identity theory (Tajfel, 1978; Tajfel& Turner, 1979), perceived social norms are specific to reference groups. As such, any intervention seeking to impact social norms must focus on a reference group with whom the target audience identifies. Narrative communication has been shown to increase audience identification with characters and groups in the storyline,

which increases the likelihood that the audience will perceive the reference group in question as relevant. Additionally, a social norms campaign must contain a believable message. When viewers identify with characters, the likelihood that they experience events in the story as though they were happening in the 'real world' increases (Green & Brock, 2000; Murphy et al., 2011).

Results of this study indicate that the narrative film was indeed more effective than the non-narrative film in producing a higher perceived social norm that more women were getting screened for cervical cancer via Pap tests among women with college degrees or lower levels of education. However, highly educated women showed higher perceived social norms as a result of the non-narrative film. These results offer partial support for our hypothesis that the narrative film would be more effective than the non-narrative film at changing perceived norms and are consistent with Kreuter and colleagues' (2007) argument that narrative communication may be particularly useful for populations with lower education or health literacy levels. Results testing our hypothesis that identification would mediate the effect of film type on perceived norm indicate that identification with characters mediates the relationship between film type and perceived norm, but not in the direction hypothesized. Although the narrative film did produce higher levels of identification as expected this, in turn, resulted in a lower perceived norm. Our hypothesis that viewing the narrative film would be directly, positively related to behavioral intention was not supported; however,

our data indicate that film type has an indirect effect on behavioral intention via perceived norm. Specifically, viewers of the narrative film had higher perceived norms, and as a result, stronger behavioral intentions. This effect was not moderated by education level.

The results of the analyses testing the indirect effect of film type on perceived norm through identification were contrary to what we expected. To contextualize these findings, we conducted an additional review of each film to identify potential factors explaining why increased identification might be associated with lower perceived norm and why the narrative film did not produce higher levels of transportation compared to the non-narrative film. Our review of the films indicated that the non-narrative film may not have communicated the perceived norm of getting a regular Pap as clearly as the narrative film. To further investigate this, we ran a post-hoc analysis testing the extent to which film type moderated the relationships between identification and perceived norm. Results of this analysis indicate that film type did indeed moderate this relationship, such that among those who watched the non-narrative film, identification ($\beta_{\text{film type*identification}}$ = .150, p< .02) was much more strongly negatively associated with perceived norm than among those who watched the narrative film. This post-hoc analysis indicates that, in the tests of our second hypotheses, the strong negative relationship between identification and perceived norms among those who watched the non-narrative film could have obscured the overall effect.

Results of our analyses testing the

direct and indirect effect of film type on behavioral intention indicate that the film type did not have a direct effect on behavioral intention. We suspect this is likely due to a ceiling effect, as pretest behavioral intentions were extremely high (M = 9.41 out of a possible 10), leaving little room for change. However, film type did have an indirect effect on behavioral intention via perceived norm, such that the narrative film produced higher perceived norm which in turn resulted in higher behavioral intentions to get a Pap test. This finding supports the integrative model of behavioral prediction, according to which normative beliefs are a precursor to behavioral intention and, subsequently, behavior.

Ultimately, these findings indicate that the narrative formatted film was in fact more successful at directly changing perceived norms and indirectly changingbehavioral intention than the non-narrative film. This effect was mediated by identification, although not in the direction expected. Our post-hoc analyses indicate that this was possibly because the non-narrative film did not communicate the normative message as strongly as the narrative film and as such, could have suppressed the effect of identification on perceived norms.

Several limitations of this study must be noted. First, although this study had an ethnically diverse sample, participants were all females living in Los Angeles County between the ages of 25-45. Thus, the generalizability of this study's findings may be limited as it is possible that women living in other areas, or in different age groups might respond differently to the film. Additionally, our second hypothesis dealt with behavioral intention – not actual behavior. Although evidence indicates that behavioral intention is highly predictive of behavior (Ajzen, 1991; Armitage & Conner, 2001; Sutton & Barto, 1998), it is important to examine actual behavior. The current study is supplementing current posttest results with a six-month follow-up evaluation where actual behavior to get a Pap test will be evaluated.

Despite these limitations, the current study offers evidence for narrative communication's unique ability to impact social norms. Narrative communication ability to produce identification with characters enables it to overcome many of the barriers faced by traditional, non-narrative social norms interventions. This work adds to a growing body of literature indicating narrative communication is an innovative format for conveying health information to the public and effecting positive health changes.

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