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## **A Tale of Two Stories: An Exploration of Identification, Message Recall, and Narrative Preferences among Low-Income, Mexican American Women**

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### **Abstract**

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Additional research is needed to guide the design of narratives for use in practice-oriented, naturalistic settings to maximize health behavior change, particularly among populations affected by health disparities. This mixed methods study explored the influence of cultural tailoring and emotional arousal on identification and message recall in narratives promoting childhood obesity prevention among 40 Mexican American mothers. Participants were also asked about narrative exposure, narrative preferences, and beliefs about the purpose of a story. Participants were randomly assigned to listen to two stories: (1) a story tailored on non-cultural or cultural variables; and (2) a story designed to enhance or minimize emotional arousal. Participants reported high engagement and identification with all stories. Participants generally envisioned protagonists as Latina, despite limited cues, and identified with protagonists in four ways: sharing personal characteristics; having similar thoughts and feelings; engaging in similar actions; and experiencing similar situations. Mothers were most interested in narratives that helped them to improve their lives. Findings from this study yield several hypotheses for consideration in future study, including ways in which story setting and message enactment may moderate message recall.

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Public health programs are extremely varied; however, most programs include a component of direct communication with their target audiences via newsletters, brochures, websites, public service announcements, or other communication channels. These communications increasingly involve testimonials, storytelling, or other narrative elements (Hinyard & Kreuter, 2007), indicating a need for research to identify specific narrative strategies that can be used in practice-oriented, naturalistic settings to maximize health behavior change.

There is a particular need for public health communication research with populations affected by health disparities (Kreuter et al., 2007; Institute of Medicine, 2002; Murphy, Frank, Chatterjee, & Baezconde-Garbanati, 2013), such as the disparate prevalence of childhood obesity among Mexican American children. From preschool age through adulthood, Mexican American children are more likely to be overweight or obese than children from other racial and ethnic groups (Ogden, Carroll, Kit, & Flegal, 2012). One contributing factor for this disparity may be that low-income, limited education, Spanish-speaking, Mexican American parents with face more barriers than other populations to obtaining information about children's health (manuscript under review). Limited income and education can reduce people's access to health communication and ability to process health messages (Viswanath & Bond, 2007).

Narrative communication may provide a promising means of increasing the effectiveness of childhood obesity prevention messages among low-income, limited education, Mexican American parents. For one, narratives provide increased opportunities to engage Mexican American parents with characters and storylines that may make it easier for them to attend to, process, and remember information (Murphy et al., 2013). Narratives also provide opportunities to limit reliance on printed text, which is important since research indicates that many Latinos obtain health information through communication channels that limit or avoid text (Cheong, 2007; Rooks, Wiltshire, Elder, BeLue, & Gary, 2012). Narrative communication formats may also provide more opportunities than didactic formats to incorporate cultural features and enhance emotional responses, which are discussed in more detail below. Further, the use of oral narrative has a long history in Mexican and Mexican

American culture (Amaya, 2014), which may enhance audience members' comfort and familiarity with this communication style. For these reasons, this study sought to explore the potential of narratives to promote childhood obesity prevention messages among low-income, limited-education, Mexican American mothers of preschool-aged children. This mixed methods study explored participants' reactions to cultural tailoring and emotional arousal, as well as participants' typical exposure to narratives, narrative preferences, and beliefs about the purpose of a story in order to inform the selection of communication channels and the design of health promotion narratives in future work with Mexican American parents.

## **Narrative Communication: A Promising Approach for Public Health Interventions**

Narrative communication may be defined as a form of written, oral, or audio-visual communication that is comprised of one or more characters, one or more events, and a causal, spatio-temporal framework for the events, which unfold in a particular order (McDonald, 2014). These properties make narratives highly attractive for inclusion in health intervention materials. For one, narratives can help people make sense of their lives and experiences (Fisher, 1984). In comparison with didactic text, the presence of characters and situational contexts may also uniquely leverage observational learning, which is believed to encourage behavior change through social modeling (Bandura, 1977; Green, 2006). Narrative communication formats may also enhance the reach of health messages. Reach requires that messages be disseminated; but, according to cognitive models of health behavior change (e.g., Health Belief Model, Theory of Planned Behavior), the audience must also attend to messages for them to be effective. Even the best brochure, for example, cannot effect change if it is tossed away unread. Because narrative materials offer plots, characters, and, often, visual imagery, they may engage audiences more deeply and be processed in different ways than didactic materials (Green & Brock, 2000). Through these means, narratives may be more effective than other communication formats in increasing the interest, attention, and impact of health promotion messages.

Narratives may be of particular utility in health promotion with populations affected by health disparities, who tend to be racial/ethnic or cultural minorities, lower income, less educated, lower literacy, and medically underserved (Murphy et al., 2013). Since narratives are a familiar form of human communication (Hinyard & Kreuter, 2007), lower literacy and less educated audiences may perceive narratives to be both comfortable and accessible, which may increase the likelihood that they attend to and process embedded health messages. Narratives are also natural organizing structures, which may assist lower literacy populations with message processing and comprehension (Michielutte, Bahnson, Dignan, & Schroeder, 1992). Narratives tend to associate health messages with visual details, plots, emotional engagement with characters, and other elements that may make it easier for audiences with lower literacy and education levels to absorb and retain health information. Through elements such as characters, plots, and settings, narratives may also provide more opportunities than didactic formats for matching cultural characteristics, as opposed to race or ethnicity, to those of the target audience. By incorporating known or presumed cultural

values into existing messaging or, further, asking community members to create messages in their own voices, health educators may better ground narratives in the culture of the target audience (Larkey & Hecht, 2010). However, more research is needed to develop a deeper understanding of the effectiveness of specific narrative strategies within particular cultural groups. Culturally diverse, lower income, and limited education populations have been included in entertainment-education research (e.g., Singhal & Rogers, 2002), but they are largely under-represented in other forms of narrative communication research. For these reasons, the current study sought to expand understanding of how a culturally specific audience of low-income, limited education Mexican American mothers of preschoolers engaged with a set of experimental health promotion narratives.

## Transportation and Identification

Research and theory on narrative persuasion generally indicates that exposure to narratives can lead to changes in the direction of story-consistent beliefs and behaviors. For example, exposure to tobacco content in major motion pictures has been associated with subsequent smoking initiation among adolescents (Dal Cin, Stoolmiller, & Sargent, 2013). The effects of message exposure on beliefs are mediated by various cognitive responses. The relevant literature includes multiple theories, frameworks, and models of narrative effects. There is some debate about the exact nature of specific mediators and which are necessary versus sufficient to obtain effects (Busselle & Bilandzic, 2009; Green & Brock, 2000; Kreuter et al., 2007; Larkey & Hecht, 2010; Miller-Day & Hecht, 2013). However, there is reasonable consensus and sufficient empirical evidence to conclude that identification with story protagonists, acceptance of the story world as realistic, and a sense of narrative engagement, presence, or transportation into a story can all serve as significant mediators of effects.

In the current study, we assessed immersion into narratives using Green and Brock's (2000) transportation measure. While transported, a person may refrain from critically evaluating or counter-arguing against narrative content. Transportation has been associated with greater changes in "real-world" beliefs (Appel & Richter, 2007, 2010; Green & Brock, 2000) and behaviors (Kreuter et al., 2010; Lemal & Van den Bulck, 2010). Information presented in narratives is likely to be absorbed into recipients' long-term belief systems, and recipients' confidence in these beliefs appears to increase over time (Appel & Richter, 2007).

Identification refers to a recipient's engagement with characters. Identification occurs when a person experiences a narrative as if "the events were happening to them" (Cohen, 2001, p. 245). Identification may be strongest when characters are positively presented (Tal-Or & Cohen, 2010) and similar to the recipient (Cohen, 2001; Kreuter et al., 2008; Larkey & Hecht, 2010). Identification is related to, and possibly functions as a precursor to, narrative engagement or transportation. Thus, identification is an important narrative communication outcome.

## Narratives and Cultural Tailoring

Tailored health materials, which are individually matched to recipient characteristics using computerized algorithms, have been broadly shown to be more efficacious than group-

targeted or generic (i.e., neither targeted nor tailored) health materials in producing health behavior change (Noar, Benac, & Harris, 2007). In comparison with targeted and generic materials, tailored health materials are believed to encourage greater attentiveness, central route and peripheral processing, and self-referencing, which may mediate the influence of health communication on behavior change (Hawkins, Kreuter, Resnicow, Fishbein, & Dijkstra, 2008).

Cultural tailoring, in which health materials are personalized on individual-level cultural constructs (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2002), may enhance the potential of narratives to promote health behavior change. However, relatively few studies have tested the efficacy of cultural tailoring, and even fewer studies have compared cultural tailoring to tailoring on other types of variables. For example, Resnicow and colleagues (2009) compared the efficacy of culturally targeting versus culturally tailoring on African American ethnic identity to promote fruit and vegetable intake among African American adults. Participants whose health materials better matched their ethnic identity type showed larger increases in fruit and vegetable intake, suggesting that the more health materials fit an individual's cultural orientation, the more effective they may be. Larkey and Hecht's (2010) model of narrative as culture-centric health promotion posits that the cultural embeddedness of a narrative increases identification, transportation, and social proliferation (sharing messages with others), leading to health behavior change. Consistent with this thinking, Miller-Day and colleagues (2013) found that non-tailored, culturally *grounded* narratives were effective in reducing substance use, with identification as a likely mediator. Murphy and colleagues (2013) similarly observed that Mexican American women experienced higher transportation and identification than non-Latino White women after exposure to narrative versus didactic films about cervical cancer screening featuring Latina characters. Together, these theoretical perspectives and empirical results suggest that culturally tailored narratives may encourage greater message attentiveness, identification with story protagonists, story engagement, and message processing.

## Narratives and Emotional Arousal

Increasing the emotional arousal induced by health promotion narratives may also enhance their effectiveness. Prior studies suggest that, under certain conditions, enhancing emotional responses may increase persuasion (Busselle & Bilandzic, 2009; Dunlop et al., 2008; Nabi & Green, 2015) and transportation (Green & Brock, 2000). Research on the role of fear in health communication indicates that simply invoking emotion may be effective in engaging audiences and enhancing message effects, particularly when the degree of threat elicited by a fear message is high and the degree of efficacy for dealing with that threat is low (Witte & Allen, 2000). However, further research is needed to explore the use of emotional arousal in health promotion narratives, particularly among culturally diverse populations. For instance, Murphy et al. (2013) found that Mexican American women had stronger positive and negative emotions when exposed to a narrative film about cancer screening than non-Latino White women; however, stronger emotions were inversely associated with desired changes in health behavior-related attitudes. These findings suggest that culture influence how audiences react to emotional stimuli, as well as the effectiveness of emotionally arousing health promotion narratives.

When compared to didactic communication formats, narrative communication formats may be more effective in stimulating emotional arousal (McQueen, Kreuter, Kalesan, & Alcaraz, 2011), as well as a broader range of emotions. For instance, the inducement of basic negative emotions, such as fear and disgust, is common in certain types of didactic communication (e.g., anti-smoking public service announcements), but it is difficult to elicit more positive emotions (e.g., about the health benefits of quitting) in such formats. In contrast, narratives have been used to invoke both negative (Appel & Richter, 2010; Dunlop, Wakefield, & Kashima, 2008) and positive emotions (e.g., Croyle & Uretsky, 1987; Forgas & Moylan, 1987; Murphy et al., 2013). This is an important distinction, as narratives that invoke negative emotions may be incongruous, untenable, and potentially unethical in certain practical public health applications. For example, narratives designed to invoke fear often involve harm to a character, but harming a character in a narrative promoting childhood obesity prevention may be unnecessarily upsetting to parent audiences and, ultimately, detrimental to message effectiveness.

## Goals of the Current Study

In addition to advancing knowledge about the building blocks of effective health communication, our research team has been committed to working on health issues that will ultimately effect meaningful change in the lives of individuals. To that end, we have prioritized working with populations for whom disease burdens are disparately high, access to health information is relatively low, and existing communication materials may be inappropriately attentive to cultural concerns. This study describes an opportunity we had to conduct a pilot study to explore responses to health promotion narratives among low-income Mexican American mothers of preschool-aged children who had minimal formal education, lived in an ethnic enclave in a large Midwestern city, and appeared to have relatively limited access to health information (manuscript under review).

The narratives featured in this study promoted childhood obesity prevention messages. Approximately 33% of Mexican American children ages 2–5 are overweight or obese, as compared to 24% and 29% of non-Hispanic white and African American children, respectively (Ogden et al., 2012). Poverty confers additional risk for childhood obesity (Kumanyika & Grier, 2006) and affects an estimated 25% of the Mexican-descent population (Macartney, Bishaw, & Fontenot, 2013). Many obesogenic behaviors are established between ages 2–5 (Birch & Fisher, 1998; Birch & Davison, 2001) and track through adolescence (e.g., Certain & Kahn, 2002; Fiorito, Marini, Mitchell, Smiciklas-Wright, & Birch, 2010; Skinner, Carruth, Bounds, & Ziegler, 2002). Obese children are at higher risk of obesity later in life (Eriksson, Forsén, Osmond, & Barker, 2003; Serdula et al., 1993) and, as a result, have a higher lifetime risk for morbidity and mortality (Calle, Rodriguez, Walker-Thurmond, & Thun, 2003; Renahan, Tyson, Egger, Heller, & Zwahlen, 2008). Thus, the high prevalence of obesity among preschool-aged Mexican American children is of significant public health concern.

This study had several goals. Using four experimental narrative stimuli, the first goals were to explore the following research questions: (1) How would transportation and identification be affected by exposure to a culturally tailored narrative versus a narrative tailored only on

non-cultural variables? (2) How would transportation and identification be affected by exposure to a narrative that invoked more versus less emotional arousal? The stimuli specifically consisted of testimonial-style stories, as this format is frequently used in health promotion. We explored participants' ratings of transportation and identification as well as their open-ended descriptions of characters and recall of key health messages. Another goal of this study was to obtain useful data for health promotion practice. Thus, data were sought to help us better understand how participants were typically exposed to narratives, their opinions about what made narratives engaging, and what they felt the purposes of a story should be. These data were collected to inform decisions about channel selection and the design of narratives to promote childhood obesity prevention among Mexican American mothers. Given these study goals, a mixed-methods approach was pursued. Our sample size of forty mothers was robust for qualitative analyses. However, the sample was small for a quantitative study, and, as discussed later, concerns emerged about participants' comprehension of some of the quantitative items. Thus, this paper primarily presents the results of our qualitative analyses with the intent of generating hypotheses for future testing with larger populations of Mexican American mothers.

## Methods

### Participants

The participants consisted of 40 Mexican American women recruited from a Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) clinic at an urban community health center. Participants were approached in the waiting room by bilingual study staff. Eligible participants had a child aged three to four, were over 18 years old, spoke English or Spanish, had either a father (or two paternal grandparents) and a mother (or two maternal grandparents) born in Mexico, and reported a daily child intake of sugar-sweetened beverages (SSBs), milk, or 100% fruit juice that exceeded nutritional recommendations for the child's age. As clients of the WIC clinic, all participants resided in low-income households (defined as a pre-tax income  $\leq$  185% of the U.S. Poverty Income Guidelines).

### Procedure

Each participant completed two face-to-face interviews with trained bilingual staff in a private room in the WIC clinic. Seventy-nine of these 80 interviews were completed in Spanish. Participants completed a 30-minute tailoring survey during the first interview. At the end of the first interview, study staff scheduled an appointment with each participant to return for a second interview, which occurred approximately one week after the participant's first interview.

After completing the first interview, each participant was randomly assigned to one of four experimental exposure conditions during her second interview: (1) a culturally tailored story and an enhanced emotional arousal story (n=10); (2) a culturally tailored story and a minimized emotional arousal story (n=10); (3) a non-cultural tailored story and an enhanced emotional arousal story (n=10); and (4) a non-cultural tailored story and a minimized emotional arousal story (n=10). Each participant heard a total of two stories. No participant heard two versions of the same story. The non-cultural and culturally tailored stories were

created between each participant's first and second interviews using data obtained from the tailoring survey, which was fed into a computerized tailoring program created specifically for this study. Participants were not aware that their tailoring survey data were used to modify the stories. The tailoring program was extensively tested before data collection commenced to ensure that study participants would receive story text that matched their responses on the tailoring survey. Each unique story was also printed and checked for errors by study staff before use with study participants. The order of story exposure was randomized so that roughly half of the participants heard the non-cultural/culturally tailored story first while the other half of the participants heard the enhanced/minimized emotional arousal story first. Due to literacy concerns, the stories were read aloud to each participant by the interviewer. No visual aids were used. Participants were asked to rate and comment on each story immediately after it was read. The second interview lasted approximately 90 minutes and was audio recorded. Participants who completed both interviews received a \$25 gift certificate to a local grocery store.

## Materials

**Tailoring survey.**—The tailoring survey collected sociodemographic, health-related, and cultural data that were used to tailor the culturally and non-cultural tailored stories. Participant age, education, employment, marital status, diabetes family history, religiosity, child age, and child gender were each measured using single items. Child television (TV) viewing was measured using two items validated with Mexican youth (Hernandez-Prado et al., 1999). Child beverage intake was measured using five items from the Mexican National Nutrition Survey (Rodriguez-Ramirez, Mundo-Rosas, Jiménez-Aguilar, & Shamah-Levy, 2009). Concern about child weight was explored using five items, three of which were adapted from a prior study with Latina mothers (Lindsay et al., 2012). Four items queried the importance of child familiarity with and consumption of Mexican ( $\alpha=0.55$ ) and American ( $\alpha=0.93$ ) foods (Note: All alphas are based on data from the current study.)

Acculturation was assessed using the 12-item Brief Acculturation Rating Scale for Mexican Americans-II (Bauman, 2005), which uses Anglo ( $\alpha=0.81$ ) and Mexican ( $\alpha=0.59$ ) subscales to classify respondents into four cultural orientation categories: strong Mexican/weak Anglo; strong weak Mexican/strong Anglo; weak Mexican/weak Anglo; and strong Mexican/strong Anglo (Cuellar, Arnold, & Maldonado, 1995). Present ( $\alpha=0.80$ ) and future ( $\alpha=0.75$ ) time orientation were assessed with a previously validated five-item measure (Lukwago, Kreuter, Bucholtz, Holt, & Clark, 2001). *Familismo* was measured using nine items adapted from a scale developed for Latino populations ( $\alpha=0.61$ ; Steidel & Contreras, 2003). Measures for several cultural constructs were adapted from prior research with Mexican Americans by the authors (Davis, Resnicow, & Couper, 2011): *simpatía*, a value for being polite, easy-going, likeable, and respectful (seven items;  $\alpha=0.22$ ; Triandis, Marin, Lisansky, & Betancourt, 1984), *personalismo*, a value for warm personal relationships (six items;  $\alpha=0.71$ ; Campos, 2007; Cuellar, Arnold, & Gonzalez, 1995; Delgado, 2007), child feeding decision-making preferences (six independent items), and traditional Mexican female gender roles, which included two items assessing a confident, capable female role ( $\alpha=0.51$ ; Kulis, Marsiglia, Lingard, Nieri, & Nagoshi, 2008) and seven items assessing a female role valuing moral



virtue, submissiveness, passivity, femininity, nurturance, and self-sacrifice ( $\alpha=0.63$ ; Kulis et al., 2008).

**Narrative stimuli.**—The health messages embedded in the four experimental stories were based upon current pediatric weight management recommendations (American Dietetic Association, 2008; Barlow, 2007). The non-cultural/culturally tailored stories promoted reduced child SSB intake, while the enhanced/minimized emotional arousal stories promoted limitations on child TV viewing. These behaviors have both been associated with reduced risk of childhood obesity (Hu, 2013; Kuhl, Clifford, & Stark, 2012). All four stories were approximately 1.5 pages in length, written at or below an 8<sup>th</sup> grade reading level, available in English and Spanish, and featured a mother of a preschool-aged child as the story protagonist.

**Non-cultural vs. culturally tailored stories.**—The non-cultural tailored story was tailored to match the participant and her child on five variables that we believed to be unrelated to culture: marital status; family history of diabetes; child gender; child age; and child SSB intake. The only ethnic cue in the non-cultural tailored story was the child's name (Carmen or Manuel), as we considered it unrealistic for health promotion narratives for a Latino audience to use non-Latino names. The culturally tailored story was tailored on the five non-cultural variables plus an additional ten variables that we believed to be culturally relevant: acculturation; *familismo*; importance of child familiarity with Mexican/American foods; concern about child weight; present/future time orientation; *simpatía*; *personalismo*; religiosity; child feeding decision-making preferences; and female gender roles.

The non-cultural and culturally tailored stories both begin in the present tense as the characters are about to have dinner. While getting ready to eat, the protagonist recalls a conversation with a nutritionist in which the nutritionist advised the protagonist to limit her child's SSB intake. This recollection is followed by a present-tense scene in which the protagonist replaces her child's SSB with water. The non-cultural and culturally tailored stories contained five identical health messages: (1) SSBs contain a lot of sugar; (2) sugar may increase children's risk of health problems; (3) children should drink plain water instead of SSBs; (4) children should only drink one small glass of juice each day; and (5) children should only drink two glasses of plain, low-fat white milk each day. These messages were embedded in the same plot locations using identical wording with only minor, tailoring-related differences.

The setting for the non-cultural tailored story was a typical family dinner at home. The setting for the culturally tailored story was intended to be tailored on *familismo* with two variants: dinner with nuclear family at home versus a dinner with nuclear plus extended family at the grandparents' house. However, all participants who were randomly assigned to the culturally tailored story scored high on *familismo*. As a result, the grandparents' house served as the setting for all tailored variants of the culturally tailored story.

**Enhanced vs. minimized emotional arousal stories.**—The stories promoting limitations on child TV viewing were not tailored. Instead, these stories varied in their attempts to enhance versus minimize emotional arousal. Both stories begin with the

protagonist cooking dinner and thinking about her child, Daniella. The protagonist flashes back to a doctor's appointment that she took Daniella to that morning, during which the doctor said to limit Daniella's TV viewing. The story then describes the mother's efforts to engage Daniella in non-TV activities throughout the day until the present time, followed by some of the mother's thoughts about how to avoid TV later that evening. The use of potential ethnic cues in the story was limited to: (1) "Daniella" for the child's name; (2) "Dr. Gonzalez" for the doctor's name; and (3) the protagonist chopping onions and cilantro for dinner. The sole difference between the two stories was that in text locations where the enhanced emotional arousal story contained verbiage about the protagonist's emotions and visually descriptive details, the minimized emotional arousal story used factual, non-emotional verbiage. Both stories contained the same four health messages: (1) Daniella was overweight; (2) Daniella needed more physical activity; (3) Daniella needed to watch less TV; and (4) Daniella was at risk for poor health outcomes. These messages were embedded in the same plot locations using identical wording. Both stories were pretested with 25 public health graduate students. For each story, students were asked to read the story, rate their agreement with the statement "This story affected me emotionally" on a 1–7 scale ranging from "strongly disagree" to "strongly agree", and list 3–5 words that described how the story made them feel. Each story was pretested with the same students, but on different days spaced two weeks apart. Students provided higher mean ratings for the enhanced emotion story (5.4) than the minimized emotion story (4.0) and listed more, a wider range of, more descriptive, and deeper emotions in their comments about the enhanced emotional arousal story (e.g., "heartbroken" vs. "sad").

**Responses to narratives.**—Immediately after listening to each story, participants were asked to list three words that described how the story made them feel. Transportation was assessed using ten items adapted from Green and Brock's (2000) transportation scale ( $\alpha=0.76$  for the non-cultural/culturally tailored stories;  $\alpha=0.72$  for the enhanced/minimized emotional arousal stories), and identification with story protagonists was measured using ten items adapted from Cohen's (2001) identification scale ( $\alpha=0.87$  for the non-cultural/culturally tailored stories;  $\alpha=0.85$  for the enhanced/minimized emotional arousal stories). Response options for both scales ranged from one ("strongly disagree") to seven ("strongly agree"). Participants were then asked a series of open-ended questions about words they associated with the protagonists, how they pictured the protagonists, and how they were similar to and different from the protagonists. To assess message recall, participants were asked to describe the recommendations that the nutritionist/doctor provided to the protagonist. Participants were not asked if they remembered specific messages, as our goal was to assess which messages came freely to mind. We coded each participant's recall responses as 1, 0.5, or 0 according to whether they fully recalled, partially recalled, or did not recall each health message, respectively.

**Narrative exposure, preferences, and beliefs about the purpose of a story.**—After discussing the stories, participants were asked open-ended questions and probes to elicit comments about: their normative exposure to narratives; if they had "regular stories" they followed; where they encountered any stories that they read; and what made them want to engage with particular stories. Participants were asked what types of stories they liked for

fun, where they obtained these stories, what made these stories fun, whether a “good story” should have a purpose, and what they thought the purpose of a good story should be.

## Data Analysis

In order to compare differences in message recall, we conducted comparisons among each of the five messages contained in the non-cultural/culturally tailored stories and, separately, among the four messages featured in the enhanced/minimized emotional arousal stories using the LSMEANS statement for proc logistic in SAS. For these analyses, data were combined across similar story types (i.e., data were combined across the non-cultural/culturally tailored stories and, separately, across the enhanced/minimized emotional arousal stories) in order to utilize the full study sample (N=40). The percentages of participants who recalled each message were also computed separately for each story variant (N=20 per variant) to permit qualitative comparisons.

Audio recordings of the second interviews were transcribed and translated by a bilingual member of the study team (L.R.). The transcripts were then de-identified. Using standard qualitative analyses techniques, individual interviews were first read line-by-line to identify and code relevant emergent themes within participants. Next, themes were compared across participants to further compare and refine the coding scheme. Themes were compared both within and across stories to see if additional, overarching themes or thematic variants emerged. All coding was initially conducted by the first author and then independently reviewed by two of the co-authors (S.C., K.P.). The data, coding scheme, themes, and interpretations were regularly discussed, and discrepancies were resolved through a consensus process.

## Results

### Participant Characteristics

All but one of the participants was born in Mexico (Table 1). Participants had lived in the U.S. for 2–23 years. Most (83%) participants strongly identified with Mexican culture. Ninety percent of participants had obtained a high school education or less.

### Transportation and Identification Ratings

Mean transportation (6.2 on a 7-point scale across all four stories;  $SD=.73$ ;  $N=40$ ) and mean identification with the story protagonist (6.6 on a 7-point scale across all four stories;  $SD = .52$ ;  $N=40$ ) were both high and did not appear to differ across the four story variants. However, participants' recorded comments suggested that at least some participants did not interpret some of the transportation and identification items as intended. For instance, instead of rating their experiences of being transported by the story, several participants responded in terms of whether or not their personal experiences or characteristics matched those of the protagonist. For example, following the TV story (which was not tailored and therefore did not always match the gender of the participant's child), one participant's response to the item “While listening to the story, I felt as if I was part of the action,” was: “Yes, a little, but like a five, not too much, because I don't have daughters, I only have sons.” Other items seemed confusing. For instance, several participants asked for clarification

about the item “I found my mind wandering while listening to the story.” Many participants chose responses that indicated agreement while expressing comments that indicated disagreement. As one participant elaborated, “Wandering to us means thinking about something else and not the story ... If it’s thinking about the story, yes, a seven (“strongly agree”), but if it’s thinking about something else and not the story, one (“strongly disagree”).” At least one participant answered identification items in terms of how much she put herself in the protagonist’s shoes instead of how much she understood the protagonist. After answering almost every previous transportation and identification item with a seven (“strongly agree”), she responded to the identification item “While listening to the story, I felt I could really get inside the mother’s head” with a five, explaining, “No, (not) necessarily, because I also go through it.” By this, the participant appeared to indicate that she did not need to “get inside the mother’s head” because she had already been in the situation that the protagonist was experiencing. Another item, “When the mother succeeded, I felt joy,” was intended to reference the protagonist’s short-term behavior change success, which was described in the story. One participant interpreted this item as referencing the protagonist’s long-term behavior change success: “No, because, like you saw, she wasn’t able to reach her goal ... one (“strongly disagree”), because the mother didn’t reach her goal.” In many instances, respondents had trouble matching their answers to numbers on the response scale or remembering the scale.

### Reactions to the Non-Cultural and Culturally Tailored Stories

Overall, participants provided positive appraisals of the non-cultural and culturally tailored stories. Participants’ comments indicate that these positive appraisals were attributable to their strong identification with the story protagonist and their appreciation for the embedded nutrition information. Participants’ comments about identification could be grouped into four ways of identifying with the protagonist: sharing similar personal characteristics; having similar thoughts and feelings; engaging in similar actions; and experiencing similar situations (Table 2). Most participants characterized the protagonist as Latina, regardless of whether they were randomized to hear the non-cultural or culturally tailored story. As one participant commented, “I’m Hispanic, so I relate in that sense.” Participants who heard the culturally tailored story used the words “Mexican” or “Mexican American” more often when describing the protagonist than participants who heard the non-cultural tailored version, who often used broader terms such as “Latina” or “Hispanic.” Participants who heard the non-cultural tailored story also seemed to provide more intrapersonally focused comments, such as feeling responsible, determined, and confident about caring for their child’s health. Participants who heard the culturally tailored story seemed more likely to identify with the protagonist’s efforts to improve the foods and drinks provided to her nieces and nephews, worry about the health of extended family members, desire to avoid reprimanding her child in front of her extended family, and concern about how the extended family would react if she prohibited her child from consuming unhealthy foods. Many of the latter participants said they experienced the same challenges at family parties. One mother mentioned being in the situation depicted in the story “almost every weekend.”

## Reactions to the Enhanced and Minimized Emotional Arousal Stories

Most participants provided positive appraisals of the enhanced and minimized emotional arousal stories. As with the tailored stories, participants' positive appraisals appeared to be primarily driven by their identification with the story protagonist and their appreciation for the health information in the stories. Participants who heard the minimized emotional arousal story appeared more likely to report worry about their child's health, while participants who heard the enhanced emotional arousal story reported both more positive emotions and a wider range of emotions (e.g., happy, proud, confident, surprised). These findings suggest that exposure to the enhanced emotional arousal story elicited stronger and more positively valenced emotional arousal. As with the tailored stories, participants' comments could be grouped into four ways of identifying with the story protagonist: personal characteristics; thoughts and feelings; actions; and experiences (Table 3). Participants' comments were similar across the enhanced and minimized emotion stories, with the exception of their descriptions of the story protagonist. Although most participants characterized the protagonist as Latina, regardless of story version, participants who heard the enhanced emotional arousal story used the words "Mexican" and "Mexican American" more frequently when describing the protagonist. In contrast, several participants who heard the minimized emotional arousal story labeled the protagonist as "American" or a non-Mexican Latino ethnicity.

## Recall of Health Messages

The percentages of participants who recalled each of the five messages embedded in the non-cultural/culturally tailored stories are shown in Table 4. Regardless of story version exposure, participants were significantly more likely to remember the "drink water" message than the other four messages. Differences in recall between the non-cultural/culturally tailored stories were not tested due to the small number of participants exposed to each story variant ( $n=20$ ); however, the percentage of participants who recalled each message was computed for each story variant to allow for qualitative comparisons (Table 4). Fewer non-cultural tailored story participants recalled the "SSBs contain a lot of sugar" message than culturally tailored story participants. In contrast, more non-cultural tailored story participants recalled the "juice" and "milk" messages than culturally tailored story participants.

The percentages of participants who recalled each of the four health messages embedded in the enhanced/minimized emotional arousal stories are displayed in Table 5. Comparison tests of the combined story sample ( $N=40$ ) indicated that the "more physical activity" message was better remembered than the "overweight" or "poor health" messages ( $p < .05$  for each test) and that the "watch less TV" message was better remembered than the "overweight" message ( $p < .05$ ). Enhanced emotion story participants recalled three of the four messages more often than the minimized emotion story participants. However, fewer enhanced emotion story participants recalled the primary health message ("watch less TV") than the minimized emotion story participants. Interestingly, one-fourth of participants said the doctor talked about nutrition, which did not actually occur in the story.

## Exposure to Narratives in Daily Life

Participants appeared to have a broad interpretation of the word “story,” as their responses to questions about “regular stories” that they followed included both narrative and non-narrative communications. Thus, for brevity, the word “media” is used here to refer to both types of communication. All participants reported regular exposure to media in their daily lives; however, many participants only had time for one type of engagement. The most frequently mentioned type of engagement was reading books, which included reading to oneself and to one’s children. About half of the sample engaged in each of these activities. Some participants read magazines. Only a few participants read stories on the Internet or in newspapers. Some participants read the Bible, Bible stories, folklore, jokes, cartoons, and fiction; however, most participants reported reading books and magazines that featured non-fiction, educational material with self-improvement themes such as self-esteem, parenting advice, marital advice, health, natural medicine, cooking, motivational biographies, personal motivation and reflection, finances, or beauty. Children’s books consisted of picture books and Bible stories. Almost half of the participants reported that they watched “stories” on TV. Of these, most participants reported watching educational TV shows, such as the news or shows on the Discovery Channel, Animal Planet, and Public Broadcasting Service about cooking, parenting, health, animals, nature, global cultures and travel, biographies, stories about real-life crimes, and other topics. A minority of participants said they watched shows designed solely for entertainment. A few of these participants enjoyed crime dramas, while a handful followed *novelas*.

## What Makes a Story Engaging?

Participants’ comments about what made the stories they followed engaging could be grouped under three main themes (Table 6). The first theme was that media were inherently interesting and engaging when they helped participants improve their lives or solve challenges. These media increased participants’ knowledge and skills in ways that enabled participants to address problems and fulfill personal goals of being better mothers, wives, etc. Media that described real people and events demonstrated the real-world applicability of solutions and increased participants’ motivation to solve problems by seeing how others tackled similar challenges. Media were also engaging when they made participants feel good. Media could make a participant feel good by: showing that other people had faced similar challenges; cheering the participant up; increasing one’s self-esteem or confidence; helping a participant to relax or feel peaceful; enabling a participant to help another person; or being intrinsically enjoyable, whether due to humor, suspense, or enjoying time spent reading to one’s child. Media were also engaging when they helped participants with child rearing. This theme consisted of five potential story functions: cheering children up when they are sad; engaging children in activities; enhancing children’s knowledge about facts or behavior; modeling reading behaviors; and transmitting social values, such as respect for elders and religious beliefs.

Seven story elements were identified as features that enhanced engagement: (1) a good story or plot; (2) an overall positive tone with positive messages; (3) a happy ending; (4) features to grab and hold one’s attention; (5) characters and situations that participants could identify

with; (6) the inclusion of real-life characters and events; and (7) for children's stories only, the inclusion of a moral lesson.

### **Beliefs about the Purpose of a Story**

When asked what the purpose of a story should be, participants reiterated similar themes as when discussing engagement. Participants' comments could be grouped under three main themes: (1) media should help people to improve their lives by providing information, ideas, examples, and motivation; (2) media should make people feel good by leaving them feeling happy, relaxed, or "at peace"; and (3) children's stories should help them grow by teaching them information, values, how to solve problems, and how to set goals.

### **Discussion**

Participants provided high quantitative ratings of transportation and identification. These high ratings may be attributable to item comprehension and interpretation errors, as suggested by some of the participants' comments, as well as other factors, such as social desirability or a desire to avoid offending the researchers. Item misinterpretation and acquiescence are both believed to be heightened when using Likert-style response scales with items measuring attitudes about abstract concepts among populations with less education (Johnson & Van de Vijver, 2003). These observations suggest that research may be needed to improve quantitative rating methods for assessing narrative research outcomes with limited-education populations.

Overall, participants reported positive qualitative appraisals of the four experimental stories, which appeared to derive from strong identification with story protagonists and appreciation of embedded health information. This latter point may have implications for narrative research with under-resourced populations. Participants in this study were low-income mothers who were almost all first-generation immigrants, had relatively limited education, and lived in a neighborhood characterized by comparatively low income and educational levels. Participants' comments suggest that they had more limited resources for obtaining health information than other populations (manuscript under review). As a result, participants may have over-emphasized the informational content, which was held constant across each pair of stories, when providing story ratings and feedback. Participants' comments about health information also resulted in fewer comments about the experimental aspects of the stories. Narrative communication researchers often strive to assess abstract variables that are clearly identifiable to researchers but may be unimportant to or unnoticed by research participants. In such situations, participants exposed to only one version of a narrative may evaluate it based upon criteria that are not germane to the researcher's specific topic of investigation. Different experimental approaches, such as side-by-side comparisons, may be more effective in focusing participants' feedback on variables of experimental interest.

For both sets of stories, participants' comments about identification could be grouped into four ways of identifying with story protagonists: (1) sharing similar personal characteristics; (2) having similar thoughts and feelings; (3) engaging in similar actions; and (4) experiencing similar situations. Of these four categories, only thoughts and feelings are

represented in most applications of Cohen's (2001) identification scale. Measuring the four routes of identification that were found in this study might yield a richer understanding of the role of identification in narrative persuasion by allowing for two types of comparisons: assessing whether or not the use of certain identification routes varies in accordance with audience characteristics; and determining whether or not these identification routes have different mechanistic influences on transportation and other narrative research outcomes.

Few differences were observed between participants' comments about the non-cultural and culturally tailored stories, despite the fact that these story variants were noticeably different in terms of their cultural feel. It is also noteworthy that most participants characterized the story protagonists as Latina, regardless of the extent of cultural or ethnic cues. This latter finding suggests that participants envisioned the protagonists as similar to themselves, even without cues to the protagonist's ethnicity. It is possible that audiences exposed to orally-delivered narratives, without accompanying images, add cultural details in their minds to make stories fit better and make more sense within their personal experiences and environments. If this occurs, it is also possible that this tendency may be stronger among lower-literacy audiences and/or audiences who are accustomed to narratives delivered via oral channels (e.g., storytelling, TV). Another possibility is that cultural details often go unnoticed, which would fit with the anthropologist's maxim that culture is like water – i.e., it surrounds us but goes unseen. It is further possible that cultural tailoring may be effective in promoting behavior change even when it is unnoticed by program participants. Together, these findings raise many questions about the contexts in which cultural tailoring is necessary and effective for health promotion, if at all.

Participants who heard the culturally tailored story did seem more likely to label the protagonist as Mexican or Mexican American, which suggests that the cultural tailoring may have enhanced cultural identification with the protagonists. Surprisingly, the same pattern was observed in descriptions of the enhanced/minimal emotional arousal story protagonists: participants who heard the enhanced emotion story were more likely to label the protagonist as Mexican or Mexican American than participants who heard the minimized emotion story. This finding suggests that increasing emotional arousal, or an increased sense of access to the protagonist's interior emotional life, may have increased cultural identification. The use of more concrete natural language by participants in response to the culturally tailored and high emotion stories may suggest that these elicited less psychological distance than the other variants (Sneffjella & Kuperman, 2015). However, these conjectures require investigation.

Several hypotheses are suggested from the findings on message recall. For one, it was anticipated that high *familismo* participants would react more positively to the extended family setting in the culturally tailored story than the nuclear family setting in the non-cultural tailored story. In hindsight, it is clear that both settings were relevant to participants' lives and that setting the non-culturally tailored story in the protagonist's home did not diminish participants' ability to be transported or identify with the protagonist. However, the unexpectedly systematic setting variation between the two stories may have yielded intriguing differences in message recall. It is interesting that more participants exposed to the extended family setting remembered the message that discussed the amount of sugar in



the SSB that the participant's child consumed. This message may have been better remembered in the extended family setting because it may require a more alarmist message for someone to take actions that may incur adverse social outcomes. In contrast, the "juice" and "milk" messages were better remembered for the story with the nuclear family setting. Implementing these recommendations requires participants to monitor a child's beverage intake throughout the day. It is possible that these messages may have been better remembered for a story in a home setting because monitoring messages may be better suited to occur in a setting that is familiar and usual. These findings suggest a need for further research to test whether story settings moderate message recall.

It is also of interest that participants exposed to the non-cultural and culturally tailored stories were most likely to recall the "drink water" message. One explanation for this finding is that this message was the only one that the protagonist enacted in the story. All five messages appeared in a conversation the protagonist had with a nutritionist, as the embedding of health information in encounters between protagonists and health experts is a common feature in health promotion narratives. However, the only message that the protagonist actually acted out during the story was to replace her child's SSB for water. This finding suggests the hypothesis that key health messages may need to be enacted in persuasive narratives rather than merely described.

Message recall was more frequent among participants who heard the enhanced emotional arousal story than participants who heard the minimized emotional arousal story for three of the four embedded health messages. However, the message that was better remembered by the minimized emotion story participants, "watch less TV," was the most important message. It is intriguing that recall of the TV message was not higher, as well as the fact that one-fourth of participants erroneously reported that the doctor talked about nutrition. Participants may have assumed that nutrition was discussed because this study was conducted in a WIC clinic. Or, nutrition messages may have been reported because cooking activities were enacted in the story, whereas the TV message was merely described. This observation lends further support for the hypothesis that enacted messages are better recalled than descriptive messages. If true, the importance of enacting key health messages may pose particular challenges for persuading audiences not to engage in unhealthy behaviors (e.g., smoking).

The data obtained on narrative exposure may be useful in informing channel selection for narrative-based health promotion with Mexican American mothers. All participants reported exposure to narratives in their daily lives. Findings from this study suggest that health promotion programs featuring narratives of some length (i.e., longer than text messages) may fit most naturally into participants' lives in the form of television programs, books, magazines, or children's books. Of these, children's books may be of particular interest, as a number of participants said they only had time for reading when it was with their children. Participants' comments suggest that mothers really valued spending time with their children.

Participants primarily engaged with narratives with educational themes. These themes included improving one's feelings (e.g., self-esteem), knowledge (e.g., finances), relationships (e.g., parenting advice), or skills (e.g., cooking). Social desirability may have influenced participants' responses. However, participants' interest in educational narratives

may also have been the result of limited access to other information resources. These hypotheses require validation but, if true, imply that narratives targeting low-education, cultural and linguistic minority populations may need to contain more informational content to be engaging than narratives targeting audiences who are less actively seeking health information.

Participants' comments indicate that the features that make a narrative engaging also serve to help a story achieve purpose. Data from this study suggest that Mexican American mothers may be more attracted to health promotion narratives that help them improve their lives, make them feel good, and help them with child rearing. Mothers may also be more likely to be engaged by narratives that contain a good story, a positive tone, a happy ending, attention getting and retention features, characters and situations that increased identification, real-life characters and events, and, for children's stories, a moral lesson. However, research is needed to test whether or not attending to audience preferences in health promotion narratives results in increased communication effectiveness.

This study had several limitations. It was limited in scope and involved a small sample that was homogeneous in certain characteristics, including gender. The data were based upon self-report, and, because the participants were WIC clients, they may have been predisposed to attend to nutrition messages or to present themselves in socially desirable ways. Another limitation of this study is that low alphas were found for many of the cultural measures. Tailored interventions are vulnerable to measurement error, as decisions must be made about which scale items to use in tailoring before data collection begins, yet study data cannot be used to evaluate scale reliability until after data collection is complete. The reliability of some of the scales assessed in this study could be improved post-hoc by deleting items; however, because the full scales were used to tailor the non-cultural and culturally tailored stories while the study was in the field, the alphas for the full scales are reported. The tailored text may not have been well matched to participants when based on scales for which low alphas were obtained. The high quantitative transportation and identification ratings may also indicate that acquiescence or social desirability may have affected participants' ratings.

This study also has a number of strengths. A primary strength is that this study involved a low-income, limited education, Mexican American population that has not been well represented in narrative communication research. Another strength is the use of qualitative methods, which yielded rich findings that suggest a number of hypotheses to test in future research. These findings also highlight several measurement concerns, which suggest a need to develop measures of key narrative research variables that will produce valid, reliable, and meaningful data across diverse populations. Data from this study indicate that participants were positively engaged with the experimental narratives. This study also provided information about participants' usual narrative communication channels, thoughts about what makes a narrative engaging, and beliefs about the purpose of a story. Together, these findings will inform future research to test the potential of narrative-based health promotion among low-income, limited education, Mexican American populations.

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**Table 1**

## Participant Characteristics (N=40)

Age of participating mothers and their children:	
Mean mother age in years (SD) <sup>a</sup>	32.1 (5.5)
Mean child age in years (SD)	3.6 (.5)
Nativity:	
Born outside the U.S. (%)	97.5
Mean number of years lived in the U.S. among foreign-born mothers (SD)	11.8 (5.0)
Acculturation (%):	
Strong Mexican orientation	82.5
Strong Anglo orientation	5.0
Weak Mexican and Anglo orientation	2.5
Strong Mexican and Anglo orientation	10.0
Married or living with a partner (%)	82.5
Educational status (%):	
Less than high school	40.0
High school diploma or GED	50.0
Some college or college graduate	10.0
Child beverage intake (%):	
Soda: 1 or more times per week	75.0
Diet soda: 1 or more times per week	0
Fruit juice: More than 1 time per day	37.5
Flavored drinks: 1 or more times per week	65.0
White milk: More than 2 times per day	20.0
Flavored milk: 1 or more times per week	52.5
Atole made with water: 1 or more times per week	2.5
Atole made with milk: 1 or more times per week	15.0
Water: 1 or more times per day	85.0
Child exposure to television time:	
Mean number of hours of television watched on weekdays (SD)	4.2 (1.2)
Mean number of hours of television watched on weekend days (SD)	3.9 (1.8)

<sup>a</sup>SD = standard deviation

**Table 2**

Identification with the Story Protagonist: Main Categories and Sub-Themes in Participants' Comments about the Non-Cultural and Culturally Tailored Testimonials

<b>Personal Characteristics</b>
Description of the protagonist as "Mexican" or "Mexican American"
Being Hispanic
Having a family history of diabetes
<b>Thoughts and Feelings</b>
Worrying about child's health
Caring for/loving/wanting the best for one's child
Wanting information about child's health
Feeling responsible for child's health
Feeling determined to change behavior
Feeling confident in oneself and in one's child
Worrying about what family will say/think if child's diet is restricted/monitored
Wanting to avoid scolding child in front of others
Worrying about health of extended family members
<b>Actions</b>
Giving child sugar-sweetened beverages/juice
Giving child unhealthy foods to prevent a tantrum
Providing water for child to drink
Spending time with child
Being creative in presenting healthy foods/drinks
Making a change in foods/drinks provided to child
Monitoring child's foods/drinks
Talking with husband about child's health
Monitoring child's health (general)
Monitoring extended family members' foods/drinks
Trying one's best to care for one's child
<b>Similar Situations</b>
Being told to monitor child's foods/drinks
Child wants unhealthy foods/drinks
Husband encourages unhealthy feeding
Lacking knowledge about beverages that harm children's health
Husband comes home tired from work
Husband encourages healthy feeding
Having a child that is overweight
Family party exposes child to unhealthy foods/drinks

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**Table 3**

Identification with the Story Protagonist: Main Categories and Sub-Themes in Participants' Comments about the Enhanced and Minimized Emotional Arousal Testimonials

<b>Personal Characteristics</b>
Description of the protagonist as "Mexican" or "Mexican American"
<b>Thoughts and Feelings</b>
Worrying about child's health
Caring for/loving/wanting the best for one's child
Wanting to improve on taking care of one's child
Wanting information about child's health
Feeling sad/guilty upon hearing that child is overweight/unhealthy
Feeling responsible for child's health
Feeling confident in oneself and in one's child
Not wanting other people to think child is unhealthy
Resisting the idea that child is overweight
Wanting to lose weight (the mother)
<b>Actions</b>
Letting child watch TV (general)
Letting child watch TV while doing chores
Not allowing child to help with chores
Involving child in activities instead of watching TV
Monitoring child's TV time
Monitoring child's diet
Monitoring child's health (general)
Trying one's best to care for one's child
Not paying attention to child's health
Talking with child in a similar manner
Being a busy mother (related to actions busy mothers engage in)
<b>Similar Situations</b>
Children want to watch TV
Being told that your child is overweight/having a child that is overweight
Lacking knowledge about things that harm children's health
Lacking knowledge about how to change children's behaviors

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**Table 4**

Percentages of Participants Who Completely or Partially Recalled Each of Five Health Messages Embedded in the Non-Cultural and Culturally Tailored Testimonials

Health Message	Both Testimonials Combined (N=40) %	Non-Cultural Testimonial (N=20) %	Culturally Tailored Testimonial (N=20) %
Sugar-sweetened beverages contain a lot of sugar	30.0	20.0	40.0
Sugar may increase children's risk of health problems	20.0	20.0	20.0
Children should mostly drink plain water <sup>a</sup>	67.5	70.0	65.0
Children should only drink one glass of juice per day	27.5	25.0	30.0
Children should only drink two glasses of milk per day	37.5	35.0	40.0

<sup>a</sup>Comparison tests indicated that this message was significantly better recalled ( $p < .05$ ) than each of the other four messages across both testimonials combined.

**Table 5**

Percentages of Participants Who Completely or Partially Recalled Each of Four Health Messages Embedded in the Enhanced and Minimized Emotional Arousal Testimonials

Health Message	Both Testimonials Combined (N=40) %	Enhanced Emotion Testimonial (N=20) %	Minimized Emotion Testimonial (N=20) %
The child in the story was overweight	20.5	31.6	10.0
The child in the story needed more physical activity <sup>a</sup>	46.2	52.6	40.0
The child in the story needed to watch less TV <sup>a,b</sup>	38.5	31.6	45.0
The child in the story was at risk of poor health	12.8	15.8	10.0
Nutrition messages (These were reported by participants erroneously and not included in the story)	25.6	25.0	26.3

<sup>a</sup>Comparison tests indicated that this message was significantly better recalled ( $p < .05$ ) than the “overweight” and “poor health” messages across both testimonials combined.

<sup>b</sup>Comparison tests indicated that this message was significantly better recalled ( $p < .05$ ) than the “overweight” message across both testimonials combined.

Table 6

## Themes, Sub-Themes, and Quotations about What Makes a Story Engaging

<b>Theme 1: Stories are engaging when they help participants improve their lives</b>	
Increase knowledge and skills to solve problems or for self-improvement	<i>... I like reading anything that has to do with improving myself or that helps me understand my children a little better and how to carry on a family ... sometimes you identify with (those stories) and they provide solutions.</i>
Learn English (specific skill)	<i>I've been reading a book, and it's in English because I want to learn more English ... it really isn't a habit that was instilled in me from childhood, but I try to read one or two pages per day (laughs).</i>
Motivate by showing real-life examples from real people	<i>(I like books about) self-improvement, about people who had a lot of losses but ... they had a dream and at the end they made it happen. Most self-motivation books have examples, so they have the example of President Abraham Lincoln who had a loss here and had a loss there – loss, loss, loss. And at the end he made it. So, self-improvement. And it's telling you that if you have a loss or a failure, it doesn't mean that you couldn't do anything else in your life ...</i>
<b>Theme 2: Stories are engaging when they make participants feel good</b>	
Provide sense of belonging and normalcy	<i>I read ... things that happen to moms. Sometimes I want to find out if certain things only happen to me. Like in the magazines for parents and children, sometimes they put stories there.</i>
Cheer up	<i>It's like when there's times when I don't feel well, when I'm down or something like that, it's like those (stories) cheer me up and make me feel better, to be good with myself in order to be good with my children, with the people around me.</i>
Build self-esteem/confidence	<i>For fun I really like to hear those about personal improvement that help with women's self-esteem ... I find them interesting because they make me feel a little more secure and see improvements in the future that I'd like for myself or my family or just to be at peace with myself.</i>
Relax	<i>You're not wasting your time watching TV, and it relaxes you.</i>
Help others (e.g., friends experiencing violence)	<i>Look, I like this show because I'm from Mexico, so I know the violence that exists there against women, from men towards women ... I wish I could help in that because I'm against violence, especially in Mexico, and (the TV show host) presents a lot of that, about the abuse against women, and she helps them, and I like watching it daily ... Thank God I don't have a man who beats me. But if I do have a friend, an acquaintance, or someone that I know who is going through it, then I can help them through her, through (the TV show host), who is teaching me through the TV but she's teaching me.</i>
Provide intrinsic enjoyment	<i>Just the drama that they throw at you (on TV shows). Sometimes you laugh, sometimes there's thrill, and just to be watching them.</i>
<b>Theme 3: Stories are engaging when they help participants with child rearing</b>	
Cheer up children	<i>(In magazines) there are jokes that are very interesting and that I can share with my daughters. If they're sad or something like that, once I tell them the joke that I got from the magazine, they're laughing and having a good time ...</i>
Engage children in an activity	<i>TV programs or cartoons have shows with activities for children that put their minds to work, and that's what I try to put on for him.</i>
Teach children knowledge	<i>(I like to read stories) for children because (my children) learn from those stories.</i>
Reading to provide a role model for children	<i>... I won't lie to you and tell you that I read a book daily, but I try. I've also learned that it's very important for children to like reading, and, like they say, children see things and you can be an example.</i>

Teach children values (e.g., moral lessons)	<i>Because those (Bible) stories are animated, plus they teach obedience to children, to respect others, whether older or younger, the same, so I like for them to learn from that, about respect.</i>
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