

Running head: EFFECT OF PROTAGONIST LIKING

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**Bedtime Stories That Work: The Effect of Protagonist Liking on Narrative Persuasion**

The present experiment draws on affective disposition theory to clarify how protagonist likeability influences participants' sleep hygiene-related self-efficacy and outcome expectations immediately after media exposure and three days later. Results indicate that protagonist likeability is an important factor in narrative persuasion. Protagonist likeability did not directly affect participants' sleep hygiene-related self-efficacy immediately post exposure, but it did influence self-efficacy three days later. Further, protagonist likeability did not directly affect outcome expectations either immediately post-exposure or three days later. However, mediation analyses demonstrated that protagonist likeability indirectly influenced both self-efficacy and outcome expectations via perceived liking of the protagonist immediately after exposure and three days later. Implications of these findings are further discussed.

*Keywords:* affective disposition theory, self-efficacy, outcome expectations, social cognitive theory, likeability, sleep hygiene, narrative persuasion

## **Bedtime Stories That Work:**

### **The Effect of Protagonist Likeability on Narrative Persuasion**

Embedding messages on more healthful behaviors in narratives as a persuasion strategy has garnered much interest among health communication scholars recently, often with emphasis on transportation as recipients' extent of mental immersion with the narrative (e.g., Appel, Gnambs, Richter & Green, in press). Specifically, elements of a narrative (i.e., protagonist characteristics, behaviors, or story outcomes) are thought to be pivotal for engagement with the narrative, for processing the health message, and its subsequent effect on individuals' attitudes. Prior studies have shown that when individuals perceive the protagonist as virtuous (Cohen, Tal-Or, & Mazor Tregerman, 2015), similar to themselves (de Graaf, 2014), or not responsible in causing a disease (Hoeken & Sinkledam, 2014), individuals experience more attitude change in the desired direction. The current paper extends this line of work by utilizing affective disposition theory (Zillmann & Cantor, 1976), a well-established media entertainment theory, to explain the role of protagonist likeability as a mechanism underlying a narrative's persuasive effects. When selecting dependent variables to measure persuasion outcomes, we draw on social cognitive theory (Bandura, 1977, 2004a) by examining self-efficacy and outcome expectations as crucial determinants of behavior change. The present study focuses on the topic of sleep hygiene, which has garnered attention from communication scholars recently (i.e., Robbins & Niederdeppe, 2015).

Robbins and Niederdeppe (2015) demonstrated that attitudes and perceived behavioral control were the strongest predictors of intentions to engage in positive sleep behaviors. The present study builds upon their call to examine message-based interventions to improve students' sleep behaviors. College students are a population with consistently poor sleep habits

contributing to inadequate sleep hygiene (Brown, Buboltz, & Soper, 2002). Inadequate sleep hygiene includes a presence of improper sleep scheduling with frequent daytime napping, frequent use of caffeine or alcohol close to bedtime, and performing mentally stimulating activities in bed (American Academy of Sleep Medicine, 2005). Variable sleep schedules and worrying while trying to fall asleep contribute to poor sleep quality among college students (Brown et al., 2002), which in turn may lead to depression and reduced life satisfaction (Pilcher, Ginter, & Sadowsky, 1997). The present study aims to develop means to address this health issue by building on affective disposition theory for narrative persuasion.

In the following, the literature review examines the relevant narrative persuasion studies exploring how individuals connect to characters, affective disposition theory, and elements of social cognitive theory to derive hypotheses. An experimental design examines self-efficacy and outcome expectations toward positive sleep hygiene behaviors at two times: immediately after reading a short story about a protagonist, who is either presented as likeable or dislikeable, who is engaging in behaviors to improve sleep, as well as three days after exposure.

### **How Individuals Connect to Media Characters**

The present section explores three mechanisms through which individuals connect to media characters: identification, similarity, and liking.

According to Cohen (2001), identification occurs when an individual loses track of him/herself and temporarily takes on the character's perspective. It is a widely discussed phenomenon in narrative persuasion research and said to shape how belief and attitude change occurs (Moyer-Gusé, 2008). With respect to health-related outcomes, studies drawing on the concept demonstrated that identification with a protagonist reduced counterarguing and increased

perceived vulnerability to unplanned pregnancy among college students (Moyer-Gusé & Nabi, 2010), and increased students' self-efficacy regarding sexual health (Moyer-Gusé, Chung, & Jain, 2011). Thus, identification has been fruitfully applied in research on narrative persuasion that influences attitude change, self-efficacy, and perceived vulnerability. However, the concept of identification has also garnered some criticism because scholars raised doubt as to whether onlookers truly feel merged with a protagonist (e.g., Zillmann, 1994). Hence, additional conceptualizations of how recipients connect with protagonists will be explored.

Bandura's social cognitive theory (Bandura, 2004a) suggests that similarity between a model enacting the target health behavior and the audience is an important factor that influences change. Perceived similarity is the belief that an individual thinks he/she is similar to a character (Cohen, 2001; Moyer-Gusé, 2008). Studies have manipulated protagonist similarity to investigate its influence on attitude change, self-efficacy, and outcome expectations. For instance, similar exemplars were more effective in reducing college students' intent to drink alcohol (Andsager, Bemker, Choi, & Torwel, 2006) and positively influenced drunk driving outcome expectations (Pinkleton, Weintraub Austin, & Van de Vord, 2010). de Graaf (2014) demonstrated that similar protagonists increased participants' perceived risk and self-efficacy to deal with symptoms of cancer. Yet ambiguity exists as to whether similar protagonists are also more likeable and whether the greater likeability actually fosters the persuasive impact. However, less research has examined the role of protagonist likeability with respect to narrative persuasion and health-related outcome variables.

Liking can be defined as "positive evaluations of a character" (Moyer-Gusé, 2008, p. 411). Moyer-Gusé (2008) predicted protagonist liking will reduce reactance to the persuasive message in a narrative. Further, Green and Brock (2000) predicted in a footnote that protagonist

liking may be a mediator between transportation and belief change. However both of these propositions have not been empirically examined. Thus, the present work examines the role of liking by drawing on affective disposition theory to conceptualize how protagonist likeability influences participants' self-efficacy and outcome expectations regarding sleep hygiene measures as persuasive effects. In the following, a brief description of affective disposition theory of drama (Zillmann & Cantor, 1976) is provided, relevant studies are reviewed, and hypotheses are posited.

### **Affective Disposition Theory**

The affective disposition theory of drama (Zillmann & Cantor, 1976) assumes that individuals' media enjoyment is determined by their affective disposition to media characters and the outcomes experienced by the characters in the story. The feelings that individuals have toward characters exist on a continuum of affect from extremely positive to indifference to extremely negative and subsequently influence media enjoyment (Raney, 2004). It is important to note that affective dispositions are thought to stem from moral considerations--characters who exhibit morally desirable behaviors instigate liking and characters who exhibit morally unacceptable behaviors evoke disliking (Zillmann, 1996; for special considerations regarding anti-heroes, see Raney, 2004). Individuals hope that liked characters experience positive outcomes and happy endings, and they furthermore hope that disliked characters experience struggle and failure. Media enjoyment is posited to be a function of affective disposition and the observed events, with greatest enjoyment occurring when strongly liked characters experience favorable outcomes (or strongly disliked characters experience unfavorable outcomes) and least enjoyment when strongly liked characters experience unfavorable outcomes (or strongly disliked characters experience favorable outcomes) (Raney, 2004; Zillmann, 1996; Zillmann & Cantor,

1976). Hence, highly liked characters create intense feelings and hope that they will succeed and when they do, individuals experience relief, pleasure, and enjoyment (Raney, 2002). Previous research on individuals' media enjoyment has supported the postulations of affective disposition theory in various genres including crime-based drama (Raney, 2002; Raney & Bryant, 2002), comedy and humor (Becker, 2014; Zillmann & Cantor, 1976), sports (Hartmann, Stuke, & Daschmann, 2008), and drama in general (Zillmann, 1994; Zillmann & Cantor, 1976).

However, with regard to persuasion effects, empirical research on how affective dispositions influence attitude and behavior change is scarce. In one study pertaining to political attitudes, Becker (2014) investigated what impact affective dispositions have on subsequent attitudes related to presidential candidates. This investigation was a first step in moving affective disposition theory into a new domain of examining how liking or disliking an individual influences attitude change. In the realm of health, Garrigues Marett (2014) explored how affective dispositions toward the protagonist in a cautionary tale influenced acceptance of prosocial attitudes and intentions to purchase a carbon monoxide detector but did not detect an impact of affective disposition *per se*, as *both* the positive and negative affective disposition conditions influenced participants to report more story-consistent beliefs and intentions than a control group. For the present investigation, the narrative persuasion impact of affective dispositions will be examined for a health topic. In contrast to the related studies described above, the present work uses dependent variables to capture the persuasive impact that are thought to determine behaviors per social cognitive theory (Bandura, 2004a), as outlined in the next section.

### **Social Cognitive Theory: Self-Efficacy and Outcome Expectations**

The investigation of narrative persuasion effectiveness calls for dependent variables that are closely linked to behavior change. Previous studies have explored attitude change in general (see Collins, Elliott, Berry, Kanouse, & Hunter, 2003; Hether, Huang, Beck, Murphy, & Valente, 2013), whereas the present work specifically targets variables involved in adopting modeled behaviors—self-efficacy and outcome expectations—to instigate health behavior change in recipients. The present section thus discusses social cognitive theory to derive self-efficacy and outcome expectations as key determinants of adoption of observed behaviors.

Social cognitive theory (Bandura, 2004a) argues that self-efficacy beliefs channel behaviors together with individuals' goals, knowledge about health behaviors, outcome expectations, environmental obstacles, and perceived facilitators. Perceived self-efficacy, or the belief that one can “exercise control over one's health habits” is a critical component in the theory, because it influences all of the other components (i.e., individuals' goals, perceived obstacles, and facilitators) (Bandura, 2004a, p. 144). Perceived self-efficacy can be developed through observational modeling where models are used for motivation and guidance in how to overcome obstacles related to the behavior (Bandura, 2004b). Social attraction increases the likelihood that individuals will engage in behaviors modeled (Bandura, 2004b). Thus, engaging or attractive models can be a powerful source of information for individuals (Bandura, 1986), and they rely on model characteristics (i.e., attractiveness, likeableness, and sex) (Bandura, 1974). These likeable or attractive models increase individuals' self-efficacy and demonstrate ways to change a behavior (Bandura, 1974; 2004b).

In the experimental narrative, the protagonist engages in positive sleep hygiene behaviors, providing readers with increased self-efficacy and ways to improve sleep. Although Garrigues Marett (2014) discovered no significant differences between influence of the likeable



and dislikable protagonists, further testing of the basic predictions of affective disposition theory and social cognitive theory is necessary. The following hypotheses are posited:

- H1: During fiction reading, protagonist likeability increases self-efficacy regarding behaviors modeled by the protagonist (H1a) immediately post exposure and (H1b) three days later.
- H2: Protagonist likeability indirectly influences self-efficacy regarding behaviors modeled by the protagonist via perceived liking (H2a) immediately post exposure and (H2b) three days later.

Drawing further on social cognitive theory, outcome expectations are defined as “a person’s estimate that a given behavior will lead to certain outcomes” (Bandura, 1977, p. 193). Bandura (2004a) elaborated on this definition adding that outcome expectations include positive and negative effects of the behavior. Outcome expectations are also influenced by self-evaluative reactions to engaging in the health behavior. In other words, individuals will engage in positive health behaviors when it provides them with increased self-satisfaction and not engage in those activities that cause self-dissatisfaction. Therefore, Bandura (2004a) argues that demonstrating to individuals how engaging in these behaviors is in their own self-interest increases motivation to engage in positive behaviors. More importantly, short-term, attainable goals allow individuals to succeed through guiding how they should act. Thus, having a likeable model engage in desired health behaviors and succeed will enhance individuals’ outcome expectations (Bandura, 2004b). For the present study, the sleep hygiene behaviors the protagonist models in the story serve as short-term attainable goals to improve insomnia and sleep quality. The following hypotheses regarding outcome expectation are examined:

H3: During fiction reading, protagonist likeability increases outcome expectations regarding behaviors modeled by the protagonist (H3a) immediately post exposure and (H3b) three days later.

H4: Protagonist likeability indirectly influences outcome expectations regarding behaviors modeled by the protagonist via perceived liking (H4a) immediately post exposure and (H4b) three days later.

## Method

### Overview

College students at a large Midwestern university between 18 and 25 years of age ( $N = 283$ ) participated in a two-part online study to assess the effects of protagonist likeability (likeable vs. dislikeable) on participants' sleep hygiene-related self-efficacy and outcome expectations. To examine the ecological validity of the stimuli, a control condition was included in the research design and was not exposed to any study manipulations. Participants were randomly assigned to one of the experimental or control conditions. They received course credit for completing the study and were entered into a drawing to win one of three \$50 Amazon giftcards. In the first session, they completed baseline measures to assess initial sleep hygiene and various other distractor health behaviors, read the narrative, and then completed self-efficacy and outcome expectations measures. Three days after the main session, participants completed a post-test to again assess self-efficacy and outcome expectations. The post-test was conducted to determine how long the persuasive effects lasted.

### Procedure

**Recruitment.** The recruitment announced an online, two-part study on “fictional reading enjoyment” and asked for participants to take part in research that will aid in identifying factors

to make crime fiction novels more enjoyable for audiences. Participants were recruited from a research participant pool as well as classes for which participants could earn extra credit.

**Main study session.** Participants completed the main session and post-test sessions online. After providing consent, participants answered various demographic questions (i.e., age, sex, major, and ethnicity). They then completed measures such as health behavior questions regarding diet and exercise, which merely served as distractors, and questions on the target topic of sleep hygiene. Various other measures including need for cognition, social comparison readiness, empathy, and enjoyment of reading fiction novels served as control variables. Participants were randomly assigned to a mystery narrative manipulating likeability or to the control condition. After participants finished reading the narrative, they completed a sleep-related self-efficacy measure and outcome expectations measure. At the end of the session, participants were thanked and informed that they would receive a link for the online follow-up session in three days.

**Post-test session.** Participants completed the same self-efficacy and outcome expectations measures as in the first session to capture the persistence of the persuasives impacts. Participants were then thanked and debriefed.

### **Stimulus Materials and Manipulations**

**Narrative summary.** The experimental narrative was approximately 5,300 words in length. Adapted from the short story “Full Circle” (Grafton, 2013), the experimental narrative is a first person account of the protagonist solving a murder. Participants read about a protagonist with the same gender that they reported in the survey. The protagonist was altered from Kinsey, a private detective, to a college student to make him/her more relatable to the population of interest. The protagonist is involved in a car accident where he/she discovers that a friend,

Caroline Spurrier, is the individual who dies in the accident. Several days later, Caroline's mother approaches the protagonist to reveal that Caroline was running from someone and had been shot before she crashed. Mrs. Spurrier asks the protagonist to help investigate who killed her daughter, because the police think it was a random freeway shooting. The protagonist agrees to help and eventually discovers the murderer is Caroline's roommate's brother. The story ends with a high-speed chase, and the murderer is involved in a deadly car accident in the same place Caroline died.

**Likeability manipulation.** The likeability of the protagonist was manipulated by presenting the protagonist either as very eager to help in solving the murder mystery or, in contrast, as motivated to solve the crime to get \$100 back from the murder victim's family that was owed to him/her. Further, in the 'likeable' version, the protagonist is a genuinely positive person, whereas the 'dislikeable' protagonist has a negative demeanor in general. For example the likeable protagonist said early in the narrative, "I plan to work at my internship, volunteer as much as possible at the humane society, and spend quality time with family and friends. Hopefully, I will find pets to bring home at the humane society in the meantime." Whereas the dislikeable protagonist had a negative demeanor and said, "Unfortunately, I have an internship that will suck up most of my time and a volunteering requirement for my major. I need to waste my time in one of the worst places ever: the humane society, and I hate animals." The likeable manipulations and corresponding dislikeable manipulations were all approximately the same word length in the narratives.

**Outcome expectation information.** Five sleep hygiene assertions were placed into the narrative. The assertions were derived from the American Academy of Sleep Medicine's

diagnostic manual (2005) for sleep-related illnesses. An example of a sleep assertion is “Avoiding mental activities in bed helps one fall asleep more quickly.”

**Manipulation check.** After reading the narrative, a manipulation check was administered. Two items measured likeability, including “I liked the main character” and “The main character made a very positive impression on me.” Participants responded on a 7-point scale from 1 = *strongly disagree* to 7 = *strongly agree*. The ratings of the two questions were combined to create one overall score for likeability ( $M = 8.92, SD = 2.94, r = .78, p < .001$ ). An ANOVA demonstrated a significant difference between the dislikeable condition ( $M = 7.85, SD = 2.89$ ) and likeable condition ( $M = 9.39, SD = 3.12$ ) for protagonist’s likeability,  $F(1, 167) = 10.91, p = .001, \eta^2 = .056$ .

Further, to examine ecological validity of the stimuli, a control group was included in the research design. The control group received no likeability manipulations nor were they exposed to any sleep hygiene information in the story. Participants in the control group responded to the same questions as the experimental groups but read the original short story written by Sue Grafton with a college student protagonist. When comparing ratings for narrative enjoyment, no significant differences regarding enjoyment emerged between the control group and the experimental group (*n.s.*), which attests to the ecological validity of the stimuli with health education information inserted.

### **Participant Characteristics**

**Demographics.** College students between the ages of 18 and 25 participated in the study ( $M = 20.63, SD = 1.48$ ). The gender of the participants was almost equally distributed with 50.5% males and 49.5% females. Participants reported their ethnicity, with 81.6% indicating

Caucasian, 8.8% were African-American/Black, 4.9% were Asian, 0.4% were Hispanic/Latino, and 4.3% indicated Other.

**Health behavior questionnaire.** Participants completed three health behavior scales related to sleep hygiene as the target topic and diet and exercise as distracter topics. Five items were utilized from the Pittsburgh Insomnia Rating Scale (Moul, Pilkonis, Miewald, & Bussye, 2002) to assess baseline sleep hygiene of the participants ( $M = 19.71$ ,  $SD = 7$ , Cronbach's  $\alpha = .84$ ). Participants were asked to answer how bothered they were by the following concerns in the past week on a scale from 1 (*not at all bothered*) to 7 (*severely bothered*). Items included "Difficulty getting to sleep at bedtime" or "Anxieties or worries about lack of sleep." The other two health behavior scales serve as distractors and included items from the National Institute of Healthy Eating at America's Table Quick Food Scan (2000) and The Obligatory Exercise Questionnaire (Pasman & Thompson, 1988).

### **Control Variables**

Participants rated their agreement with items on a scale from 1 (*completely disagree*) to 7 (*completely agree*) for the following control variables: the 18-item Need for Cognition Scale ( $M = 67.09$ ,  $SD = 14.30$ , Cronbach's  $\alpha = .86$ , Cacioppo et al., 1984) and the 16-item Social Comparison Readiness scale (Gibbons & Buunk, 1999,  $M = 68.12$ ,  $SD = 12.46$ , Cronbach's  $\alpha = .84$ ). Need for cognition was controlled for because individuals high in need for cognition may be more likely to be transported than those low in need for cognition (Green et al., 2008). Participants completed the seven-item empathy subscale of the Interpersonal Reactivity Index as a control variable (Davis, 1980,  $M = 31.44$ ,  $SD = 6.69$ , Cronbach's  $\alpha = .80$ ). Trait empathy served as a control measure because fiction readers have better ability to empathize (Mar, Oatley, & Peterson, 2009). Participants were asked three questions to assess their enjoyment reading

fiction. They indicated how much they enjoy reading fiction novels and if it is their first choice in a leisure activity ( $M = 20.64$ ,  $SD = 7.66$ , Cronbach's  $\alpha = .69$ ). Fiction reading enjoyment was utilized as a control variable because of its correlation with transportation (Mar et al., 2009).

### **Main Session Measures**

**Narrative enjoyment.** On a scale from (1 = *strongly disagree*) to (7 = *strongly agree*), participants rated their enjoyment of the short story ( $M = 4.34$ ,  $SD = 1.74$ ).

**Sleep hygiene self-efficacy measures.** Participants rated how certain they felt they could get themselves to engage in the five sleep hygiene assertions from the story on a scale from 1 = *cannot do at all* to 7 = *highly certain can do*. Items were combined into a single scale measuring self-efficacy immediately post-exposure, ( $M = 28.91$ ,  $SD = 7.55$ , Cronbach's  $\alpha = .72$ ). The ratings for self-efficacy from the follow-up session three days later were combined to create one overall score, ( $M = 30.04$ ,  $SD = 5.69$ , Cronbach's  $\alpha = .65$ ).

**Outcome expectations measures.** A measure assessed participants' outcome expectations related to the sleep hygiene assertions placed in the narrative. Participants were asked to indicate their agreement that the five sleep assertions placed in the story would improve sleep hygiene on a scale from 1 = *totally incorrect* to 7 = *totally correct*. Responses were combined into one score to assess outcome expectations immediately post-exposure ( $M = 21.75$ ,  $SD = 4.81$ , Cronbach's  $\alpha = .69$ ). The ratings from the follow-up session three days later ( $M = 23.45$ ,  $SD = 4.33$ , Cronbach's  $\alpha = .71$ ) were combined to create one overall score.

### **Results**

Multiple-step mediation analyses were conducted based on Hayes, Preacher, & Myers (2011). Based on methodological suggestions from several scholars (O'Keefe, 2003; Tao & Bucy, 2007), both media attributes (i.e., the manipulation of the independent variable) and the

psychological states produced (i.e., variations in user perceptions) were included in the same model to provide a fuller causal explanation. The first mediation analysis was conducted with the likeability condition (dislikeable = 0, likeable = 1) as independent variable (X), perceived liking of the character (M) as mediator, and immediate post-exposure self-efficacy as dependent variable (Y) (See Figure 1). A point estimate for an indirect effect (total or specific) was considered significant if zero was not included in the 95% bias-corrected confidence interval. Participant gender, empathy, need for cognition, fictional reading enjoyment, and social comparison readiness served as control variables for all mediation analyses. Attesting to an effective manipulation, the independent variable of likeability (X) had a significant effect on participants' perceived liking of the protagonist (M) (coefficient = .88,  $p < .005$ ). The liking manipulation (X) did not have a significant direct influence on self-efficacy (Y) immediately after exposure, (coefficient = -1.27,  $p = .29$ ), thus H1a was not supported. However, perceived liking of the protagonist directly influenced self-efficacy immediately post-exposure, (coefficient = 1.14,  $p < .01$ ). The liking manipulation (X) indirectly influenced self-efficacy (Y) through perceived liking (M), with a point estimate of 1.01, and a 95% BCa (bias-corrected and accelerated) bootstrap confidence interval of .14 to 2.01. Therefore, H2a was supported.

[Figure 1 here]

A second mediation analysis explored the likeability condition (dislikeable = 0, likeable = 1) as independent variable (X), participants' perceived liking of the character (M) as mediator, and participant's self-efficacy three days after exposure (Y) (see Figure 2). Once again, attesting to a successful manipulation, the likeability condition (X) significantly influenced perceived liking (M) (coefficient = 1.27,  $p < .005$ ). The likeability condition (X) had a direct effect on self-efficacy three days after exposure (Y), (coefficient = -2.76,  $p < .05$ ), lending support for H1b.



Participants' perceived liking of the character (M) significantly increased their self-efficacy three days after exposure (Y) (coefficient = 1.17,  $p = .006$ ). Further, the likeability condition (X) had an indirect influence through perceived liking (M) on self-efficacy three days after exposure (Y), with a point estimate of 1.50, and a 95% BCa (bias-corrected and accelerated) bootstrap confidence interval of .31 to 2.96, providing support for H2b.

[Figure 2 here]

A third mediation analysis was conducted with the likeability condition (dislikeable = 0, likeable = 1) as independent variable (X), participants' perceived liking of the character (M) as mediator, and outcome expectations immediately post-exposure (Y) (see Figure 3). Similar to the previous mediation analyses, the likeability manipulation (X) significantly influenced participants' liking of the protagonist (coefficient = .89,  $p < .005$ ). The likeability manipulation (X) did not directly affect outcome expectations (coefficient = -.11,  $p = .49$ ) giving no support for H3a. Perceived liking of the protagonist (M) had a direct effect on outcome expectations immediately after exposure (Y) (coefficient = .19,  $p < .005$ ). Further, the likeability condition (X) had an indirect influence through perceived liking of the protagonist (M) on outcome expectations immediately post-exposure (Y), with a point estimate of .17, and a 95% BCa (bias-corrected and accelerated) bootstrap confidence interval of .05 to .30. Hence, H4a was supported.

[Figure 3 here]

A final mediation analysis examined the likeability condition (dislikeable = 0, likeable = 1) as independent variable (X), participants' perceived liking of the character (M) as mediator, and outcome expectations three days after exposure as dependent variable (Y) (see Figure 4). The likeability manipulation (X) directly influenced perceived liking (M) (coefficient = 1.28,  $p < .001$ ). However, the likeability manipulation (X) did not have a direct effect on outcome

expectations three days later (Y) (coefficient =  $-.23$ ,  $p = .25$ ), providing no support for H3b. Perceived liking (M) directly influenced outcome expectations (Y) (coefficient =  $.15$ ,  $p < .05$ ). Finally, the likeability manipulation (X) indirectly influenced outcome expectations (Y) via perceived liking (M), with a point estimate of  $.18$ , and a 95% BCa (bias-corrected and accelerated) bootstrap confidence interval of  $.01$  to  $.42$ . Therefore, H4b was supported.

[Figure 4 here]

### **Discussion**

The present investigation demonstrated the effects of protagonist likeability on two specific attitude change variables: self-efficacy and outcome expectations. Drawing on a well-established media entertainment theory, affective disposition theory (Zillmann & Cantor, 1976), the present investigation identified protagonist liking as a key component of narrative persuasion. Overall, the results supported the predictions from affective disposition theory.

The current study sought to link affective disposition theory to social cognitive theory to determine how affective dispositions influence participant self-efficacy and outcome expectations. Overall, positive affective dispositions toward the protagonist increased participants' self-efficacy and outcome expectations. Protagonist likeability did not directly affect participants' sleep hygiene-related self-efficacy immediately post-exposure, as H1a was not supported. However, it did have a direct effect on self-efficacy three days later, since H1b was supported. Perhaps an absolute sleeper effect occurred where the persuasive effect of the narrative increased over time (Hovland, Lumsdaine, & Sheffield, 1949). Along the same lines, previous research has demonstrated that narrative's persuasive effects increased over time, even with the acquisition of false information into participants' real-world knowledge (Appel & Richter, 2007). Another similar explanation could be the delay hypothesis, where individuals

experience no immediate effects, but the persuasive effect increases over time as parts of the message are forgotten or become dissociated in memory and activated with other information (Wyer & Srull, 1989; Jensen, Bernat, Wilson, & Goonewardene, 2011). Jensen et al., (2011) demonstrated the delay hypothesis where individuals were more likely to endorse false beliefs two weeks after exposure to a television show instead of immediately after exposure.

Perceived liking of the protagonist mediated the likeability manipulation's effect on self-efficacy both immediately after exposure and three days later, providing support for H2a and H2b. Thus, it may be important to measure delayed effects in narrative persuasion studies as immediate effects may not be evident. The current study measured effects three days after exposure, thus future research should consider asking participants to complete follow-up measures after longer periods of time to examine how long-lasting the effects are on self-efficacy or outcome expectations and if behavior change occurs.

Protagonist likeability did not directly influence participants' outcome expectations immediately post-exposure and three days later as H3a and H3b were not supported. However, perceived liking mediated the relationship between the likeability manipulation and outcome expectations both immediately after exposure and three days later as H4a and H4b were supported. These results provide support for examining both the likeability manipulation and participants' perceptions as it provides a more complete description of the effects occurring (O'Keefe, 2003). Participants' perceived liking of the protagonist significantly increased self-efficacy both directly and indirectly three days after exposure. Further, perceived liking mediated the relationship between the protagonist likeability manipulation and outcome expectations three days after exposure. These effects would not be evident if scholars did not consider the manipulation and audience's perceptions of the manipulation.

According to Bandura (1977, 2004a), self-efficacy is a critical component of behavior change because it affects all other variables including outcome expectations, individuals' goals related to the health behavior, perceived facilitators, and perceived environmental obstacles. Likeable individuals who serve as models for motivation and guidance are effective when the participants hold a positive affective disposition toward the model as demonstrated in the current study (Bandura, 1974). As evidenced here, a likeable protagonist increases participants' self-efficacy and outcome expectations regarding a modeled health behavior. Future studies should examine other social cognitive theory variables (i.e., individuals' health-related goals, perceived obstacles, perceived facilitators, and behavior change) to determine how likeability influences them. Identifying these variables is critical for narrative health messages to have as great of an impact as possible on individuals' health behaviors.

As protagonist likeability did not directly influence participants' outcome expectations, future research should explore other narrative persuasion variables (i.e., similarity or identification) to see how they influence outcome expectations. Perhaps different narrative persuasion mechanisms influence different variables from the social cognitive theory framework. Fully understanding how these variables affect health-related outcome variables will allow scholars to make health messages as effective as possible. Models such as the entertainment overcoming resistance model (EORM, Moyer-Gusé, 2008) have suggested an approach like this, but we have not examined the intricacies of all the relevant variables yet.

While the current study provides strong evidence for examining narrative transportation through an affective disposition theory lens, it is not without its limitations. One limitation is that the study only examined one health topic regarding sleep hygiene. Despite this limitation, this study takes an important first step in connecting affective disposition theory to social cognitive

theory in order to change individuals' attitudes and behaviors toward sleep hygiene. Protagonist likeability is an important factor in increasing individuals' sleep hygiene-related self-efficacy and subsequent outcome expectations. Thus, further research is necessary to examine how other protagonist variables influence individuals' health-related attitude and behavior change with additional health topics. Effective 'bedtime' short stories that persuade college students to improve their sleep habits are just one application of the elucidated mechanisms of affective dispositions in narrative persuasion.

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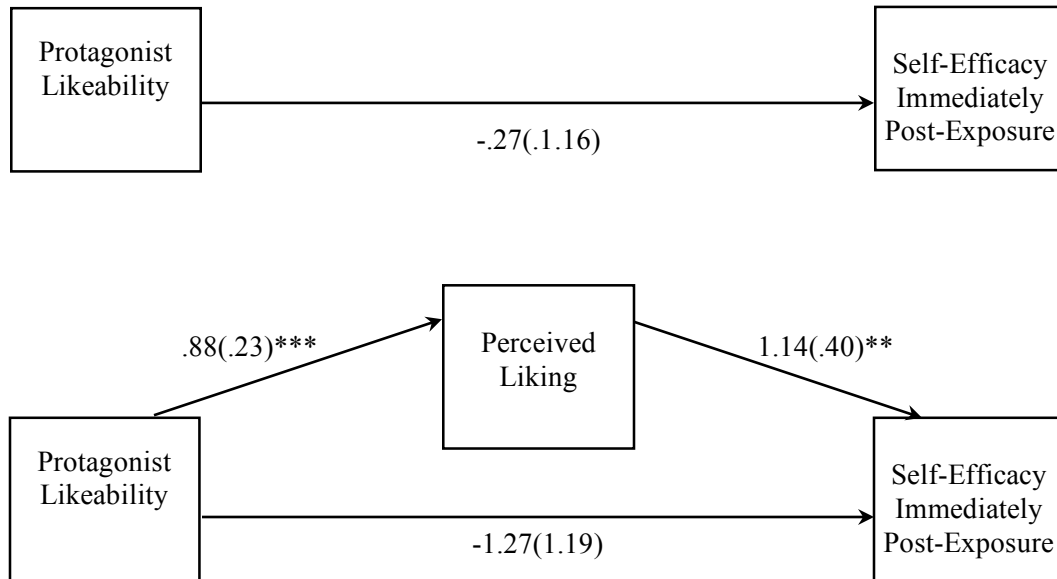
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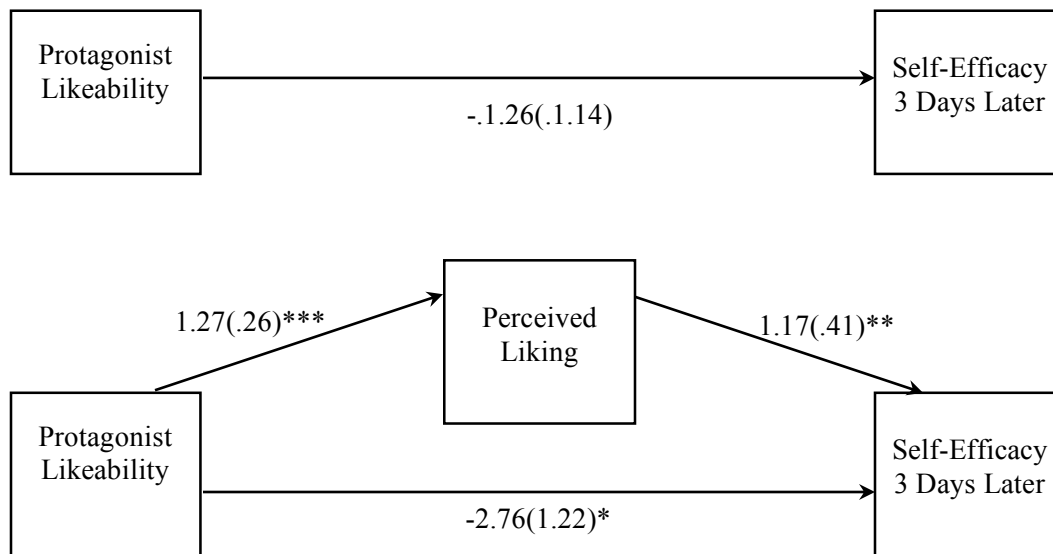
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Liking manipulation  $\rightarrow$  Perceived Liking  $\rightarrow$  Immediate Post-Exposure Self-Efficacy  
 1.01 (.48), 95% CI [.14, 2.01]

**Figure 1: Impact of likeability manipulation on immediate post-exposure self-efficacy via participants' perceived liking.**

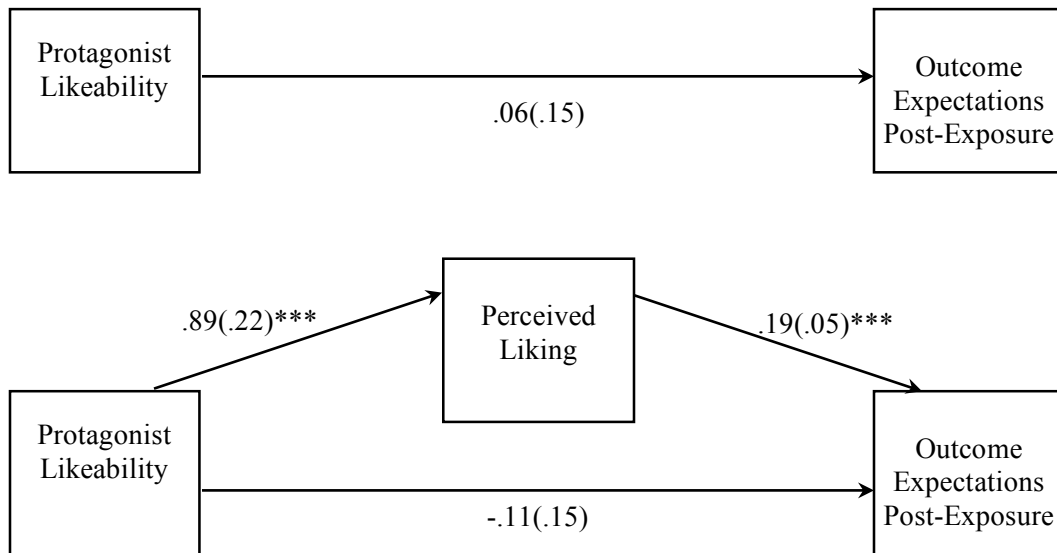
*Note.* Three asterisks indicate  $p < .001$ , and two astericks indicate  $p < .01$ .



Liking manipulation → Perceived Liking → Self-Efficacy 3 Days Later  
 1.50 (.67), 95% CI [.31, 2.96]

**Figure 2: Impact of likeability manipulation on self-efficacy 3 days after exposure via participants' perceived liking.**

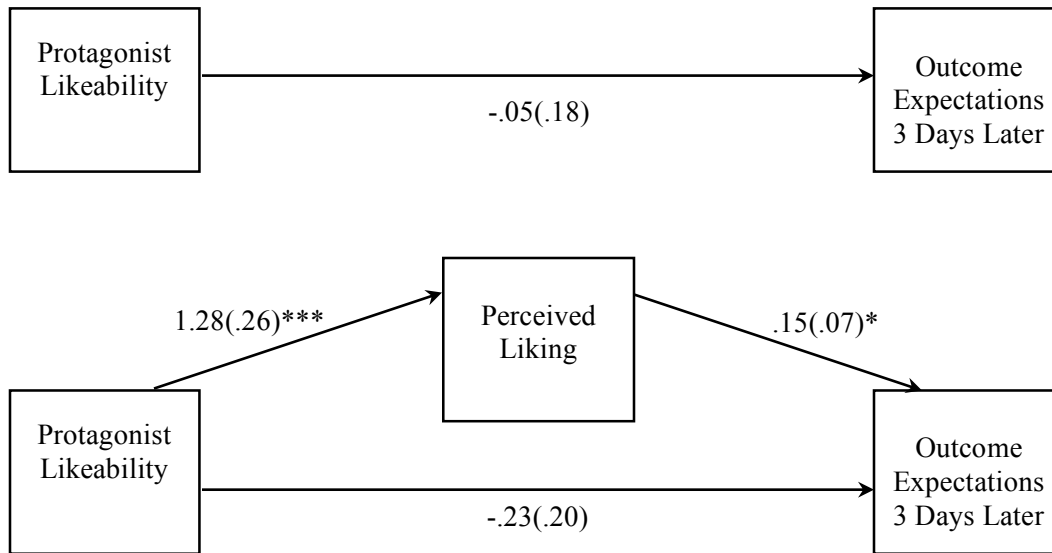
*Note.* Three asterisks indicate  $p < .001$ , two astericks indicate  $p < .01$ , and one asterick indicates  $p < .05$ .



Liking manipulation → Perceived Liking → Outcome Expectations Immediately Post-Exposure  
 .17 (.06), 95% CI [.05, .30]

**Figure 3: Impact of likeability manipulation on outcome expectations immediately after exposure via participants' perceived liking.**

*Note.* Three asterisks indicate  $p < .001$ .



Liking manipulation → Perceived Liking → Outcome Expectations 3 Days Later  
 $.18 (.11)$ , 95% CI  $[-.01, .42]$

**Figure 4: Impact of likeability manipulation on outcome expectations 3 days after exposure via participants' perceived liking.**

*Note.* Three asterisks indicate  $p < .001$  and one asterick indicates  $p < .05$ .