Happily Ever Persuaded? A look at the influence of character involvement,

transportation, and emotion on perceived threat, reactance, and persuasion

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Abstract

Narratives have been proven to be an effective means by which people are persuaded. However, the exact psychological mechanism(s) that is/are responsible for persuasion have been debated. Some argue the process of transportation is necessary in determining whether or not the persuasive message will succeed (e.g., Green & Brock, 2000; Green & Clark, 2013; Murphy et al., 2011). Others have found character involvement to influence attitudes (Banerjee & Greene, 2012; de Graaf, Hoeken, Sanders, & Beentjes, 2011; Igartua & Barrios, 2012), behavioral intentions, and actual behaviors in the context of narratives (Moyer-Gusé, Chung, & Jain, 2011). Other say it is a combination of psychological mechanisms that is responsible for attitudes message consistent and behavioral intentions (Slater & Rouner, 2002). Theories such as the entertainment overcoming resistance model (EORM) posit that narratives reduce consumers' reactance, which then makes persuasion possible.

This dissertation draws upon theories in both reactance (psychological reactance theory (PRT)) and narrative persuasion literature (EORM) in order to fulfill three objectives. First, this work uniquely identifies and distinguishes the role(s) transportation, character involvement, and/or emotional involvement play(s) in overcoming reactance. Second, this work distinguishes between perceived threat to freedom and reactance – a mediated process yet to be studied in narrative persuasion literature. Last, this dissertation explores the influence of reactance proneness as a moderating variable in the context of narratives. Results suggest a model that explains the relationship amongst the three psychological mechanisms and adds to reactance literature. Reactance was found to have

direct effect on persuasion, though it is not a mediator of perceived threat and persuasion (as has been suggested in most PRT studies). Last, reactance proneness was, indeed, a moderating variable of the relationship between perceived threat and reactance. Suggestions for future studies in the area of reactance and narrative persuasion are offered.

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CHAPTER 1: Introduction

"If you wish to influence an individual or a group to embrace a particular value

in their daily lives, tell them a compelling story." – Annette Simmons

Persuasive messages have been shown to fail for a number of reasons, including reactance (Brehm, 1966; Brehm & Brehm, 1981). Reactance occurs after one consumes a persuasive message and perceives the message as trying to coax them in a certain direction – s/he experiences a threat to freedom. As a result, the individual may have negative thoughts and/or anger toward the message. This is known as psychological reactance. Psychological reactance motivates the individual to reassert his or her freedom. The individual may restore his or her freedom in a variety of ways, including enacting behavior counter to that which is advocated in the message. This is known as a boomerang effect. For example, after one consumes a message advocating safe sexual practices, the individual may become angry and internally argue against the message, believing the message is trying to tell how they should act. The individual, therefore, would become motivated to reassert their independence by engaging in unprotected sex.

However, scholars and practitioners alike have discovered the persuasive potential of mass media messages through narratives. It has been shown that messages with a prosocial angle delivered via mass media, such as television, can persuade viewers better than direct, non-narrative messages. This has been shown in a variety of contexts, including messages about safe-sex practices, alcohol use, and breast cancer (Beck, 2004; Brodie, et al., 2001; Collins, Elliott, Berry, Kanouse, & Hunter, 2003; Hether, Huang, Beck, Murphy, & Valente, 2008; Kennedy, O'Leary, Beck, Pollard, & Simpson, 2004;

Wilkin et al., 2007). Using the above example, an individual might be more persuaded by a television show in which a character contracts a sexually transmitted infection due to engaging in risky sexual practices than a direct message advocating the use of condoms. Theories such as the entertainment overcoming resistance model (EORM) posit that the more consumers of a persuasive message engage with a story, the likelihood of experiencing reactance is reduced. Therefore, persuasive narratives uniquely thwart psychological reactance. Using the television show in the example above, the more the consumer of a message is mentally and emotionally involved with the narrative, the narrative potentially has more persuasive power than a direct non-narrative message. That is, consumers of a narrative might not realize the message is trying to persuade them. Research of narrative persuasion has established narratives as a viable way to overcome reactance.

Until recently, the study of psychological reactance was conducted using a black-box type of theorizing (Quick, Shen, Dillard, 2013). That is, scholars proposed and implemented various message features in an experimental setting, and the effects of these features relative to reactance were observed. Many advances have recently been made relative to antecedents, measurement, and effects of reactance. Narrative persuasion research has also advanced in recent years – focusing on psychological mechanisms (such as transportation) that are responsible for the process of persuasion. Yet this literature has not made full use of advances made in reactance literature. While existing research has shown narratives can successfully influence attitudes and behavioral intentions above and beyond non-narratives focused on the same topic, it remains unknown whether the

reduced reactance is due to the unique form of the message (the narrative) or psychological processes occurring during the narrative (i.e., character involvement, transportation, or emotion). This is to say that mapping out the influence of various psychological mechanisms on the levels of reactance has not been done adequately in narrative persuasion literature.

This work examines the role of three psychological mechanisms (character involvement, emotion and transportation) and the trait of reactance proneness in impeding or facilitating persuasion within a narrative. To this, it investigates the downstream effects of these mechanisms on perceived threat and reactance. Specific effects of each mechanism must be unpacked to better understand the process through which narratives persuade individuals.

The following work proposes and tests a model to fill gaps in current narrative persuasion work. More specifically, this work draws upon EORM and psychological reactance theory (PRT) to fill three important voids in the current literature. First, this work uniquely identifies and distinguishes the role(s) transportation, character involvement, and/or emotional involvement play(s) in overcoming reactance. Second, this work distinguishes between perceived threat to freedom and reactance – a mediated process yet to be studied in narrative persuasion literature. Last, this dissertation explores the influence of reactance proneness as a moderating variable in the context of narratives.

Taken together, the following provides an overview of both PRT and EORM, summarizes extant research of both reactance and narrative persuasion, outlines important constructs relative to the study at hand, identifies the quasi-experimental

procedure used to answer proposed hypotheses, and proposes a model for future research concerning PRT and narrative persuasion. Furthermore, additional analyses look at potentially important constructs to consider with regard to reactance and narratives. Suggestions for future research on this topic are offered.

Review of Literature
Psychological Reactance Theory

The basic premise of Psychological Reactance Theory (PRT) (Brehm, 1966) posits that people are motivated to hold and maintain personal freedoms. Under the assumption that people place a high value on choice, control, and autonomy, when someone perceives one of his/her freedoms to be threatened, he/she will feel motivated to restore this freedom. PRT is almost half a century old and is still being applied to answer research questions across a wide range of disciplines, including health communication, environmental communication, clinical psychology, and media effects (e.g., media selection, narrative persuasion, etc.). This speaks to the power of the theory.

Components of Reactance

In order to understand the process of PRT, it is necessary to know the four components of the theory: (a) knowledge of freedom; (b) perceived threat to freedom; (c) reactance; and (d) restoration of freedom (Brehm, 1966; Brehm & Brehm, 1981). First, an individual must have knowledge of, and perceive themselves as being capable of enacting a certain freedom. Freedoms are known emotions, attitudes, and behaviors an individual perceives him/herself as being capable of accessing or changing (Brehm,1966; Brehm & Brehm 1981). Individuals must believe they can hold, perform, and alter the particular freedom. This is the first feature – knowledge of freedom. Clee & Wicklund

(1980) argue that the expectation of a freedom is necessary in order to determine whether reactance is experienced or not. For example, teens often partake in risky behaviors such as binge drinking, smoking, and/or using tanning beds. It is during adolescence that individuals realize they have the opportunity to partake in such activities. That is, it is during the teen years that individuals obtain knowledge of these freedoms.

Furthermore, there must be a threat to the known freedom. This is the second component to reactance. This is any force – external (in the form of a persuasive message) or internal (interpersonal) – that infringes on a particular freedom. Steindl et al. (2015) state that "[i]nternal threats are self-imposed threats arising from choosing specific alternatives and rejecting others. External threats arise either from impersonal situational factors that by happenstance create a barrier to an individual's freedom or from social influence attempts targeting a specific individual" (p. 206). External threats to freedom typically come in the form of a persuasive message in classical testing of PRT. This dissertation will focus on external threats.

Furthermore, threats to freedom can be explicit or implicit. Explicit threats are direct, overt persuasive statements made toward the receiver – advising the receiver on how s/he should live her/his life. Implicit threats, on the other hand, are more covert persuasive messages. There are many anti-smoking initiatives, such as the "truth" anti-tobacco campaign in the US, specifically targeting teens to dissuade them from smoking. This message directly tells teens, "you should not smoke." The messages put forth by such campaigns are examples of external, explicit threats to teens' freedom to smoke. Implicit threats, on the other hand, merely suggest the way in which one *should* behave.

The "truth" campaign also has ads which state, "Cancer, a hard way to make a living." This is an example of an implicit threat. The advertisement is not directly telling teens not to smoke, but instead trying to dissuade them from smoking by bringing up the topic of cancer. Audience members therefore must make the connection between smoking and cancer on their own. Miller, Burgoon, Alvaro, et al., (2001) and Burgoon (1999) found that implicit threats activate less reactance than explicit threats.

Silvia found that the temporal placement of the threats within a persuasive message determines the route one takes to reactance. That is, threats that are placed at the beginning of a message are processed in a way that is psychologically different from threats that come at the end of a message. This will be outlined in more detail below.

The third feature is reactance, or the "motivational state that is hypothesized to occur when a freedom is eliminated or threatened with elimination" (Brehm & Brehm, p. 37). This is experienced immediately following a perceived threat and consists of a combination of negative cognitions and anger (Dillard & Shen, 2005). Brehm (1966) outlines several factors that determine reactance. These include the absolute and relevant importance of the freedom to an individual; the magnitude of the perceived threat to free behaviors; the portion of freedoms eliminated (more reactance as more freedoms are threatened or eliminated); the elimination of freedoms by implication; and the pressure to comply when a freedom is eliminated. As mentioned above, teens who consume the anti-tobacco messages produced by the "truth" campaign may realize that their freedom to choose to smoke or use other tobacco products has been threatened by the messages (the second component of the theory). Reactance may then be a result of this realization. That

is, the teens who consume the persuasive message may realize that the "truth" campaign is a threat to their freedom, and have negative thoughts and anger (i.e. reactance) toward the message as a result of realizing the threat to freedom.

The fourth feature is restoration of the freedom. After a threat or elimination of a freedom has been realized, one becomes motivated to restore that which has been threatened or lost. People attempt to restore their freedom in direct and indirect ways (Brehm, 1966; Burgoon, et al., 2002; Dowd, 1993; Worchel & Brehm, 1970; 1971). Indirect ways of restoring freedom include showing preference for the eliminated or threatened freedom; observing peers partake in the threatened or eliminated threat; discrediting the source of the threat; denying that the threat exists; or partaking in similar action to that which has been threatened. Direct ways of restoring freedom include engaging in behavior counter to that encouraged in the message, or to shift beliefs to oppose that which is advocated. Shifting attitude to oppose that which is promoted is known as a boomerang effect. According to Silvia (2006), this is a built-in response to threats. Using the above example of reactance to the "truth" campaign, teens may befriend smokers; increase their liking of, or desire to use tobacco products; disrepute the "truth" campaign; deny the negative effects of tobacco use; and/or partake in similar risky behavior such as drinking alcohol. These are examples of indirect ways of restoring freedom. Teens may also use tobacco or change their existing attitudes toward pro-tobacco use to reassert their freedom. These are both direct ways of restoring freedom. Teens who use tobacco or shift their attitudes to favor tobacco as a result of the "truth" campaign exhibit boomerang effects.

Of boomerang effects, Brehm and Brehm (1981) ask, "are these reactance effects a direct reflection of the motivational state directed toward restoration of freedom, or are there mediating cognitive processes?" (p. 396). Research has shown evidence for both (e.g., Silvia, 2006; Quick & Considine, 2008; Quick & Stephenson, 2008). Quick and colleagues have outlined a two-step mediation process of reactance that would support a mediating cognitive process.

Reactance as a Mediator

The first construct in the two-step mediation process is perceived threat. That is, one must feel as though a certain freedom is being infringed upon. This is the second component of PRT mentioned above. Quick et al., (2013) outline the importance of establishing perceived threat to freedom as the first step in the mediation process – stating that attitudes toward the perceived threat must be measured in order to show that perceived threat is indeed responsible for the reactance, as opposed to not liking the source of the message or other message features. This is done using four close-ended questions adopted from Dillard and Shen (2005). By using this induction check, it can be asserted that an effect is due to reactance as opposed to other affective positions or cognitions generated by the message. Therefore, in order to assure that reactance is, in fact, due to a perceived threat it is necessary to measure perceived threat as an induction check. Doing so establishes perceived threat as the first construct in the mediation process.

The second construct in this two-step mediation process is reactance. The measurement of reactance must be done as prescribed by Dillard and Shen (2005) – using

anger and negative cognitions. This is the third component of PRT mentioned above, and consists of a combination of negative affect, specifically anger, and negative cognitions. More specific information on the measurement of reactance is outlined below. Quick and colleagues confirmed this two-step mediation process of perceived threat, reactance, and restoration of freedom among both college students (Quick & Stephenson, 2008) and adults (Quick & Considine, 2008). That is, Quick's work has established reactance as a mediating variable between perceived threat and restoration of freedom. To put this in the context of the PRT, the third component, reactance, mediates the relationship between the second component, perceived threat, and the fourth component, restoration of freedom.

Silvia (2006) also looks at the two-step mediation. However, in addition to the mediated process, his work examines a direct route to freedom restoration. This path predicts that freedom restoration is the direct result of perceived threats. "People may change their attitudes simply because they are motivated to restore their freedom, and disagreement is the most direct way to do so. In this sense, boomerang effects represent built-in responses to threats – all things equal, a threat to freedom is sufficient for negative attitude change" (Silvia, 2006, p. 674). The direct path is said to occur when one perceives a threat, but immediately engages in an act of restoring his or her freedom without generating negative thoughts or feelings toward the original message or the sender. This is different from the two-step mediation process in that once individuals experience a perceived threat, they are automatically motivated to restore their freedom. In other words, the third component of PRT, reactance, is omitted entirely. "Threats following a message, however, directly caused disagreement that was unmediated by

negative cognitive responses. This experiment thus demonstrates that threats to freedom can evoke disagreement through different paths—one mediated by cognitive processes, and one following directly from the motivation to restore threatened freedoms" (Silvia, 2006, p.679). Therefore, there is more than one route to freedom restoration.

Alternatively, the mediated path outlined by Silvia predicts that counterarguing mediates the threat's effect on restoration of freedom. That is, when one is confronted with a threat to his or her freedom, he or she will generate negative thoughts about this threat (i.e., experiences reactance) and, in turn, be motivated to restore his or her freedom. This mediated path is essentially the same as the two-step process outlined by Dillard and Shen (2005). Silvia confirmed this process.

In addition, he found that the placement of the threat determines which process (direct vs. mediated) is utilized. When the threat is located at the beginning of the message, reactance fully mediates the effect of perceived threat on restoration of freedom. However, when a threat appears at the end of the message, threat to the freedom has a direct, unmediated effect on restoration of freedom. Therefore, it is important to measure reactance to be able to examine the construct as a mediator between perceived threat and restoration of freedom. However, it is important to remember that reactance has been found, in some cases, to be omitted from the relationship, when instead perceived threat has a direct effect on restoration of freedom. The current work measures perceived threat, reactance, and restoration of freedom in order to unpack and more fully understand the relationships between these constructs, as well as investigate psychological mechanisms responsible for each of these steps. This work looks at the

potential effects of the psychological mechanisms of character involvement, transportation, and emotion on the two-step mediation process. In this way, this work paints a more complete picture of the process of reactance and restoration of freedom as a whole.

Moyer-Gusé and Nabi (2010) found perceived threat to be positively associated with reactance. However, Quick et al. (2013) point out that the measures used by Moyer-Gusé and Nabi actually measure threat to freedom rather than reactance. This work will untangle the reactance process by measuring both perceived threat and reactance in accordance with that which is advised by Dillard and Shen and Quick et al. (2013).

Measurement of Reactance

Quick et al., (2013) outline extant research on the measurement of reactance. Contrary to the position Brehm & Brehm (1981) originally posed – that reactance cannot be measured – several authors have investigated the process under which reactance occurs to obtain a better understanding of the underlying mechanisms that encompass reactance. Reactance is a mediator (as outlined above). In the context of social influence (which is the main focus of this paper), a persuasive message is presented and an individual subsequently perceives a threat to his or her freedom. This produces reactance, which, in turn, produces altered attitudes and/or behaviors (Dillard & Shen, 2005; Quick et al.). Prior to work done by Dillard and Shen (2005), it was unknown whether perceived threats, negative attitudes, or anger was responsible for the shift in attitudes and behavioral intentions.

The authors offered four propositions to explain reactance (see Image 1). First, along the lines of Petty and Cacioppo (1986), reactance was suggested as purely cognitive; therefore, Dillard and Shen adopted Petty and Cacioppo's (1981) method of measuring thoughts using thought-listing techniques and coded the thoughts as positive, neutral, and negative. As Dillard and Shen put it, "(t)his purely cognitive view suggests that reactance can be conceived of and operationalized as counter-arguing" (p146). However, this method does not include *feelings* towards the message.

Secondly, and aligned with that proposed by Brehm (1966) and Wicklund (1974), reactance was thought to be purely affective – specifically, anger. "From this perspective, reactance might be operationalized in various ways including asking individuals to make a judgment on a close-ended scale regarding the degree to which they are experiencing anger" (p. 147). And so, Dillard and Shen measured only affective responses to the message using established close-ended measures of anger.

The authors then proposed a unique model in which reactance had a cognitive as well as an affective component. In this model, cognition and affect could each be distinguished. That is, it was thought that individuals could have both emotional and cognitive reactions to a persuasive message and each have unique effects. It was proposed that these effects made up what is known as reactance.

Lastly, the intertwined model was proposed. Like the third model, the fourth model also proposed reactance to be made up of both emotions and cognitions. However, the intertwined model stated that reactance consisted of anger and negative cognitions, and that the effects of anger could not be distinguished from the effects of negative

cognitions. Of the effects of cognition and emotion in the intertwined model, Dillard and Shen said, "they are intertwined to such a degree that their effects on persuasion cannot be disentangled. Such a view is most compatible with a conception of motivation as an alloy of its components, rather than a simple sum of distinct elements (as is implied by the previous position)" (p. 147). It was the intertwined model that best explained the process of reactance. After conducting structural equation models (SEM) for all four proposed models (reactance as purely cognitive; purely anger; both cognitive and anger; or an alloy of negative cognitions and anger), the intertwined model (an alloy of negative cognitions and anger) best fit the data. Anger and negative cognitions contributed equally to reactance, but their unique effects could not be differentiated.

Since Dillard and Shen introduced the intertwined model, others have confirmed it as the best means to measure reactance (e.g., Quick & Stephenson, 2008). Rains & Turner (2007) tested the same four proposed models of reactance as Dillard and Shen (purely cognitive; purely affective; a combination of affective and cognitive (separately); and the intertwined model), and proposed a fifth model. This new model proposed affect coming first, followed by cognitions. However, Rains and Turner also identified the intertwined model as the best fit for explaining the process of reactance. Quick and Stephenson (2007) also confirmed the intertwined model in their test of seven ads about condom use. In sum, these authors found that reactance is best measured as an alloy of negative cognitions and anger, and that individually, measures of cognition and affect do not capture reactance as well as the combined measure. From these studies, a measure of reactance was found to be valid and reliable, yet narrative persuasion literature has not

measured reactance based on the intertwined model. The current work incorporates the

well-established measure of reactance as a combination of negative cognitions and anger

with narrative persuasion.
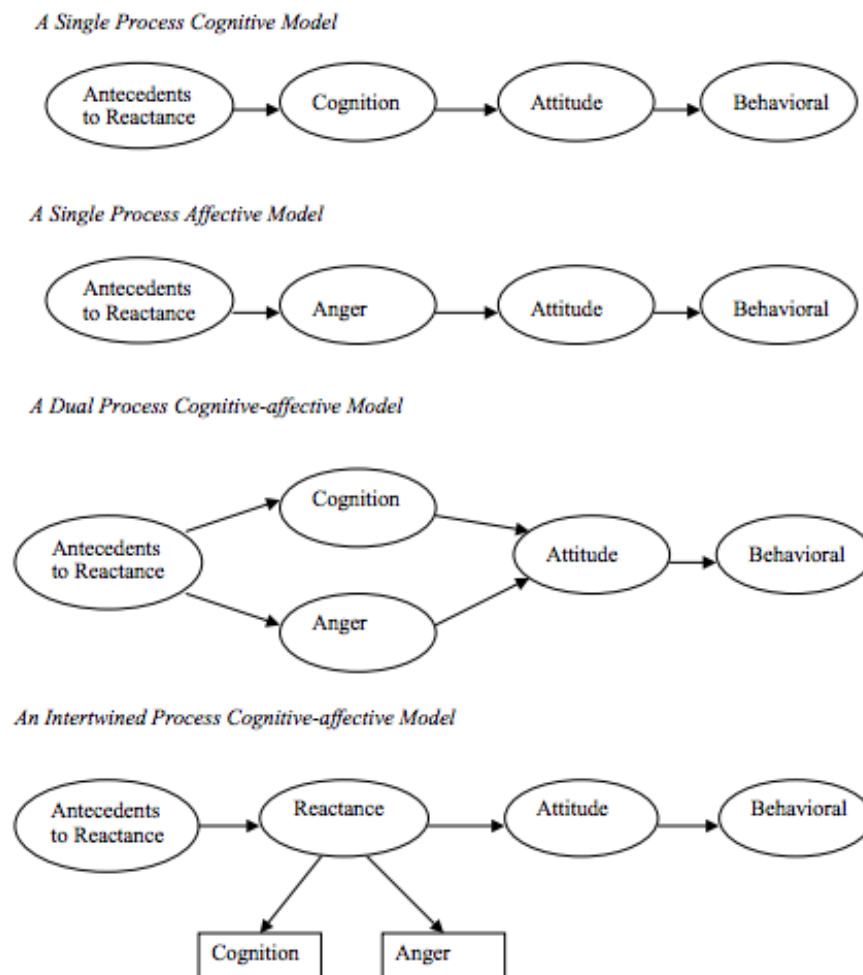
Image 1: (Dillard and Shen, 2005)
    Reactance Proneness

Though originally proposed as an induced state (Brehm, 1966), Brehm and Brehm

(1981) acknowledged that some people may be more prone to reactance than others. This

was based on Wicklund's (1974) assertion that there is a great deal of variation among

individuals in their need for autonomy. This is known as reactance proneness. "Research

indicates that trait reactant individuals are autonomous, independent, nonconformist, self-determined, and somewhat rebellious" (Quick et al., 2013, p. 173). Reactance proneness is trait variable and measures the degree to which an individual has a propensity to engage in the reactance process.

Though reactance proneness is an individual trait, some have suggested that this trait may be stronger or weaker at different times of a person's life. Specifically, Burgoon, Alvaro, Grandpre, and Voulodakis (2002) suggest a tri-modal pattern. The first peak occurs around the age of two (the terrible twos) when children first assert their freedom. At this age, children often want to move away from having everything done for themselves, and they want be more independent. For example, two-year-olds typically want to feed themselves and go down slides without help. They wish to establish their independence. The second peak occurs during adolescence when young people move away from that which has been advised by their superiors. Here, too, young adults want to explore and assert their freedom – establishing themselves apart from their guardians. Much research has been done at this stage relative to reactance and risky health behaviors such as condom and tobacco use (e.g, Grandpre et al., 2003; Kreuter and colleagues, Moyer-Gusé & Nabi, 2010; 2011; Miller and colleagues). Finally, in their senior years, individuals are cognizant and expressive of their freedoms as they see their freedoms taken away. For example, senior citizens usually put up a fight when they lose their freedom to drive. As stated above, the second peak is of interest to most researchers. This is because most research has centered around health issues and deterring risky behavior. From this research, scholars have recognized the theoretical and practical utility of

reactance proneness (e.g., Dillard & Shen, 2005; Brown & Finney, 2011; Miller, Lane, Deatrick, Young, & Potts, 2007; Quick & Stephenson, 2007; 2008).

For example, Dillard and Shen (2005) found reactance proneness can moderate the overall effects of perceived threat on state reactance. In their study, Dillard and Shen found that reactance proneness moderated the effect of domineering language on reactance: individuals high in reactance proneness were significantly more sensitive to linguistic variations than those low in reactance proneness. However, the authors found this only in one study (looking at flossing) and absent in another (looking at binge drinking). In a similar finding, Quick and Stephenson (2008) conducted a study in which they found reactance proneness significantly predicted perceived threat in persuasive messages concerning sunscreen use. However, the authors did not replicate this in the context of exercise. Another study conducted by Miller, Burgoon, Grandpre and Alvaro (2006) found reactance proneness to significantly predict smoking in adolescence. Overall, reactance proneness has, at times, been found to moderate the effect between perceived threat and reactance.

Dillard and Shen (2005) explain that the mixed results relative to reactance proneness are due to the context in which the threat was posed. In the context of their study, binge drinking, unlike flossing, is controversial and the subjects (most of whom were under the age of 21) probably felt uncomfortable with the topic. Therefore, topics used in reactance research must have viable polarizing positions. In other words, the topic must allow for participants to be motivated to reassert their freedom. In the context of the examples above, it is hard to justify reasons to binge drink or oppose exercise. Reactance

is more likely in messages that discourage participants from engaging in risky behavior. However, more work must be done to fully understand precisely what causes individuals who are high in reactance proneness to react to a perceived threat. In doing so, we can more fully understand the specific circumstances under which reactance is likely to occur.

Reactance proneness is a cross situational premise; those high in it do not exhibit reactance every time they encounter a persuasive message. Generally speaking, however, those high in reactance proneness are more likely to experience reactance than those who are low. Moreover, reactance proneness has been found to be a better predictor of attitudes and behavioral intentions than sensation seeking (Miller et al., 2006). Miller and Quick (2010) found reactance proneness to predict risky behavior above and beyond that which was predicted by sensation seeking. Specifically, Miller and Quick (2010) found reactance proneness to predict tobacco use, alcohol consumption, marijuana use, and risky sex behaviors better than sensation seeking.

Like state reactance, reactance proneness has shown convergent and discriminant validity (Hong & Faedda, 1996). For example, Buboltz, et al. (2003) found reactance proneness to be associated with personality traits such as "intuitive-thinking" when using the Meyers Briggs Type Indicator. Dowed and Wallbrown (1993) found reactance proneness to be associated with anger and depression. Similarly, Joubert (1999) found reactance proneness to be negatively associated with happiness. Overall, scholars have identified those high in reactance proneness to be autonomous, independent, nonconformist, self-determined, and rebellious (Quick et al., 2013). As explained below,

narrative persuasion literature has largely disregarded the inclusion of reactance proneness. This study will include the concept of reactance proneness as a moderating variable, as suggested by Quick et al. (2013) in order to more fully investigate the process of reactance. In this way, this study opens another side of the black box, and looks at *who* is most affected by reactance, and if these individuals are more likely to experience reactance even when the persuasive message is presented in narrative form.

PRT in the Context of Narratives

Generally speaking, more research is needed to understand and refine PRT in the context of narratives. This project will investigate three areas which Quick, Dillard and Shen (2013) have recommended as fruitful for further development of PRT in the context of narratives.

First, the current work makes the distinction between the second and third features of PRT – perceived threat to freedom and reactance. According to Quick et al., (2013) narrative scholars have yet to measure and distinguish the induction of reactance (perceived threat to freedom) from the psychological phenomenon of reactance. Therefore, it is unknown whether narratives reduce the perceived threat or psychological reactance. That is to say, it is currently unknown if it is the second or third component of PRT that is responsible for the positive persuasive effects of narratives. Following this recommendation, this dissertation measures both perceived threat to freedom and reactance in accordance with Quick et al. (2013)'s instruction. Since reactance is a mediating variable in the process of reactance, it is important to distinguish and model both perceived threat to freedom and reactance. This is necessary to clearly understand

the effects of a persuasive message from beginning to end, and in doing so, we may begin to unpack the black box of PRT research in the context of narratives.

Secondly, this dissertation will investigate the importance of character involvement, transportation, and emotion in overcoming reactance within a narrative. Character involvement, transportation, and emotion are used in this work because they are the "theoretical mechanisms most often cited as underlying the persuasive influence of narratives" (Murphy, Frank, Chatterjee, and Baezconde, 2013, p. 119). This builds upon narrative persuasion literature to help understand the influence, or perhaps lack thereof, of each concept on components of PRT. This work proposes a model in which character involvement, transportation, and emotion are antecedents of PRT. Furthermore, it examines the relationship between these variables.

Finally, the model proposed in this dissertation will look at the individual trait of reactance proneness. Quick et al. (2013) highlight the importance of including reactance proneness as a moderating variable in the study of PRT stating, "reactance proneness appears to be an especially important segmentation strategy" (p. 179). For example, studies have shown reactance proneness to predict smoking, tobacco use, and risky sexual behavior (Miller et al., 2006; Miller & Quick, 2010). However, the influence of reactance proneness in the study of narrative persuasion is deficient.

Taken together, this work fills three gaps in current research relative to PRT and narratives. It proposes a model that distinguishes between perceived threat and reactance; looks at the unique influence of three psychological mechanisms (character involvement, transportation, and emotion); and includes reactance proneness as a moderating variable.

In doing so, it paints a more complete picture of the power of narratives in overcoming reactance.

PRT is almost half a century old and is still the impetus for a number of research questions in a variety of domains. Narrative persuasion is one area that has been enriched by reactance theory. This is not surprising as these are both powerful areas of study and it is human nature to tell and listen to stories (Adaval & Whyer, 1998; Chang, 2012; Hinyard & Keurter, 2007; Schank & Abelson, 1995). Many stories are told via mass media messages, and audiences have reported that they gain knowledge through watching such programs. The persuasive potential of narratives in sitcoms has been recognized and studied in many contexts (see below). Both PRT and narrative persuasion studies have increased to promote public health and advocacy, educate individuals, inform individuals of prosocial issues, and to use in the context of advertising (Appel & Richter, 2010). This speaks to the power and versatility of this form of communication in reducing reactance.

Narrative Persuasion

Contemporary narrative persuasion studies stem from entertainment education (EE). EE is "the process of purposely designing and implementing a media message to both entertain and educate to increase audience members' knowledge about an educational issue, create favorable attitudes, and change overt behaviors" (Singhal & Rogers, 2001, p. 343). EE messages are theoretically driven endorsements of prosocial issues. The goal of these messages is to influence audience members to align their attitudes and behavioral intentions with that which is advocated in the message. This may be done in a scene, within a plot, or with a series of stories.

The current work adopts Kreuter, Green, Capella et al., (2007)'s definition of a narrative as, "a representation of connected events and characters that has an identifiable structure, is bound to space and time, and contains implicit or explicit messages about the topic being addressed" (p. 222). On the other hand, according to Kreuter et al. non-narratives "include expository and didactic styles of communication that present propositions in the form of reasons and evidence supporting a claim" (p. 222). Non-naratives rely more on factual information and present this information in a direct way. Alternatively, narratives connect a message with characters, a setting, and a storyline. In this way, narratives provide a holistic picture of the message.

Findings relative to the persuasiveness of narratives have been mixed. Much evidence has found that narratives, indeed, influence knowledge, attitudes, and behaviors (e.g., Green & Brock, 2000; Moyer-Gusé & Nabi, 2010; Singhal, Cody, Rodgers, & Sabido, 2004). Further, EE messages have been shown to be more persuasive than non-naratives (e.g., Hinyard & Kreuter; 2007; Morgan, Movius, Cody, 2009; Moyer-Gusé & Nabi, 2010; 2011).

It has been shown that when entertained, an audience is more receptive to persuasive messages. This, in part, is due to the power of narratives to decrease consumers' motivation and/or ability to have reactance toward the message, dismiss the message, and/or counter-argue against the message (Bandura, 2004; Green, 2004; Green & Brock, 2002; Kreuter et al., 2007; Moyer- Gusé, 2008; Slater & Rouner, 2002). "Insofar as narratives employ a relatively subtle form of persuasion, they lower one's guard to the possibility of overt persuasion. This may increase receptivity to a message

that otherwise would have been discredited, rebutted. or even avoided altogether" (Dal Cin, Zanna & Fong, 2004; as quoted Brechman, 2010, p. 9). Indeed, the power of narratives has been established in the literature.

However, Dunlop, Wakefield, and Kashima (2009) found that it is not mere exposure to a narrative, but the process of transportation – or the degree to which one is involved and engaged in the storyline – that is responsible for persuasion (Green & Brock, 2000). Indeed, in Tukachinsky (2014)'s meta-analysis of psychological involvement with media, she states, "engagement with characters and narratives inhibits media consumers' ability to counter-argue with the message, suppresses reactance, promotes learning, and improves retention of the learned information" (p. 1). Therefore, according to some, it is not the narrative nature of the message but the act of becoming engaged with the message that leads to persuasion. That is, a narrative is only persuasive if the audience is transported by the message. If the audience is not transported, the message is ineffective, and no persuasion will take place. In this view, all messages, including non-narratives, have the power to persuade so long as consumers are transported by, or engaged with, the message.

Others, however, highlight the power of narratives. Kreuter, Green, Capella et al., (2007) outline four capabilities of narrative influence. These include (a) facilitating information processing, (b) providing surrogate social connections, (c) addressing emotional and existential issues, and, (d) most relevant to the current work, overcoming audience resistance. Moreover, evidence supports narratives' unique ability to influence knowledge, attitudes, and behavioral intentions (e.g., Green & Brock, 2000; Moyer-Gusé

& Nabi, 2010; Singhal, Cody, Rodgers, & Sabido, 2004). There is a consensus that narratives have the power to persuade. However, more attention must be given to the underlying mechanisms that are responsible for facilitating this persuasion to determine whether it is the narrative nature of the message or psychological mechanisms that are responsible for persuasion.

Research on narrative persuasion has benefited and further built upon the theories used in other areas of study. In addition, several theories have been born from the study of narrative persuasion. The theories proven to be exceedingly valuable in the context of narratives include, Bandura's social cognitive theory (SCT); Slater & Rounders' (2002) extended elaboration likelihood model (E-ELM); and Moyer-Gusé's (2008) entertainment overcoming resistance model (EORM).

SCT posits that people can learn from watching others. This includes learning from what is seen and heard through media (Bandura 1986; Bandura 2002). Therefore, people can learn from, and have the potential to alter their attitudes and behaviors through that which is portrayed through EE messages. "According to SCT, a character who is rewarded for his or her behavior serves to positively motivate and reinforce the value of that behavior in the minds of viewers, whereas punished behaviors are negatively reinforced and thus discouraged as possible actions viewers might take" (Bandura, 2004; as cited in Moyer-Gus & Nabi, 2010, p. 28). This is in line with the second capability of narratives according to Kreuter et al. (2007). For example, after watching an episode in which a character confronts her significant other about wearing a condom during sexual intercourse, and the outcome of this discussion is positive, an

audience member might learn of ways to approach their own significant other about the taboo subject. That is, the viewer might model their own behavior based on the positive outcome of the episode that they consumed. The viewer in this example learned how to talk to his/her significant other from what they watched on television. This example shows how SCT is used in the context of narratives to explain persuasion.

Narrative persuasion and the PRT together

The reason persuasive messages typically fail is due to psychological reactance, or the threat to one's freedom (Brehm, 1966; Brehm & Brehm, 1981). That is, upon consuming media, if a person perceives the media as trying to push him/her in a certain direction, the individual experiences a threat to his/her freedom (the second component of PRT). As a result of this threat to freedom, an individual experiences psychological reactance (the third component of PRT), and becomes motivated to reassert his/her freedom (the fourth component of PRT). However, theories such as the extended E-ELM and the EORM (see below) posit that narratives can overcome such reactance by preventing the third component of PRT – reactance. The more individuals are involved with characters, transported by the story, and experience emotion from the narrative, the likelihood of reactance is reduced. Therefore, persuasive narratives uniquely foil psychological reactance.

Like SCT, E-ELM also supports the notion that individuals can learn from the media. However, E-ELM states that consumers don't simply learn and model behavior from the media they consume, rather their attitudes and/or behaviors are altered by the entertaining content within the message. More specifically, the degree to which one

becomes involved with the media – the more transported he or she is – his or her ability and/or motivation to counter-argue is reduced. In this model, transportation precludes resistance to the advocated message. According to this theory, a consumer must engage deeply with the message. The persuasive power of the message hinges on the degree to which one refrains from counterarguing the message due to his or her mental and emotional state being immersed in the narrative. However, if the consumer becomes aware of the persuasion he/she will not be persuaded by the narrative. That is, if an individual's perceived persuasive intent overpowers the narrative, persuasive narrative will fail (Slater & Rouner, 2002). Taken together, the E-ELM states that a message's ability to persuade relies on its ability to transport the consumer of the message, and diminish their ability to counter-argue the message.

To put the E-ELM in the context of the PRT, if one recognizes a threat to his or her freedom (the second component of PRT) while consuming a narrative, and this threat becomes more salient than the degree to which the individual is immersed into the story, the individual will counter-argue the message (counterarguing is the cognitive aspect of reactance, the third component of PRT) rather than be persuaded by the message. If the individual counter-argues the message, he or she will be motivated to restore their freedom (the fourth component of PRT), and the message will fail to persuade.

Moyer-Gusé's (2008) entertainment overcoming resistance model (EORM) expands on the E-ELM, stating that there are other ways to resist a message beyond counter-arguing. Furthermore, the EORM states that people are less likely to experience reactance when exposed to a narrative due to the entertaining nature of the content. It is

the entertaining content that reduces the likelihood that an individual will resist the message. Those who watch a narrative will be less likely to perceive the message as persuasive due to the entertaining content. That is, the perceived persuasive intent, or the perceived threat to freedom (the second component of PRT), is lowered due to psychological processes such as transportation, and there is less likelihood that the individual will experience reactance. In addition, the EORM proposes that reactance is diminished by mechanisms such as involvement with the characters (e.g., parasocial interactions (PSIs)), transportation, and emotions elicited by the message. However, there have been mixed results relative to the EORM.

PSIs, or one-sided friendships with a mass media figure (Horton & Wohl, 1956), have been negatively associated with reactance (Moyer-Gusé et al., 2012). In Moyer-Gusé et al. (2012)'s study, participants who experienced a PSI with a character had lower levels of reactance and greater story consistent attitudes. Likewise, in Moyer-Gusé and Nabi (2010)'s experimental test of EORM, participants in the narrative condition perceived less persuasive intent (this is referred to as perceived threat to freedom in the context of PRT), which was shown to be positively associated with reactance. Unexpectedly, transportation was positively associated with counterarguing. This was the opposite of what was hypothesized and is counter to both the E-ELM and the EORM. Furthermore, Moyer-Gusé, Jain, and Chung (2012) found that non-narrative explicit persuasive messages did not differ from narratives in either perceptions of persuasive intent nor reactance. Moreover, Moyer- Gusé and Nabi (2011) found a boomerang effect among male participants within the EE condition in an experiment concerning teen

pregnancy. These individuals' behavioral intentions moved further away from that which was advocated in the message after consuming the message more so than those in the non-narrative condition. The authors advocate that future research should systematically examine what causes boomerang effects in E-E messages on a topic that is more gender neutral. Taken together, findings related to narrative persuasion have been inconsistent with what has been theorized according to the EORM.

There are several reasons for these mixed results. First, Quick et al., (2013) point out that work with narratives and reactance has not looked at reactance proneness (reactance as a trait). Moyer- Gusé et al., (2012) *did* measure reactance proneness, but used it as a covariate in their model – not as a mediating variable as suggested by the reactance literature. Therefore, reactance proneness seems to be an important variable, however, scholars have not applied this variable in the context of narratives in the same way as reactance scholars. To this, Quick et al., (2013) propose and urge the importance of using reactance proneness as a moderating variable. That is, results might not be observed without parsing reactance proneness, as the degree to which individuals are prone to reactance could influence if they experience state reactance.

Additionally, the way in which reactance has been measured in narrative persuasion literature (e.g., Moyer-Gusé & Nabi, 2010; 2011) is vastly different than that which has been established as valid and reliable in reactance literature (Dillard & Shen, 2005, Quick & Stephenson, 2008; Rains & Turner, 2007). For example, Moyer-Gusé & Nabi, 2010; 2011 and Moyer-Gusé et al., (2012) used four close-ended questions to measure reactance rather than measuring negative thoughts and anger. The authors also

measured counterarguing using close-ended questions rather than a thought-listing technique. Finally, counterarguing was used as an independent variable that predicted reactance, not as a part of reactance itself. Measuring reactance in this way disregards the intertwined model – the alloy of negative affect (anger) and negative cognitions (counterarguing). Taken together, current narrative persuasion work ignores the important research that reactance scholars have compiled in measuring reactance. Mixed results relative to reactance in narratives could be due to the manner in which reactance has been measured.

The two-step process of reactance as outlined by Quick and colleagues has not been formally tested in the context of narratives. That is, Quick and colleagues have found that the process through which reactance occurs is a two-step mediation in which perceived threat precedes reactance, and reactance, in turn, determines the persuasiveness of the message. Narrative literature has measured perceived persuasive intent (see Moyer-Gusé's work), but does not apply this to the two-step process as outlined by Quick and colleagues. This is to say that antecedents of reactance, reactance, and the process preceding reactance have yet to be examined in narrative persuasion the same way they have been applied in reactance literature. An important distinction must be made between perceived threat and reactance. Therefore, the current work will measure an induction check in the form of perceived threat, reactance according to that which is advocated by Dillard and Shen (2005), and investigate how subjects reestablish their freedoms via attitudes and behavioral intentions.

Quick et al., (2013) note that for too long reactance theory was looked at as a black box – messages go in, and an effect is observed. However, advances in measurement and theory building have helped refine PRT. This has benefited both the research as well as the practical application of the theory. For example, reactance is best measured as a composite of negative cognitions and anger. Narrative persuasion, however, has yet to take advantage of such progress. Moyer-Gusé's EROM model and subsequent studies (e.g., Moyer-Gusé et al., 2012) have made improvements, but Quick et al., (2013) outline the faults of narratives narrative persuasion relative to the study of reactance. Failing to measure reactance proneness, modeling reactance as a two-step process, and the way in which reactance has been measured in general in the context of narrative research has led to mixed results.

This dissertation is a response to Quick et al.'s observations. This study will fill current gaps by investigating reactance proneness and reactance as a two-step mediated process, and using a well-established measure of reactance. Furthermore, it is not known whether the lack of reactance is due to the unique form of the message (the narrative); psychological mechanisms occurring as a result of the message (transportation, identification, or emotion); or individual differences (i.e., reactance proneness). As Murphy et al. (2013) state about narratives, "we must establish which theoretical mechanisms underlie their persuasive influence in order to ensure their continued success" (p. 118). The current work aims to answer this call by investigating the reason(s) psychological reactance is diminished in the context of narratives.

Important Contributions to Narrative Persuasion

The above literature demonstrates inconsistencies in narrative persuasion research. While it has been found that narratives can be more persuasive than non-narrative messages, questions remain regarding the process through which narrative messages breed persuasive outcomes. Much of the current research on narrative persuasion has focused on comparing narratives to non-narratives and has investigated psychological mechanisms individually. The three psychological mechanisms of character involvement, transportation, and emotion – or related psychological constructs – are often deemed responsible for the persuasive influence. In fact, it is these three mechanisms that are most often cited as accounting for the persuasive influence of narratives (Murphy et al., 2013). Therefore, this dissertation will focus on these psychological mechanisms. According to the EORM, it is precisely such concepts that make narratives particularly persuasive. That is, the extent to which people are involved with characters within a narrative, transported into the narrative, and/or emotionally involved with the narrative, they will be more swayed by the message, and will align their own attitudes and behavioral intentions to be consistent with the narrative.

In current narrative persuasion literature, much debate exists over the exact psychological mechanisms that are responsible for persuasion. Some argue the process of transportation is necessary in determining whether or not a persuasive message will succeed (e.g., Green & Brock, 2000; Green & Clark, 2013; Murphy et al., 2011). Others have found character involvement to influence attitudes (Banerjee & Greene, 2012; de Graaf, Hoeken, Sanders, & Beentjes, 2011; Igartua & Barrios, 2012), behavioral intentions, and actual behaviors (Moyer-Gusé, Chung, & Jain, 2011). Some say it is a

combination of psychological mechanisms that are responsible for attitudes message consistent and behavioral intentions. For example, Slater and Rouners' (2002) E-ELM, suggests that transportation along with identification with specific characters elicit message-consistent responses.

Still others have focused on the temporal order of the mechanisms. For example, Murphy et al. (2011) investigated the role of character involvement, transportation, and emotions. The authors used SEM analyses and found a model in which character involvement predicted transportation, and transportation then predicted both positive and negative emotions to best fit the data. Additionally, transportation, negative emotions, and positive emotions each predicted changes in knowledge, attitudes, and information seeking. Furthermore, there are psychological mechanisms that are similar to one another, yet authors call for distinctions. For example, transportation has been compared and contrasted with the concepts of flow and absorption. This project attempts to use an organized and systematic approach to using and researching these mechanisms. Furthermore, the mechanisms used in this work encompass similar items in an organized fashion. For example, character involvement is used in the current work as an overarching mechanism that includes wishful identification; perceived similarity; character liking; and parasocial interaction with characters.

The current work examines the significant contribution these mechanisms – character identification, transportation into the narrative, and emotional response to the narrative – have in facilitating persuasion, comparing and contrasting their effects, as well as looking at the relationship between these mechanisms in conjunction with PRT.

Measuring all of the psychological mechanisms used in the narrative persuasion literature is beyond the scope of this work; however, the current project takes a comprehensive look at the three main mechanisms in hopes of further distinguishing the relationship between them as well as looking at their individual contributions to persuasion. Each mechanism is discussed further below.

Features of the Study

Conceptualizing Variables

Reactance

Several concepts must be defined to best understand the proposed experiment. As stated earlier, the components of reactance theory include freedom; perceived threat; reactance; reactance proneness; and freedom restoration. Freedoms are known emotions, attitudes, and behaviors an individual has knowledge of, and perceives him/herself as being capable of enacting or changing. According to Brehm (1966) and Brehm and Brehm (1981), individuals must believe they can hold, perform, and alter the particular freedom. A perceived threat to a freedom is any force (external or internal) that infringes upon a particular freedom. Reactance, which is the result of a perceived threat, is "the motivational state that is hypothesized to occur when a freedom is eliminated or threatened with elimination," and is a combination of negative cognitions and anger (Brehm & Brehm, p. 37). Freedom restoration is an attempt to restore a freedom that has been threatened. In the current study, when people hold opposing attitudes and/or behavioral intentions from that which is advocated, they are restoring their freedom. This is to say that individuals who hold attitudes and behavioral intentions counter to the advocated message are reasserting their freedom and are *not* persuaded by the message.

The current study uses a measure of persuasion to investigate the degree to which individuals restore their freedom. This measure consists of attitudinal and behavioral intentions toward the advocated message.

Narrative

Much of the literature concerning narrative persuasion has operated under varying definitions of narratives. This is problematic when attempting to understand the viability of extant findings. In an attempt to overcome this challenge, Hinyard & Kreuter (2007) offer a definition of narratives as "any cohesive and coherent story with an identifiable beginning, middle, and end that provides information about scene, characters, and conflict; raises unanswered questions or unresolved conflict; and provides resolution" (p. 778). Kreuter et al. (2007) built on this definition to produce a definition of a persuasive narrative – "any representation of a sequence of connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit or explicit messages about the topic addressed" (p. 222). This is the definition used in most research on narrative persuasion, and will be used in this work. The current study uses an original narrative that consists of a beginning, middle, and end, has scenes in which characters interact with one another, raises a conflict within the topic of skin cancer and provides a conclusive ending.

Character Involvement

According to SCT, individuals can learn and alter their behaviors to mimic that which is portrayed in the media. Moreover, research has shown that people learn more from characters whom they like, want to be like, feel they know or with whom they

identify (Bandura, 2002; Moyer-Gusé, 2008; Murphy, Frank, Moran, Patnoe-Woodley, 2011; Slater & Rouner, 2002). However, when it comes to the exact mechanism responsible for effects due to connections made with characters, there has been much disagreement. For example, there is disagreement over the concept of character involvement and related concepts such as liking, perceived similarity, identification, wishful identification, and PSIs (the degree to which one feels as if s/he personally knows the character). Furthermore, the order of these concepts within narrative persuasion literature has long been contended. The concept of identification has been conceptualized as liking a character (Basil, 1996; Eisenstock, 1984; Liebes & Katz, 1990; Maccoby & Wilson, 1957; Slater & Rouner, 2002); wishful identification with a character (Basil, 1996; Eisenstock, 1984; Eyal & Rubin, 2003, Giles, 2002; Hoffner, 1996; Liebes & Katz, 1990; Maccoby & Wilson, 1957); relating to a character (Wilkin et al., 2007); one's perceived similarity to a character (Basil, 1996; Eisenstock, 1984; Liebes & Katz, 1990; Maccoby & Wilson, 1957); and taking the perspective of a character (Cohen, 2001; 2006; Eyal & Rubin, 2003). Some (e.g., Bandura, 2004) have used a combination of these concepts to define character involvement, while others (Hoffner & Buchanan, 2005) argue that perceived similarity, liking, and identification are "related but distinct concepts" (p. 326). Some have even suggested a temporal order among these concepts. For example, Schiappa, Allen and Greg (2005) argue that a parasocial interaction is necessary for identification to take place. However, Cohen (2006) argues that it is perceived similarity, liking, and wishful identification rather than parasocial interactions that are precursors of identification.

While there is no agreed upon definition of involvement with characters, some (Moyer-Gusé, 2008; Murphy et al., 2013; Murphy, et al., 2011) have used the overarching term of *character involvement,* to refer to the way in which viewers relate to and interact with specific characters. Specifically, this term "incorporates the related constructs of identification; wishful identification (a viewer's wish to be like the character), similarity, liking, and parasocial interaction" (Murphy et al., 2011, p. 410). Therefore, this project will use the term *character involvement* which is operationalized as an additive score of identification, wishful identification; perceived similarity; liking; and PSIs with characters within the narrative. This is the most comprehensive way of investigating the psychological mechanism focused on characters and its ability to persuade and/or diminish reactance in the context of narratives.

Transportation

One of the most widely used concepts in narrative persuasion is transportation (Green & Brock, 2000). Though not without faults, this concept has been shown to influence knowledge, attitudes, behavioral intentions, and behaviors (e.g. Appel & Richter, 2010; Bruner, 1986; Dahlstrom, 2012; Gerrig, 1993; Green & Brock, 2000; Moyer-Gusé, 2008; Moyer-Gusé & Nabi, 2010; Murphy, 2013; Singhal & Rogers, 2002; Slater, 2002). Furthermore, it is the best-known theory of narrative engagement (Murphy, 2013). Transportation is said to be a holistic, convergent process in which "all the person's mental systems and capacities become focused on the events occurring in the narrative" (Green & Brock, 2000, p. 701). Furthermore, transportation may be conceptualized as "a distinct mental process, an integrative melding of attention, imagery,

and feelings" (Green & Brock, 2000, p. 701). Related concepts include absorption, flow, and others, but in order to be consistent with ongoing literature, this work adopts Green & Brock's concept and operationalization of transportation.

Murphy et al. (2011) outline the steps of transportation. First, in order to be transported, the viewer must lose awareness of his or her surroundings – all cognitions are centered upon the mediated message. Next, the viewer feels "heightened emotions and motivations" (Green & Brock, 200, p. 702). "A transported viewer is so completely immersed in the media world that his or her responses to narrative events are strong, as though they were actually experiencing those events" (Murphy et al., 2011, p. 411). Finally, the viewer's life is altered in some way as a result of consuming the message.

According to Green and Brook (2002), "the extent that individuals are absorbed into a story or transported into a narrative world, they may show effects of the story on their real-world beliefs" (p. 701). As stated above, Dunlop et al. (2010) found the action of transportation, rather than the narrative nature of the message, to be responsible for a message's persuasive influence, stating, "transportation is indeed fundamental in the process of persuasion" (p. 153): it is the experience of transportation rather than the structural features of a narrative that is responsible for persuasion. According to this view, the type of the message is irrelevant for persuasion so long as the consumer is transported. That said, narratives and non-narratives are both potentially persuasive forms of communication. However, results from extant narrative studies highlight narratives' ability to transport consumers of the message above non-narratives. Further, Murphy et al. (2011) found transportation to alter knowledge, attitude, and behavior above and

beyond that of character involvement and emotion. Transportation has also been shown to decrease counterarguing while increasing discussion about the narrative (McQueen et al., 2011).

There are several constructs that are similar to transportation including absorption (Tellegen and Atkinson 1974), flow (Csikszentmihalyi 1992), and immersion (Wang and Calder 2006). However, transportation is a unique and distinct construct. Van Laer, de Ruyter, Visconti, and Wetzels (2014) point out that absorption is different from transportation in that absorption is the tendency to be immersed in life experiences, while transportation is a temporary experience (Sestir & Green 2010). Flow, which may be experienced while taking part in various activities such as participating in a sport, is a more general construct than transportation and does not include empathy and mental imagery. Transportation, on the other hand, includes empathy and mental imagery (Bracken 2006; van Laer et al., 2014). Finally, immersion is a response to visual images. Again, transportation is unique in that it requires a storyline (Phillips and McQuarrie; 2010; van Laer et al., 2014).

Taken together, even though some similarities have been drawn between transportation and other constructs such as absorption and flow, it is a unique mechanism that has proven to influence persuasion. Some argue that transportation rather than narrative structure is responsible for persuasion. The current study focuses on the influence of transportation on reducing reactance in the context of a narrative, and compares these effects to other psychological mechanisms.

Emotion

Narratives often elicit many emotions. It is thought that these emotions aid a message's ability to persuade audience members (e.g., Dillard & Peck, 2000; Green & Brock, 2000; Slater & Rouner, 2002). Green and Brock (2000) suggest emotional response to narratives as a necessary component for transportation. Dillard and Peck (2000) agree, stating that emotionally compelling narratives are particularly persuasive. Emotions seem to be an important and necessary component of persuasive narratives. For example, Murphy et al., (2011) found emotions to better predict behavioral change over and above transportation and character identification. This shows a need for the distinction of emotion as a psychological mechanism. That is to say, transportation and character involvement can have emotional elements, however, emotion in and of itself is an important construct with noteworthy persuasive effects. According to Murphy et al., (2011) emotion is a related, yet distinct concept from character involvement and transportation.

Scholars (e.g., Murphy et al., 2013; Nabi, 2002) have looked at the impact of discrete emotions (sadness, disgust, anger, fear, and happiness) on a message's persuasiveness. Some have found each discrete emotion to have a unique consequence on message persuasiveness and that separating them according to positive and negative valence is a gross simplification of the power of emotion (DeSteno Petty, Rucker, Wegener, & Braverman, 2004, Nabi, 2002). For example, Nabi (2002) found anger to be positively associated with information processing, yet this was not the case for fear. Others (e.g., Murphy et al., 2013), however, found that breaking emotions into positive

and negative valence explains substantial differences and is a sufficient division. Murphy et al. (2013) found that positive emotions, rather than negative, had a negative effect on knowledge of the message. For the current work, discrete emotions relative to the narrative will be measured in accordance to Murphy et al.'s approach – looking at happiness, surprise, sadness, fear, and disgust. However, anger is associated with reactance, and will therefore not be included as a measure of emotional response, but as a measure of reactance. In measuring emotions this way, this work is consistent with current narrative persuasion literature and furthers the investigation of emotional influence relative to narrative persuasion.

Distinguishing between psychological mechanisms

There has not only been debate over the exact psychological mechanisms responsible for persuasion, there has also been contention over the distinction and overlap of these concepts. The following argues for the distinction between character involvement, transportation, and emotion by reviewing relevant literature and distinguishing between character and each unique mechanism.

Some scholars see character involvement and transportation as intertwined (Sood, 2002), while others argue that character involvement and transportation work alongside one another. For example, Bussell and Bilandzic (2008) state that the two concepts combine to create the larger concept of engagement. However, others view the two as distinct outcomes. For example, Murphy et al. (2011) admit that the conceptual relationship between character involvement and transportation is "murky." However, the authors differentiate transportation from character involvement by stating that character

involvement only concerns a particular character (typically the main character), while transportation is the result of audience members being absorbed into the broader, general storyline. As stated above, the current work's use of character involvement encompasses character identification. To this end, Moyer-Gusé and Nabi (2010) cite Cohen and Tal-Or (2008) agree in distinguishing between transportation and character identification stating, "(i)n support of these conceptual differences, recent empirical evidence has revealed that transportation and identification—although moderately correlated—can be independently manipulated. Specifically, transportation, but not identification, may be influenced by alerting viewers to what will happen in the plot (thus affecting suspense), whereas identification, but not transportation, may be influenced by providing positive versus negative background information about a character before viewing (pp. 29-30)." Cohen (2006) conceptualizes identification as losing awareness and entering a fictional world. The author admits the relationship between transportation and identification is complex, as identification could both precede and be an effect of transportation.

Some scholars have agreed that transportation may be a necessary step for audience members to become involved with characters (Cohen, 2001; Green, 2004; Slater & Rouner, 2002). Others, however, see character involvement as an antecedent of transportation (Green, Brock, & Kaufman, 2004). The argument that there is a specific temporal order for these concepts further argues for a distinction between the two. If indeed character involvement is an antecedent of transportation, the two must be measured as distinct concepts to investigate this relationship. This work distinguishes between the psychosocial mechanisms of transportation and character involvement.

Emotion is also different from character involvement and transportation, though each of these concepts has an emotional element. As stated above, Green and Brock (2000) note that emotions are an essential aspect of transportation. However, the way in which character involvement and transportation are outlined and conceptualized above, it is possible for an audience member to have emotions that are separate from transportation and character involvement. That is, an individual could be have high emotional involvement with a narrative, but may neither be transported nor have high levels of character involvement. For example, many have viewed distinct emotions to influence attention, acceptance, and persuasion (DeSteno et al., 2004). Moreover, Murphy et al., (2011) found that subjects' positive and negative emotions predicted subsequent behavioral change over and above that predicted by transportation and identification with a main character. Differences in attitudes and behavioral changes relative to Murphy et al., (2011)'s findings prove it important to distinguish between transportation, character involvement, and emotions. Each was found to have a unique effect on behavioral and attitudinal change. Therefore, although character involvement, transportation and emotion are related, they are distinct constructs (Murphy et al., 2011), and it is important to investigate the unique outcomes relative to each. This is a way to further open the black box to find out what mechanisms are responsible for facilitating and/or impeding reactance in the context of narratives.

Hypotheses

As discussed above, the EORM states that narratives provoke psychological mechanisms such as character involvement, transportation, and/or emotional responses. Psychological mechanisms such as these have been shown to impede aspects of

reactance. For example, Moyer-Gusé & Nabi (2010) found character involvement to reduce counterarguing. However, it is unknown exactly which of these mechanisms is responsible for the reduction in reactance. That is, while each mechanism should help reduce perceived threat, it is unknown whether character involvement, transportation, and/or emotions are responsible for this reduction. Further, it is unknown whether each of these mechanisms contributes equally to the reduction of reactance.

Previous research has found character involvement, transportation, and emotions to each uniquely affect behaviors and attitudes. Therefore, the current work makes exclusive hypotheses for each mechanism. In the current work, each of these hypotheses is in the same direction since narrative persuasion literature has pointed to each of these mechanisms as responsible for persuasion. This project states that these mechanisms are indeed responsible for persuasion, and this process occurs through reducing antecedents of reactance (i.e., perceived threat), which is consistent with PRT. Therefore, this work proposes that higher levels of involvement, transportation, and/or emotional response (as a result of the narrative nature of the message) will result in lower levels of a perceived threat (hypotheses 1-3).

> H1: There will be a negative relationship between involvement and perceived threat to freedom such that those who experience greater character involvement will have lower levels of perceived threat to freedom.
>
> H2: There will be a negative relationship between transportation and perceived threat to freedom such that those who experience more transportation will have lower perceived threat to freedom.

H3: There will be a negative relationship between emotion and perceived threat to freedom such that those who experience more emotion will have lower levels of perceived threat to freedom.

Based on previous literature, it is expected that perceived threat will have a positive relationship with reactance. As such, those who have greater levels of perceived threat to freedom will also have greater levels of reactance (hypothesis 4). However, this process is moderated by reactance proneness. That is, those who are high in the trait of reactance proneness and experience a perceived threat are likely to have the highest levels of reactance. Conversely, those who are low in reactance proneness and have little or no perceived threat will be the least likely to experience reactance. Finally, according to PRT, reactance leads freedom restoration. In this study, freedom restoration is measured by participants' attitudes and behavioral intentions, or the degree to which individuals are *persuaded* by the message. Individuals who indicate that their attitudes and behavioral intentions are aligned with what is advocated in the message, have *higher* scores of persuasion. On the other hand, those who hold attitudes and whose behavioral intentions are counter to that advocated in the message are less persuaded by the message. Therefore, there will be a negative relationship between reactance and attitudes and behavioral intentions that are promoted in the story (persuasion). Higher levels of reactance will correspond to lower levels of persuasion. Stated formally:

H4: There will be a positive relationship between perceived threat to freedom and reactance such that those with higher perceived threat to freedom will also have greater

reactance.

H5: Reactance proneness will moderate the effect of perceived threat on reactance, such

that individuals who have high perceived threat and are high in reactance

proneness will be significantly more likely to experience reactance than those

who are high in perceived threat but low in reactance proneness.

H6: Greater reactance will lead to lower levels of persuasion.
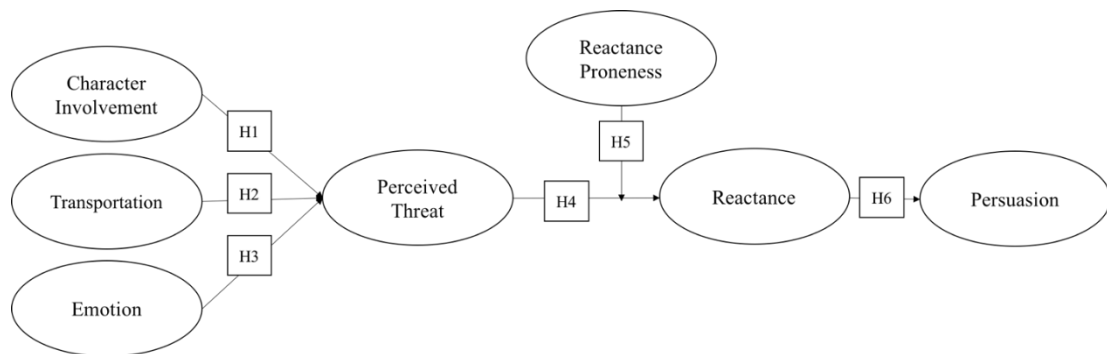
Figure 1: The overall proposed model

CHAPTER 2: Method

First Pilot Test

Introduction

Originally, a 3 x 3 between-subject experiment was proposed, in which subjects

were randomly assigned to a condition. It was first thought that three narratives would be

created with the intention of manipulating the three psychological processes. One

narrative would evoke high character involvement, transportation, and emotion; one

would evoke moderate character involvement, transportation, and emotion; and the last, a

non-narrative, would evoke low character involvement, transportation, and emotion.

Subjects in the different conditions would then be compared on the outcome variables

(perceived threat, reactance and persuasion).

Method

A three-condition experiment was proposed: a narrative with a persuasive

message that was tied to the storyline; a narrative with a persuasive message that was not

tied to the greater storyline; and a non-narrative condition. The narrative containing a

persuasive message that was tied to storyline was intended to provoke high levels of

character involvement, transportation, and emotion. The narrative in which the persuasive

message was not tied to the storyline was intended to provoke moderate levels of the

three psychological mechanisms. Finally, the non-narrative was intended to provoke the

lowest levels of the three psychological mechanisms.

In order to establish that these conditions evoked high, moderate and low levels of

the three psychological mechanisms of character involvement, transportation, and

emotion, an initial pilot test consisting of three stimuli was created. The first stimulus

consisted of a narrative in which a group of girls were on spring break at the beach and

the persuasive message was about sunscreen. This message was connected to the

storyline, and was intended to evoke the highest levels of character involvement,

transportation, and emotion. The second stimulus was a narrative about several girls

going out for a night on the town when they came across a billboard about the importance

of sunscreen use. This billboard had nothing to do with the storyline. This condition was

intended to evoke moderate levels of character involvement, transportation, and emotion.

The third stimulus was a non-narrative informational piece about skin cancer. This was

intended to evoke the lowest amount of character involvement, transportation, and

emotion, and was the control condition.

All participants in the first pilot test ($N = 222$) read all three stimuli and answered

various questions about their thoughts and feelings after reading each message. The order

in which they read each was random. Next, a brief description of the measures from the

first pilot test are offered. The scales for all measured variables in both pilot tests and

main study are discussed in greater detail in the main study[1].

Measures

Character Involvement

Character involvement combined measures of character liking; perceived

similarity to characters; parasocial interactions; and wishful identification. Questions

were on a 10-point Likert scale ranging from "not at all" to "a great deal." Participants

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[1] Questionnaires from the first pilot test, second pilot test, and main study are available in appendices A through C.

were asked to indicate the degree to which they liked, felt similar to, felt like they knew, and wished to be like various characters. Character involvement was only measured for the two narratives, as it was irrelevant for the non-narrative condition.

Transportation

Questions were based on Green and Brocks' (2002) Transportation Scale. They included, "I could easily picture the events in the narrative taking place;" "While I was reading the message, activity going on in the room around me was on my mind" (reverse coded); "I could picture myself in the scene of the events portrayed in the message;" "I was mentally involved in the story while reading," "After finishing the story, I found it easy to put it out of my mind" (reverse coded); "I wanted to learn how the story ended;" "The message affected me emotionally;" "I found myself thinking of ways the story could have turned out differently;" "The events in the story are relevant to my everyday life;" and "The events in the story have changed my life;" All items were based on a 7-point scale ranging from "not at all" (1) to "a great deal" (7).

Emotion

Five discrete emotions of fear, disgust, sadness, happiness, and surprise were measured using a 10-point Likert scale ("none of this" to "very much") (Murphy et al., 2013; Nabi, 2002). Higher scores indicate greater levels of emotion.

Results

Clean distinctions of high, moderate, and low levels of the three mechanisms were not established. The two narratives evoked the intended amount of character involvement ($M_{\text{narrative unconnected persuasive message}} = 4.10$; $M_{\text{narrative connected persuasive message}} = 4.43$). Further,

the stimuli successfully evoked the intended levels of transportation ($M_{\text{non-narrative}} = 3.78$;

$M_{\text{narrative unconnected persuasive message}} = 3.92$; $M_{\text{narrative connected persuasive message}} = 4.10$). However,

the levels of emotion did not follow that which was intended ($M_{\text{non-narrative}} = 3.59$; M

$_{\text{narrative unconnected persuasive message}} = 3.18$; $M_{\text{narrative connected persuasive message}} = 3.50$). Taken

together, the three levels of the psychological mechanisms were not established. That is,

the narratives did not produce clean divisions of high, moderate, and low levels of

emotion.

Second Pilot Test

Introduction

Since clean divisions of the three psychological mechanisms were not established

in the first pilot test, it was advised that the study be altered. Instead of conducting a 3 X

3 experiment, it was recommended that the study consist of one narrative, and

participants would naturally vary in their levels of character involvement, transportation,

and emotion. Then, the measured variables would be compared across all participants.

Thus, high, moderate, and low levels of each mechanism could still be compared in order

to answer the hypotheses.

Method

A second pilot study was conducted to ensure the narrative, which, like the

narratives in the first pilot test, was an original piece created for the purpose of this

dissertation, offered variation among individuals in terms of the three psychological

mechanisms; rating of the story (further explained below), perceived persuasiveness of

story, and reactance. The participants ($N = 85$) read a narrative (the same narrative used

in the first pilot test) in which the persuasive message was connected to the greater

storyline. They then answered a series of questions, were thanked for their participation and dismissed.

Measures

Character involvement

The same measures of character involvement from the first pilot test were used in the second pilot tests. Again, this measure combined character liking, perceived similarity to characters, parasocial interactions, and wishful identification on a 10-point Likert scale ranging from "not at all" to "a great deal." Participants were asked to indicate the degree to which they liked, felt similar to, felt like they knew, and wished to be like various characters.

Transportation

For reasons discussed below, the measure of transportation was altered from the first pilot test. Items in the second pilot test measuring transportation included, "I wanted to learn how the narrative ended;" "The narrative affected me emotionally;" "I found myself thinking of ways the narrative could have turned out differently;" "I forgot about the world around me while reading the narrative;" "While I was reading the narrative, I could easily picture the events in it taking place;" "I could picture myself in scenes of the events portrayed in the narrative;" "I was mentally involved in the narrative while reading it;" "I felt moved by the narrative;" "I found my mind wandering while reading the narrative" (reversed coded); and "The events in the narrative are relevant to my everyday life." All items were measured on a 7-point scale in which 7 indicated "a great deal" and 1 indicated "not at all."

Emotion

The same discrete emotions (fear, disgust, sadness, happiness, and surprise) from the first pilot test were used again. Each was measured on a 10-point Likert scale ("none of this" to "very much") (Murphy et al., 2013; Nabi, 2002). Higher scores indicate greater levels of emotion.

Rating of the story

It was important to establish that participants had a relatively favorable rating of the story. Therefore, participants were asked to indicate the degree to which they found the story enjoyable, entertaining, interesting, likeable, and informative. Each measure was on a 7-point Likert scale in which 1 indicated "not at all" and 7 indicated "a great deal."

Reactance

In order to ensure that the narrative elicited good variability in terms of reactance, closed-ended measures of the reactance measure were used. The items asked participants to indicate the degree to which they felt irritated, angry, annoyed, and aggravated while reading the story. This was based on a 5-point Likert scale ranging from 1 "none of this feeling" to 5 "a great deal of this feeling" (Dillard & Shen, 2005).

Perceived Persuasive Intent

Perceived persuasive intent was also measured on a 7-point scale. Questions asked participants the degree to which they agreed/disagreed that the story was created to (a) persuade; (b) entertain (reverse coded); (c) influence behaviors; (d) raise awareness about health behaviors; and (e) alter readers' behaviors).

Results

The variability of character involvement, transportation, emotion, reactance, and perceived persuasive intent was investigated and established (character involvement (10-point scale; $M = 5.48$, $SD = 1.94$), transportation (7-point scale; $M = 4.44$, $SD = 1.05$), and emotion (10-point scale; $M = 4.27$, $SD = 1.48$)). Furthermore, there was a lot of variability with the rating of the story (7-point scale; $M = 4.28$, $SD = 1.47$). Close-ended measures of reactance confirmed

the story evoked a good variation of reactance between participants (5-point scale; $M = 2.22$, $SD = 1.07$). There was also good variability in terms of perceived persuasiveness (7-point scale; $M = 5.08$, $SD = .90$). In all, this pilot test study confirmed the narrative to be acceptable for use in the main study (Table 1).

Table 1
Descriptive statistics for the second pilot study

	N	Minimum	Maximum	Mean	Std. Deviation
Character Involvement	85	1.50	10.00	5.48	1.94
Transportation	85	1.60	6.40	4.44	1.05
Emotion	85	1.20	8.60	4.27	1.48
Rating of Story	85	1.00	7.00	4.28	1.47
Reactance (close-ended)	85	1.00	5.00	2.22	1.07
Persuasion	85	2.40	6.80	5.08	.90

Factor Analysis of the Transportation Scale

Additionally, the two pilot tests were used to establish that the transportation scale used is reliable. This scale in particular has historically been problematic (Green, Brock, and Kaufman, 2004; Slater, 2002). The first pilot test showed that three factors emerged from the transportation scale. The first included, "I wanted to learn how the story ended;"

"the message affected me emotionally;" "I found myself thinking of ways the story could have turned out differently;" and "the events in the story were relevant to my everyday life;" The second factor included "while I was reading the narrative, I could easily picture the events in it taking place;" "I could picture myself in scenes of the events portrayed in the narrative;" and "I was mentally involved in the narrative while reading it;" The third factor included two questions with low factor loadings. These items were "while I was reading the message, activity going on in the room around me was on my mind" (.32) and "after finishing the story, I found it easy to put it out of mind" (.4). Therefore, these two questions were eliminated in the second pilot study. Additionally, "the events in the narrative have changed my life" had a low factor loading of .24 and was also eliminated from the scale in the second pilot study. "I forgot about the world around me while reading the narrative;" "I felt moved by the narrative;" and "I found my mind wandering while reading the narrative" (reverse coded) were added to the transportation scale in the second pilot study.

A second factor analysis of the transportation scale was conducted with data from the second pilot test. Three factors emerged from this analysis as well. The first factor included "I wanted to learn how the narrative ended;" "the narrative affected me emotionally;" "I found myself thinking of ways the narrative could have turned out differently;" and "I forgot about the world around me while reading the narrative." The last question, "I forgot about the world around me while reading the narrative" was a newly added item. The second factor included, "while I was reading the narrative, I could easily picture the events in it taking place;" "I could picture myself in scenes of the

events portrayed in the narrative;" "I was mentally involved in the narrative while reading it;" and the newly added item, "I felt moved by the narrative." The final factor included, "I found my mind wandering while reading the narrative;" (the new item which was reversed coded) and "the events in the narrative are relevant to my everyday life." The factors were nearly identical to the first study, however "the events in the narrative are relevant to my everyday life" loaded onto the third factor in the second study, whereas this item loaded onto the first factor in the first study.

The factor analysis for transportation in the main study showed similar findings from the previous factor analyses. Three factors emerged for this variable, the first factor included, "I wanted to learn how the narrative ended;" "I found myself thinking of ways the narrative could have turned out differently;" "I forgot about the world around me while reading the narrative;" "I could picture myself in scenes of the events portrayed in the narrative;" (this was in the second factor in the second pilot study); and "I was mentally involved in the narrative while reading it" (this was also in the second factor in the second pilot study). The second factor included, "The narrative affected me emotionally" (previously on the first factor); "while I was reading the narrative, I could easily picture the events in it taking place;" and "I felt moved by the narrative." The final factor consisted of, "the events in the narrative are relevant to my everyday life;" and "I found my mind wandering while reading the narrative." Since these items had consistently high factor loadings, the scale and items were used in the final analyses.

Main Study

Participants and Procedures

Participants ($N = 302$) for this work were undergraduate students (72.3% female) between the ages of 17 and 28 ($M = 19.81$, $SD = 1.66$) enrolled in a subject pool at a large Midwestern university. These individuals received extra credit for their participation. According to the CDC (2012), indoor tanning is most common among white women ages 18–25 years, who live in the Midwest (44%). Therefore, the sample in this study fit the criteria of those who tan, making the narrative relevant to the majority of the audience.

All data were collected in October of 2015 (the first pilot test) through May of 2016 (main study). The pretest, stimuli, and post-test were all distributed to participants via the personal computer in the program Qualtrics and took approximately 45 minutes to complete. Subjects took all parts of study from the comfort of their own homes.

First, subjects completed a pretest in which they were asked to indicate potential risk factors, thoughts, beliefs and knowledge relative to skin cancer. The same questions were asked about heart disease and lung cancer in order to conceal the health issue of skin cancer in the main study. Subjects also answered demographic questions and questions that measured reactance proneness.

A week after the pretest closed, participants were emailed a link with instructions to read and a follow-up questionnaire to complete. Of the original group of participants, 281 (93%) completed the second phase of the study. However, of these individuals, 244 (about 81% of the original sample) completed the post-test in its entirety. All analyses were conducted using data from these 244 individuals.

Stimulus

The follow-up portion asked participants to read a short story that was about several college girls going on spring break (Appendix C). In the narrative, the mother of one of the girls is currently undergoing treatment for skin cancer. While on spring break, another character finds out that her mother has a suspicious mole. Among other discussions, the characters discuss the importance of using and reapplying sunscreen with a high SPF and avoiding tanning beds. One of the characters is criticized for using a tanning bed in preparation for spring break. After reading the narrative, subjects answered a series of questions pertaining to their thoughts, feelings, and reactions about the story and the story's characters. Participants also answered questions about their attitudes and behavioral intentions directed towards the use of sunscreen and tanning beds. Finally, subjects were thanked for their participation.

Measures
Independent Variables

Character Involvement was measured in accordance to Murphy et al.'s (2011, 2013) work. Character involvement included measures of character liking, perceived similarity to characters, parasocial interactions (Rubin & Perse, 1987), and wishful identification. Questions were on a 10-point Likert scale ranging from "not at all" to "a great deal" ($M = 5.5$, $SD = 1.82$, Cronbach's $\alpha = .74$). Participants were asked to indicate the degree to which they liked, felt similar to, felt like they knew, and wished to be like various characters. A brief description of the character was included in the question to help participants distinguish the characters. For example, participants were asked, "How much do you like Jen, the girl who went tanning?" and "How much do you feel like you

wish to be like Jess, the girl whose mother has to have a biopsy on a suspicious mole?" However, only responses regarding viewers' involvement with the lead character in the story, Jess, were used in this analysis. This is consistent with Murphy et al.'s work.

Transportation was adopted from Green & Brocks' (2002) scale. Questions included, "while I was reading the narrative, I could easily picture the events in it taking place;" "I found my mind wandering while reading the narrative" (reverse coded); and "I was mentally involved in the narrative while reading it." In addition, these statements, "I forgot about the world around me while reading the narrative" and "I felt moved by the narrative" were added to the scale after pilot tests indicated that these statements improved the reliability of the scale (from Cronbach's α = .67 to Cronbach's α = .88). Furthermore, a factor analysis indicated that "while I was reading the narrative, activity going on in the room around me was on my mind;" "I could picture myself in the scene of the events described in the narrative;" "after finishing the narrative, I found it easy to put out of mind;" and "the events in the narrative have changed my life;" did not load onto the scale. Therefore, these items were dropped. The final scale consisted of 10 items on a 7-point scale in which 1 indicated participants strongly disagreed with the statement and 7 indicated participants strongly agreed with the statements. These items were: "While I was reading the message, I could easily picture the events in it taking place;" "I was mentally involved in the narrative while reading it;" "I forgot about the world around me while reading the narrative;" "I wanted to learn how the narrative ended;" "(t)he narrative affected me emotionally;" " I found myself thinking of ways the narrative could have turned out differently;" "I could picture myself in scenes of the

events portrayed in the narrative;" "I found my mind wandering while reading the narrative" (reverse coded); "The events in the story are relevant to my everyday life;" and "I felt moved by the narrative." These items had adequate internal consistency ($M = 4.40$, $SD = 1.14$, Cronbach's α = .88).

     Emotions. Five discrete emotions were measured using a 10-point Likert scale ("none of this" to "very much") adopted from Murphy et al. (2013) and Nabi (2002). This assessed the degree to which the subject felt fear, disgust, sadness, happiness, and surprise while reading the message (Murphy, et al., 2013; Nabi, 2002). As stated above, both positive and negative cognitions have been shown to increase a message's persuasive power (Nabi, 2002). Therefore, scores on fear, disgust, sadness, happiness, and surprise were added together and divided by five to calculate a score of emotion ($M = 4.26$, $SD = 1.35$, Cronbach's α = .67). Higher scores indicate greater levels of emotion.

Moderating Variable

     Reactance proneness was assessed using Hong and colleagues (1992; Hong & Faedda, 1996)'s 11-item scale. Items included, "I become frustrated when I am unable to make free and independent decisions," "I find contradicting others stimulating," and "I consider advice from others to be an intrusion" ($M = 2.97$, $SD = .46$, Cronbach's α = .72).

Mediating Variables

     Perceived threat is a theoretically essential variable to measure according to Quick and colleagues and others (e.g., Dillard & Shen, 2005). This is necessary to study narrative persuasion as a two-step mediated process (Quick et al., 2013). This is similar

to the variable that has been called "perceived persuasive intent" in narrative literature. Several scholars (e.g., Dillard & Shen, 2005; Quick & Stephenson, 2007) have demonstrated that an induction check is a reliable and valid measure of one's perceived threat to freedom (the first step in the mediated two-step process). This scale consists of four items. These four items asked participants to indicate on a scale of 1 (strongly disagree) to 5 (strongly agree) the degree to which they felt that, "the message threatened my freedom to choose;" "the message tried to make a decision for me;" "the message tried to manipulate me;" and "the message tried to pressure me." These items were added together and divided by four to create an average score. The average score on these four items thus made up *perceived threat* ($M = 3.6$, $SD = .88$, Cronbach's $\alpha = .78$).

Reactance, according to Dillard & Shen (2005) and confirmed by others (e.g., Quick & Stephenson, 2007; 2008; Rains & Turner, 2007), is a composite of anger and negative cognitions. It is the combination of *both* anger and negative cognitions that accurately assesses reactance; therefore, a measure of both was necessary for the current study. The first aspect of reactance, anger, was assessed using the same technique as Dillard and Shen (2005). This consisted of a 5-point scale (1 = "none of this feeling," 5 = "a great deal of this feeling") asking the degree to which participants felt irritated, angry, annoyed, and aggravated after reading the stimuli ($M = 2.10$, $SD = .90$, Cronbach's $\alpha = .87$).

The second aspect of reactance, negative cognition, was also assessed according to Dillard and Shen (2005). That is, directly after reading the narrative, participants were asked to list their thoughts and write down whatever was on their minds. Dillard and

Shen (2005) had independent coders distinguish each respondent's unique thoughts.

However, respondents were asked to write each distinct thought on a separate line – thus,

completing this step on their own. These open-ended responses were then coded by two

independent coders in a three-step process. First, the coders were asked to identify

affective responses. Each coder was given a list of emotions compiled by Shaver et al.

(1987)[2]. This was to act as a guideline for coders to identify various emotions. If a

respondent's thought included an affective component according to Shaver et al. (1987),

this thought was deleted. Next, coders identified thoughts as relevant or irrelevant to the

message at hand. Any thoughts that were irrelevant to the message were not included in

the analysis. Lastly, the coders categorized the thoughts as supportive (in agreement with

the advocated message); opposing (against the position that was advocated in the

message); or neutral (neither completely supportive nor completely against that which

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[2] Shaver et al. (1987)'s list of emotions includes liking, affection, adoration, fondness, liking, attractiveness, caring, tenderness, compassion, sentimentality, lust/sexual desire, passion, infatuation, longing, joy, cheerfulness, amusement, bliss, gaiety, glee, jolliness, joviality, joy, delight, enjoyment, gladness, happiness, jubilation, elation, satisfaction, ecstasy, euphoria, zest, enthusiasm, zeal, excitement, thrill, exhilaration, contentment, pleasure, pride, triumph, optimism, eagerness, hope, enthrallment, rapture, relief, surprise, amazement, astonishment, anger, irritability, aggravation, agitation, annoyance, grouchy, grumpy, crosspatch, exasperation, frustration, rage, anger, outrage, fury, wrath, hostility, ferocity, bitterness, hatred, scorn, spite, vengefulness, dislike, resentment, disgust, revulsion, contempt, loathing, envy, jealousy, torment, agony, anguish, hurt, sadness, depression, despair, gloom, glumness, unhappiness, grief, sorrow, woe, misery, melancholy, disappointment, dismay, displeasure, shame, guilt, regret, remorse, neglect, alienation, defeatism, dejection, embarrassment, homesickness, humiliation, insecurity, insult, isolation, loneliness, rejection, sympathy, pity, mono no aware, fear, horror, alarm, shock, fear, fright, horror, terror, panic, hysteria, mortification, nervousness, anxiety, suspense, uneasiness, apprehension, worry, distress, and dread

was advocated in the message). From this, the coders added the number of relevant, opposing cognitions for each respondent (M = .83, SD = 1.38).

To ensure intercoder reliability, coders were briefed on how to code, worked together to code examples from five subjects, and asked to each code responses from 25 subjects independently. From this, good intercoder reliability was established (affect κ = .63, relevant thoughts κ = .90, valence of thoughts κ = .70). The total number of negative cognitions (the total number of negative thoughts about the advocated message) was then used as the cognitive aspect of the state reactance measure. Examples of negative thoughts include: "this story seems like propaganda by a sunscreen company - or some concerned people;" "cliché;" "Seems pretty charged. There was definitely an agenda;" and "overdone – sunscreen is important, but not *that* big a deal;"

Since the scales for anger and negative cognitions were based on different units (one on a 5-point scale; and the other as a ratio) the two items were standardized. That is, each score of anger was subtracted from the mean (M = *2*.10) and then divided by the standard deviation (SD = .90). Likewise, each thought listing score was subtracted from the mean of this variable (M = .83) and divided by the standard deviation (SD = 1.38). In standardizing the data, the variable then has a mean of zero and a standard deviation of one. However, the overall shape of distribution is unaffected by this process. Through this process, it was possible to combine the measures of anger and negative thoughts. "One of the most useful applications of standardization is the aggregation of measurement of variables, each of which may be measured differently, into a single measurement…[s]tandardization puts the measurements on the same scale – a scale with

a mean of zero and a standard deviation of one, and the unit of measurement is therefore the same" (Hayes, 2005, p. 62-63). Next, the standardized scales were added together to create the variable of state reactance ($M = .0028$, $SD = 1.66$). There was a weak albeit positive correlation between the two variables ($r = .3$, $p \leq .001$) and this scale was found to be reliable ($\alpha = .77$).

Dependent Variable

Persuasion was assessed using attitudinal and behavioral intention measures. *Attitudes* toward the advocated massage were measured using several seven-point semantic differential items asking participants the degree to which they believed the advocated behavior (using sunscreen) was bad/good; foolish/wise; unfavorable/favorable; negative/positive; undesirable/desirable; detrimental/beneficial (Dillard & Shen, 2005) ($M = 6.32$, $SD = 1.02$, Cronbach's $\alpha = .88$).

*Behavioral intention*s are the most effective measures that can be used to predict behavior (Fishbein & Ajzen, 2010). Therefore, behavioral intentions were assessed using three items ("I intend to always wear sunscreen;" "I intend to discuss using sunscreen with my friends;" and "I intend to encourage my friends to wear sunscreen") on a scale ranging from 1 (very unlikely) to 7 (very likely) (Fishbein & Ajzen, 1975; Yzer, Fisher, Bakker, Siero, Misovich, 1998). Participants' ratings on these three items were added together to create a score of behavioral intentions ($M = 4.25$, $SD = 1.55$, Cronbach's $\alpha = .83$).

The mean for the measure of attitudes is very high. Therefore, a ceiling effect is possible in that there is very little difference amongst participants' attitudes towards the

use of sunscreen. However, the scores of *attitude* and *behavioral intentions* were added together and then divided by two in order to calculate *persuasion* ($M = 5.26$, $SD = 1.15$). Therefore, unlike the measure of attitudes, there is less of a concern of a ceiling effect for persuasion. The scales for attitudes and behavioral intentions were not standardized since both were measured on a 1 to 7 scale. Attitude and behavioral intentions were moderately correlated ($r = .31$, $p < .01$). Attitude was only correlated with transportation ($r = .18$, $p < .05$). This correlation was weak. Behavioral intentions were also weakly correlated with transportation ($r = .16$, $p < .01$). In addition, behavioral intentions were correlated with character involvement ($r = .14$, $p < .05$), emotions ($r = .14$, $p < .01$), and perceived threat ($r = -.16$, $p < .05$). While behavioral intentions are correlated with more measures than attitudes, all of the correlations are weak.

CHAPTER 3: Results
Analyses

In order to answer whether or not character involvement (H1), transportation

(H2), and emotion (H3) had a negative relationship with perceived threat (such that

greater levels of character involvement, transportation, and/or emotions predicted lower

levels of perceived threat to freedom), a series of regression analyses were conducted.

The effect of each psychological mechanisms was first individually regressed against

perceived threat. Additionally, the three psychological mechanisms were simultaneously

regressed against perceived threat. In this way, the most basic relationships among the

variables were investigated. That is, the individual contributions of each mechanism on

perceived threat were first examined. Next, the combined influence of these mechanisms

was analyzed to gain a more complete picture of the relationship between the

psychological mechanisms and perceived threat. Moreover, this process answered

whether or not one of the mechanisms takes precedence over another in the process of

narrative persuasion. In doing so, the relationship among the related yet distinct

psychological mechanisms on perceived threat was investigated. The results of these

regression models are shown in Tables 3 and 4.

Simple linear regression analyses were also conducted to test the fourth and sixth

hypotheses. That is, a regression analyses tested whether or not those who experienced

higher levels of perceived threat also experienced more reactance (H4). A final regression

analysis was used to test if those who experienced high levels of reactance were also less

persuaded by the message (H6).

A moderation analysis was conducted to test the fifth hypothesis, which predicted that reactance proneness would moderate the effect of perceived threat on reactance, such that individuals who had high perceived threat and were high in reactance proneness would be significantly more likely to experience reactance than those who were high in perceived threat but low in reactance proneness.

The overall model presented in Figure 1 was tested using two procedures. First, the moderated mediation model in which reactance mediates the relationship between perceived threat and persuasion, and reactance proneness moderates the effect of perceived threat on reactance, was assessed using the SPSS Macro, PROCESS (Hayes, 2013). Second, a SEM analyses was conducted via the software program AMOS, in order to test the overall model. Compared to the first technique, SEM allows the mediation hypotheses to be tested simultaneously in one single structural model and on the level of latent variables. The SEM analyses allowed for the inspection of concepts from both the narrative persuasion literature *and* concepts from PRT together, and tested the overall model.

This project looks at the relationships among the variables of interest from the most basic level, in a descriptive way. Then, the pieces of the overall model are investigated (i.e., the moderated mediation analysis). Lastly, the overall model is tested and altered to shed light on the way in which the psychological mechanism in narrative persuasion literature influences reactance and persuasion.

All significance test reported in this work were based on Type I error probability of .05. Furthermore, all means, standard deviations, and correlations for the measured

variables may be found in Table 2. As can be seen in Table 2, emotion had a mean of 4.22, which is rather low since it was based on a 10-point scale. Reactance was also low, with a mean of -.023 (this measure was standardized). Overall, while significant, the correlations among the variables were weak.

Table 2

Means, Standard deviations, and correlations amongst all variables

Measure[3]	Min.	Max.	Mean	SD	1.	2.	3.	4.	5.	6.	7.
1. Character Involvement	1.00	9.75	5.34	2.06	—						
2. Transportation	1.00	6.80	4.02	1.76	.16*	—					
3. Emotion	1.00	8.00	4.22	1.42	.32**	.22**	—				
4. Perceived Threat	1.00	4.75	2.08	0.97	.05	.02	.19**	—			
5. Reactance Proneness	1.82	4.18	3.00	0.50	.03	-.07	-.05	-.10	—		
6. Reactance	-1.71	6.46	-.023	1.57	-.12	-.13*	-,01	.15*	-.11	—	
7. Persuasion	1.00	7.00	5.26	1.15	.12	.19**	.08	-.15*	.01	-.13*	—

* Correlation is significant at the 0.05 level (2-tailed)

Hypotheses Tests

Hypotheses 1-3

It was important to first investigate the unique relationship of character involvement, transportation, and emotion on perceived threat. Therefore, the first three

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[3] Character Involvement is a 10-point scale: Transportation is a 7-point scale, Emotion is a 10-point scale; Perceived Threat is a 5-point scale; Reactance Proneness is a 5-point scale, Reactance is a combination of closed (7-point scale) and open-ended measures; persuasion is a 7-point scale.

hypotheses were initially tested using simple linear regression analyses. This was to examine the individual relationship of each psychological mechanism, alone, on perceived threat. The first hypothesis states that there "will be a negative relationship between character involvement and perceived threat to freedom such that those who experience greater character involvement will have lower levels of perceived threat to freedom." To test this, a simple linear regression analysis was conducted in which character involvement predicted participants' perceived threat to freedom. This relationship was found to be non-significant (F (1, 242) = 0.58, β = .05, p = 0.45, R^2 = .00), and therefore the H1 was rejected. Likewise, a simple linear regression analysis was used to investigate H2. This revealed that like character involvement, transportation did not significantly predict participants' perceived threat to freedom (F (1, 242) = 0.12, β = .02, p = 0.73, R^2 = .00); therefore, H2 was also rejected. A third simple linear regression analysis was conducted to predict participants' perceived threat to freedom based on their emotions elicited from the narrative. This was found to be significant (F (1, 242) = 9.00, β = .18, p < .01, R^2 = .03) (See Figure 2 for all regression slopes). However, the direction of the relationship was in the opposite direction of that which was hypothesized. Therefore, H3 was also rejected.

Table 3
Regression analysis for character involvement, transportation and emotion on perceived threat

	b	SE	β	t	p	R²	Adjusted R²
Character Involvement	.02	.03	.05	.76	.45	.00	-.002
Transportation	.01	.04	.02	.12	.73	.00	-.004
Emotion	.13	.04	.18	3.0	.00**	.04	.03

b, unstandardized regression coefficient; SE, standard error; β, standardized regression coefficient; t, obtained t-value; p, probability; R2, proportion of variance explained, *, p ≤ 0.05; **, p ≤ 0.01, ***, p ≤ 0.001
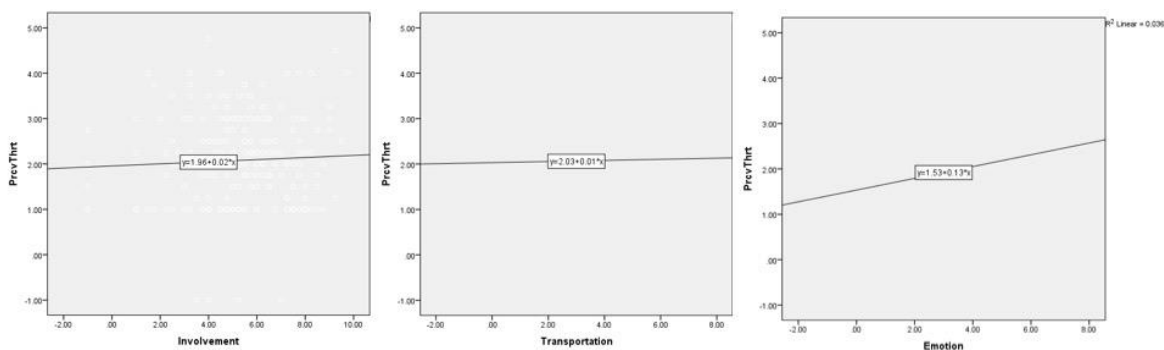
Figure 2: Regression Slopes for Hypotheses 1 – 3

Next, the first three hypotheses were tested simultaneously using multiple linear regression. This was done to see if the three psychological mechanisms of character involvement, transportation, and emotion together influenced perceived threat. As discussed above, each of these mechanisms is a unique construct but the constructs do overlap. Therefore, it was important to explore the influence of the three psychological mechanisms as a whole on perceived threat. This was calculated to predict participants' perceived threat to freedom based on character involvement, transportation, and emotion. Thus, character involvement, transportation, and emotion were entered into the regression equation, together, at the same time, predicting perceived threat. A significant regression equation was found (F (3, 240) = 3.02, $p < 0.05$, $R^2 = 0.04$). The analysis showed that

neither involvement nor transportation significantly predicted perceived

threat *(involvement*: β= -0.01, *t* (240) = -0.16, *p* = 0.87; *transportation*: β= -0.02, *t* (240)

= -0.02, *p* = 0.87). However, emotion significantly predicted participants' levels of

perceived threat *(β = -0.20, t (240) = 2.90, p = .004)* (See table 4).

Table 4
*Simultaneous regression analysis for character involvement, transportation and emotion
on perceived threat*

	b	SE	β	*t*	*p*	R^2	Adjusted R^2
Involvement	-.01	.03	-.01	-.16	.87		
Transportation	-.01	.04	-.02	-.31	.76		
Emotion	.14	.05	.20	2.90	.004**		
Overall Model	1.60	.24		6.60	.000***	.04	.02

b, unstandardized regression coefficient; SE, standard error; β, standardized regression coefficient; t, obtained t-value; p, probability; R^2, proportion of variance explained, *, $p \leq 0.05$; **, $p \leq 0.01$, ***, $p \leq 0.001$

After conducting and reviewing the results from both the simple linear and

simultaneous regressions, H1 and H2 can both be rejected. Involvement with the main

character did not significantly predict perceived threat. Likewise, transportation had an

insignificant effect on perceived threat in both analyses.

Upon conducting the regression analyses for the third hypothesis, emotional

involvement was a significant predictor of perceived threat; however, this relationship is

in the opposite direction of that proposed in H3. That is, greater emotional involvement

with the narrative led to greater levels of perceived threat (not lower levels of perceived

threat as H3 predicted). Therefore, H3 was also rejected.

Hypotheses 4-6

Next, a simple linear regression analysis was conducted to predict participants'

reactance based on their perceived threat to freedom. This was found to be significant

$(F (1, 242) = 5.25, \beta = .15, p < .05, R^2 = .021)$. Therefore, the fourth hypothesis, which

stated that higher levels of perceived threat to freedom will predict greater levels of

reactance, was supported.

The fifth hypothesis stated that reactance proneness would moderate the effect of

perceived threat on reactance, such that individuals who are high in reactance proneness

would be significantly more likely to experience reactance than those low in reactance

proneness. Hayes' (2013) PROCESS macro for SPSS was used to investigate reactance

proneness as a moderating variable. "PROCESS uses an ordinary least squares or logistic

regression-based path analytic framework for estimating direct and indirect effects in

single and multiple mediator models (parallel and serial), two and three way interactions

in moderation models along with simple slopes and regions of significance for probing

interactions, conditional indirect effects in moderated mediation models with a single or

multiple mediators and moderators, and indirect effects of interactions in mediated

moderation models also with a single or multiple mediators. Bootstrap and Monte Carlo

confidence intervals are implemented for inference about indirect effects, including

various measures of effect size" (Hayes, 2013, http://processmacro.org/index.html). The

program automatically mean centers both the independent variable and the moderator.

Therefore, perceived threat and reactance proneness were mean centered, and a new

variable, the product of these centered variables, was created. Mean centering decreases

multicollinearity between the interaction term and corresponding main effects. Kline

(2015) states, "centering tends to reduce – but not typically to eliminate – correlations

between product terms and constituent variables" (p. 331).

In addition, PROCESS uses bootstrapping, which consists of the computer using

the sample as a simulated population. The computer selects random cases and uses these

cases to replace others in order to generate a new set of data. "When repeated many times

(e.g., 1,000), bootstrapping simulates the drawing of numerous random samples from a

population" (Kline, 2015, p. 42). This technique gives a better estimation of what the true

population estimates should be, and can help overcome problems of non-normal and/or

small samples (Field, 2013, Hayes, 2005). For this project, PROCESS generated findings

based on 1,000 samples from the data.

A significant result for a model in which reactance proneness moderated the

relationship between perceived threat and reactance was found to be significant (F (3,

240) = 4.80, $p < .05$, $R^2 = .05$). This indicated that reactance proneness indeed moderated

the relationship between perceived threat and reactance such that those high ($\beta = .53$, t

(80) = 2.9, $p < .01$) in reactance proneness were significantly more likely to experience

reactance if they also had high levels of perceived threat. However, no such relationship

existed for those who were moderate ($\beta = .09$, t (79) = .57, $p = .57$) or low in reactance

proneness ($\beta = .082$, t (79) = .43, $p = .67$) (See Figure 3). This means that those who had

high levels of perceived threat and were high in reactance proneness showed significantly

more reactance than those who were moderate and low in reactance proneness. For those

with moderate or low levels of reactance proneness, perceived threat did not significantly

predict reactance (F 1, 161) = .42, β = .05, t = .64, p = .52, R^2 = .003). Therefore, support

was found for the fifth hypothesis. That is, reactance proneness moderated the

relationship between perceived threat and reactance, such that individuals who are high in

reactance proneness would be significantly more likely to experience reactance than

those low or moderate in reactance proneness.
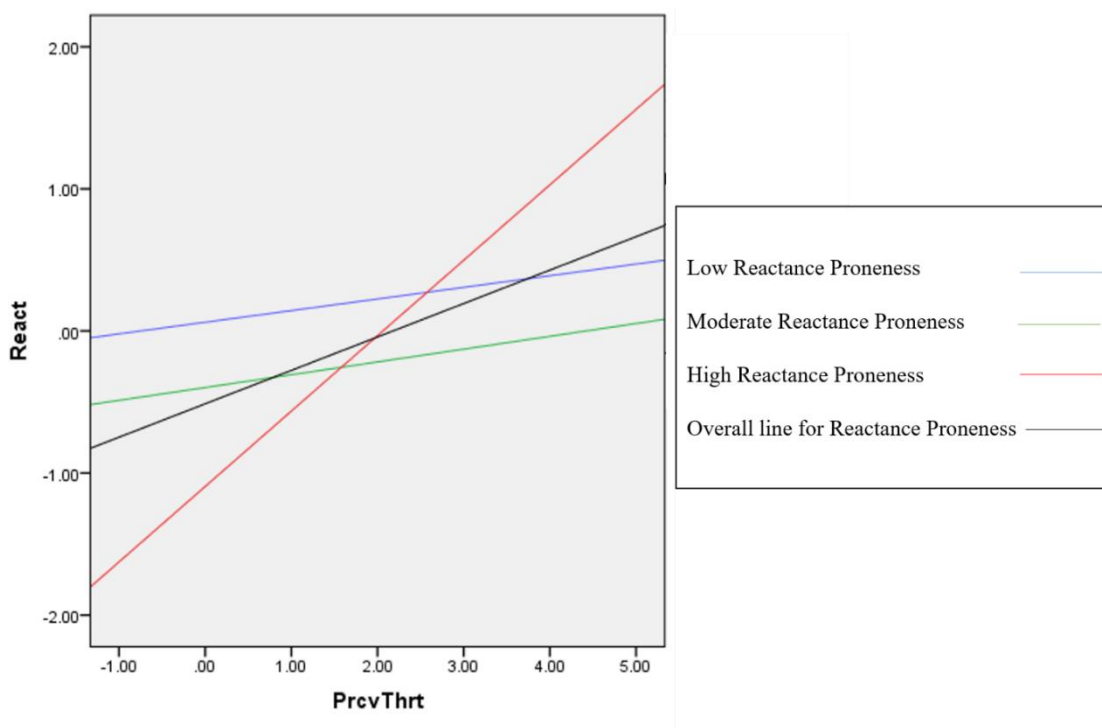
Figure 3: Reactance Proneness as a moderating variable

An additional linear regression analysis was conducted to test the sixth hypothesis

– that reactance predicts persuasion, or those who exhibit greater reactance will be less

persuaded by the message. This was found to be the case (F (1, 242) = 3.89, p = .05, R^2 =

.02). Indeed, greater reactance led to lower levels of persuasion (β = -.09, t (242) = -2.00,

$p = .05$). That is, those who experienced more reactance were less likely to change their attitudes and/or their behaviors after reading the story. Therefore, H6 was supported.

Reactance as a Mediator

It was sensible to investigate reactance as a mediator between perceived threat to freedom and persuasion since this pattern has been found in many PRT studies (e.g., Quick & Stephenson, 2008; Quick & Considine, 2008; Quick et al., 2013). Since there was an effect of the predictor (perceived threat) on the outcome variable (persuasion) (F (1, 242) = 5.90, β = -.15, $p = .02$, $R^2 = .02$), and there was an effect on the predictor (perceived threat) to the potential moderating variable (reactance) (confirmed in the fourth hypothesis; significant (F (1, 242) = 5.25, β = .15, $p < .05$, $R^2 = .021$)), it was necessary to look at the relationship between perceived threat and persuasion when reactance was added into the model and whether the addition of reactance weakened the relationship between perceived threat and persuasion. According to Baron and Kenny (1986) these three relationships are indicative of mediation.

However, the effect of perceived threat on persuasion did not disappear or become significantly weaker once reactance was added to the model (β = -.14, t (241) = -2.17, $p = .03$). Moreover, the Sobel test, which uses t-scores to determine if a reduction in the effect of the independent variable on the dependent variable is significant, was insignificant ($Z = -1.23$, $SE = .02$ $p = .22$, CI [-.06, .001]). The Sobel test is sensitive to sample size; therefore, even though the sample for this study was rather large, bootstrapping offered a better alternative (Preacher & Hayes, 2004; 2008). Thus, PROCESS (Hayes, 2013) was used. This program allowed for a more complete

breakdown of the relationship between the three concepts, and, as discussed above, this macro uses a bootstrap estimation approach with 1000 samples.

Results from the PROCESS macro confirmed that perceived threat was a significant predictor of reactance ($b = .24$, $SE = .11$, $p < .05$). However, using this macro, greater reactance did not significantly predict less persuasion ($b = -.08$, $SE = .05$, $p = .11$); and perceived threat was still a significant predictor of persuasion after controlling for reactance ($b = -.16$, $SE = .08$, $p = .04$). Results from this indicated that the indirect coefficient was not significant. In other words, there was not a significant indirect effect of perceived threat on persuasion through reactance ($ab = -.02$, BCa CI [-.05, .001]; $P_m = .10$) (Figure 4). Thus, the mediation analysis was insignificant, and contrary to work done by reactance scholars (e.g., Dillard & Shen), reactance did not mediate the effects of perceived threat on persuasion. The results relative to all of the hypotheses as well as the mediation analysis are presented in Figure 5.
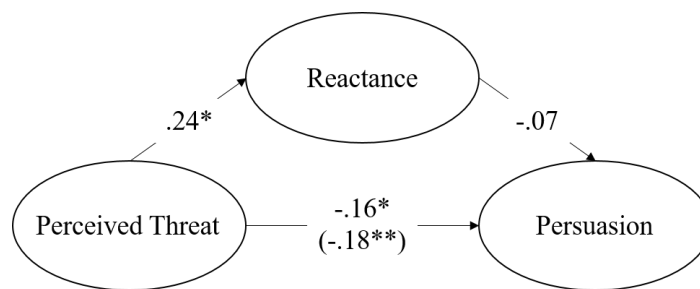
Figure 4: Standardized regression coefficients for the relationship between perceived threat, reactance, and persuasion Z = -.1.23, SE = .02, p = .22, CI [-.05, .001].
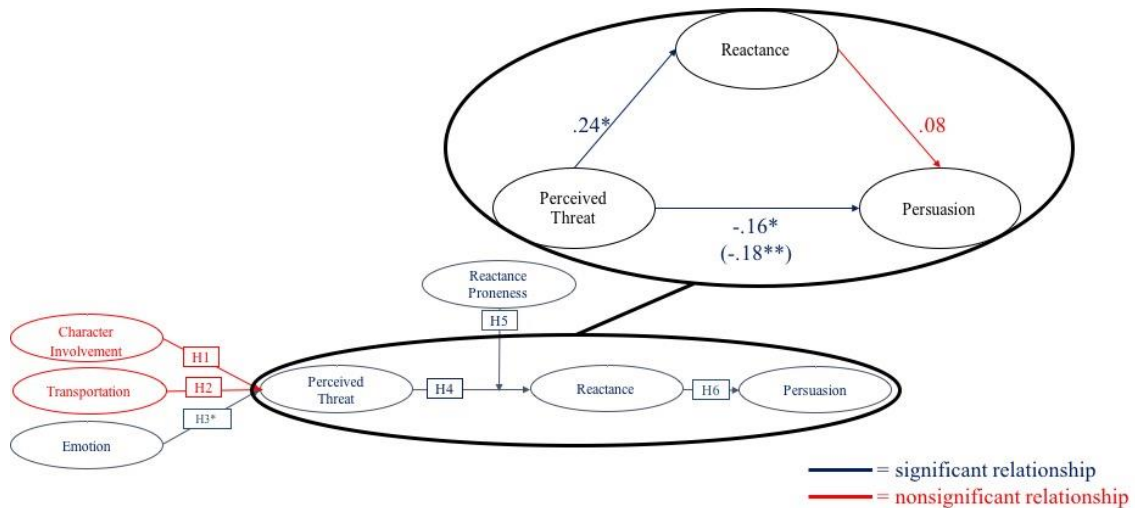
*H3 was rejected because the significant relationship was in the opposite direction of that hypothesized

Figure 5: Full model with overall results

SEM Analyses

Next, the overall proposed model was tested using structural equation modeling

(SEM). "SEM allows the evaluation of entire models, which brings a higher-level

perspective to the analysis…thus there is a sense in SEM that the view of the entire

landscape (the whole model) has precedence over that of specific details (individual

effects)" (Kline, 2015 p. 13). With this in mind, it was exceedingly important to look at

the model in its entirety which included both narrative persuasion as well as PRT

concepts. Therefore, SEM analyses were the best way to investigate the complete model,

and fully understand the relationships among the variables of interest.

The original model was altered several times based on estimations and

modification indices to create a good fitting model. The estimations indicate which path

coefficients are significant and which are not. A modification index estimates the amount

the overall model's χ^2 would decrease if a fixed-to-zero parameter was free (Kline,

2011). Higher modification indices indicate greater predictive power in the overall fit of

the model if the paths in which the indices identify were added. Importantly, the final model must be theoretically and empirically driven.

AMOS computer software program was used to conduct SEM in this project. The test statistics in SEM are goodness-of-fit statistics in which greater values correspond to worse fitting models, and, conversely, lower values correspond to better fitting models. "This means that a statistically significant result (e.g., $p < .05$) indicates problematic model-data correspondence" (Kline, p.193). For example, if a model's chi-square (χ^2) is equal to zero, the model is a perfect fit to the data (every covariance is the same as that which is suggested by the model). A larger χ^2 indicates a poor fitting model to the data.

However, χ^2 is not the only fit statistic needed to evaluate a model. "If χ^2 is not statistically significant, then the only thing that can be concluded is that the model is consistent with the covariance data, but whether the model is actually correct is unknown (Kline, p. 200). Other fit indexes widely reported in SEM literature include the root mean square error of approximation (RMSEA), the Goodness of Fit Index (GFI), and the Comparative Fit Index (CFI). Like χ^2, RMSEA is also a goodness-of-fit statistic in which zero indicates the data perfectly fit the model. This is a parsimony-corrected index, with its 90% confidence interval (Kline, 2011). MacCallum, Browne and Sugawara,1996) have used 0.01, 0.05, and 0.08 to indicate excellent, good, and mediocre fit, respectively. The RMSEA value decreases as the number of degrees of freedom and/or the sample size increase. Importantly, models with a small number of degrees of freedom and/or a small sample can have artificially large values of the RMSEA. Alternatively, the GFI statistic is "an absolute fit index" that is relatively impervious to model size. This statistic ranges

from 0 – 1.0, where 1.0 indicates a perfect fit. A value of .9 or higher indicates an

acceptable model fit (Baumgartner & Hombur, 1996). This statistic "estimates how much

better the researcher's model fits compared with no model at all" (Kline, p. 207). Last,

the CFI "is an incremental fit index that measures the relative improvement in the fit of

the researcher's model of that of a baseline model, typically the independence model"

(Kline, p. 208). This adjusts for issues of sample size. Again, a larger CFI indicates data

that fits the model well. A CFI value of .95 or higher is an indication of a good fit (Hu &

Bentler, 1999).

SEM Fit Statistic	Description
χ^2	Zero indicates a better fit to the model; lower numbers indicate a better fit
RMSEA	0.01 indicates an excellent model fit 0.05 indicates a good model fit 0.08 indicates a mediocre model fit
GFI	Ranges from 0 – 1.0, where 1.0 indicates a perfect fit .9 or higher indicates an acceptable model fit
CFI	.95 or higher indicates a good fit

Image 2: criteria for SEM fit statistics

First, the original model contained all of the theoretically proposed variables

(character involvement, transportation, emotion, perceived threat, reactance proneness,

reactance, and persuasion), and were arranged in agreement with the six proposed

hypotheses (see Figure 1). However, this was a poor fitting model (RMSEA = .071; GFI

= .97; CFI = .79; χ^2 = 26.56; df = 11; p = .005) (Figure 6a). That is, χ^2, p value, and CFI

statistics indicated a poor fitting model. In agreement with H1, the estimations indicated

that character involvement had an insignificant effect on perceived threat. Thus, the

regression weight from character involvement to perceived threat was set to zero. The

model was rerun, but this was also a poor fitting model (RMSEA = .07; GFI = .97; CFI =

.80; χ^2 = 26.66; df = 12; p = .009) (Figure 6b).

When an initial model does not fit the data, as is the case with this dissertation,

the model may be altered and tested again using the same data (Kline, 2011). "The goal

of this process is to 'discover' a model with three properties: It makes theoretical sense, it

is reasonably parsimonious, and its correspondence to the data is acceptably close"

(Kline, 2011, p. 8). By "discover," Kline meant that SEM analyses can be exploratory. If

alterations suggested by the computer program are theoretically driven, it is acceptable

for the researcher to alter the model based on the computer's recommendations. Since the

original model in the current work was not a good fit to the data, the original model went

through several rounds of modifications in order to unearth an acceptable model as

defined above by Kline (theoretically driven, parsimonious, and corresponds well with

the data).

Following the first point made by Kline, it was essential that any changes be

theoretically driven. The model indices indicated that if the second model were altered

such that transportation had a direct effect on persuasion, the χ^2 would fall by at least

8.21. Theoretically, this alteration made sense since Murphy et al. (2011) found that transportation had a direct effect on attitudes and behaviors (both of which made up the measure of persuasion in the current work). To Kline's second point, a model in which transportation had a direct effect on persuasion rather than perceived threat was equally as concise as the first and second proposed models. These suggestions gave evidence for further alterations of the model.

Therefore, a third and final model was constructed and rerun. In addition to the original model, this model included a regression weight from character involvement to perceived threat set at zero (the same as the second model) and a direct effect from transportation to persuasion. This model was a good fit according to the RMSEA, GFI, χ^2, and p-value (RMSEA = .05; GFI = .98; CFI = .90; χ^2 = 18.07; df = 11; p = .08). This final model met the goal of the process of SEM according to Kline. That is, the final model made theoretical sense, was parsimonious, and closely corresponded to the data (Figure 6c).
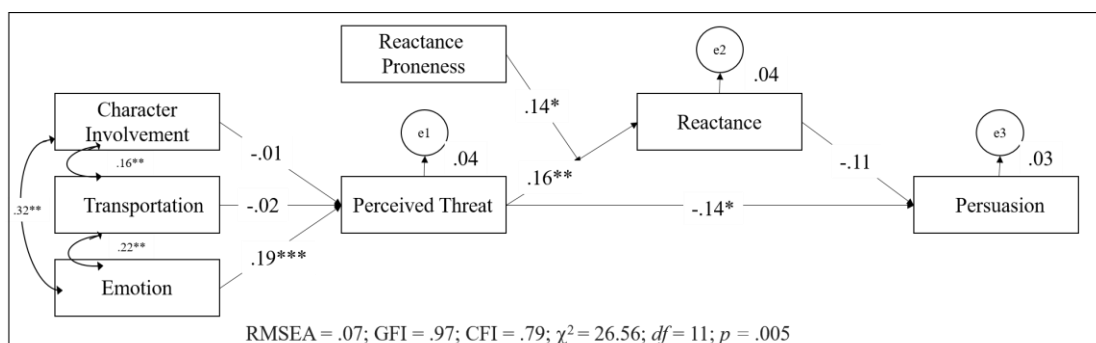
Figure 6a: Original structural equation model
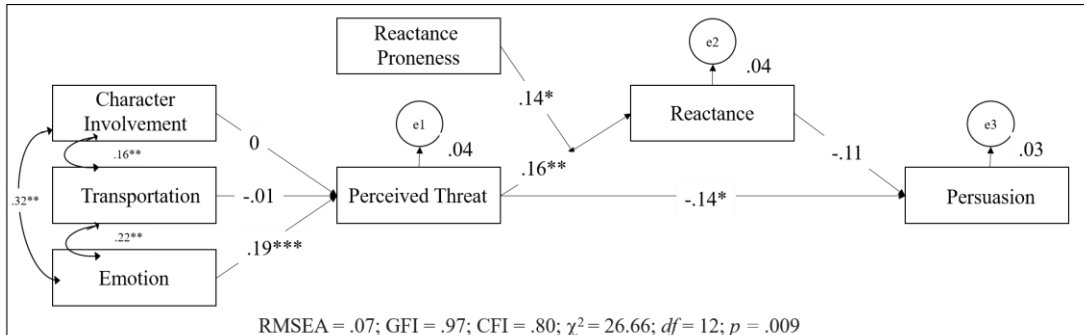
Figure 6b: SEM with character involvement set to zero
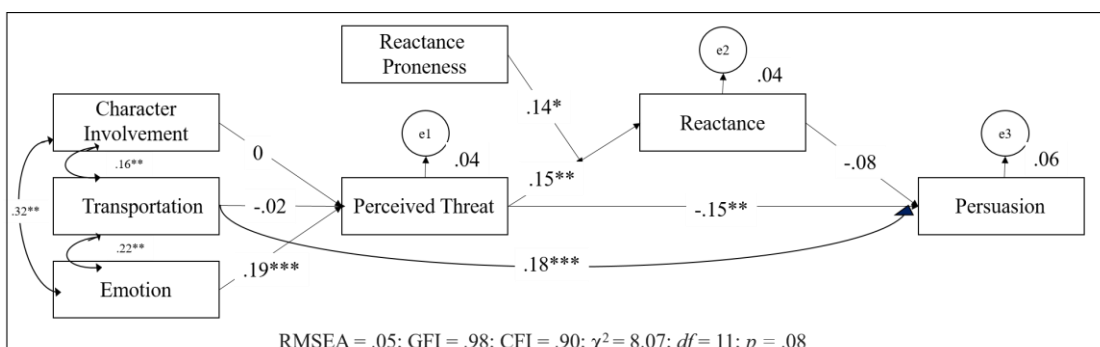
Figure 6c: SEM with character involvement set to zero and direct effect of transportation on persuasion.

Temporal Ordering of Psychological Mechanisms

Though not the main focus of the current dissertation, several narrative persuasion scholars have looked into the temporal order of character involvement, transportation, and emotion. According to some, identification may precede, follow, or occur simultaneously with experiences of transportation (Bilandzic and Busselle, 2006). However, Murphy et al. (2011) looked at the sequential order of involvement, transportation, and emotion, and found that involvement worked through emotion and transportation to change knowledge, attitudes, and behavior. Therefore, an additional set

of SEM analyses were conducted to look at the temporal order of the three psychological
mechanisms.

In keeping with Murphy et al. (2011)'s findings, a new SEM model was created in
which involvement predicted transportation, which then predicted emotions. Emotions
then predicted perceived threat. Perceived threat predicted reactance, which predicted
persuasion. Additionally, the findings from the current work indicated that transportation
directly predicted persuasion. Therefore, this model also included a direct path from
transportation to persuasion. This model was found to be a poor fit to the data (RMSEA =
.09; GFI = .96; CFI = .63; χ^2 = 40.33; df = 13; $p < .0001$) (Figure 7a). According to the
modification indices, in addition to predicting transportation, involvement predicted
emotions. Since this SEM analyses was mostly exploratory, a path from involvement to
emotions was added and the model was rerun. This model was a good fit to the data
(RMSEA = .05; GFI = .98; CFI = .92; χ^2 = 18,18; df = 12; $p = .11$) (Figure 7b). Unlike
the model that was originally proposed, it seems that there is a temporal order among the
three psychological mechanisms of character involvement, transportation, and emotion
such that character involvement works through both transportation and emotion to predict
perceived threat. Transportation also directly influences persuasion. Perceived threat then
predicts reactance, which predicts persuasion.
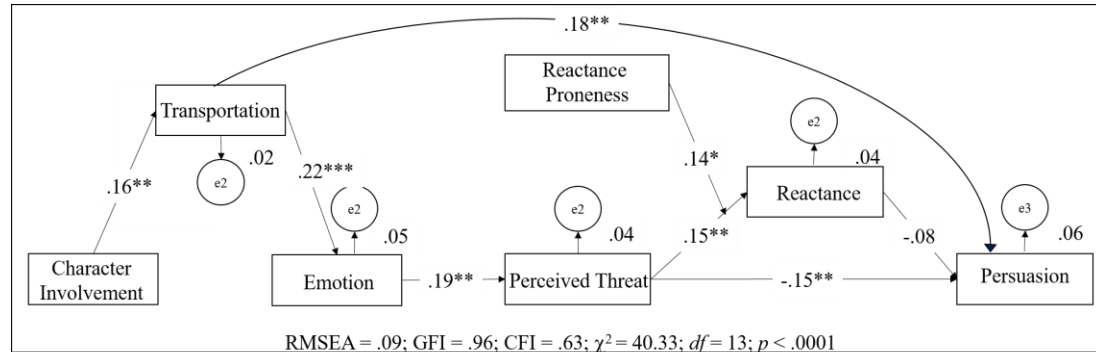
Figure 7a: SEM with temporal order of character involvement predicting transportation, and transportation predicting emotion.
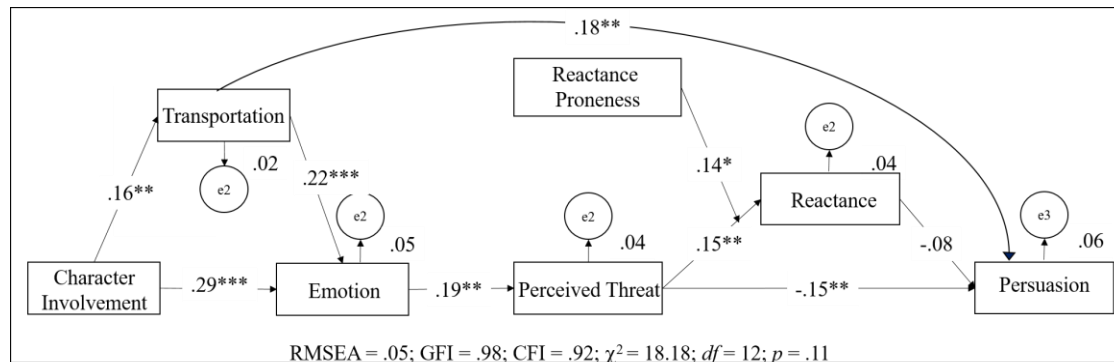
Figure 7b: SEM with temporal order with character involvement predicting transportation and emotion, and transportation predicting emotion.

Additional analyses

Emotion

Results from the third hypothesis warranted further analyses since the relationship between emotion and perceived threat was significant, but in the opposite direction of that which was proposed. Principal components factor analysis revealed an eigenvalue of 43% of the variance explained by all five items as a single factor.

However, as stated above some (e.g. DeSteno et al., 2004; Nabi, 2002) have strongly urged researchers to examine positive and negative emotions independent from one another. The initial factor analysis showed that splitting emotions into two factors explained about 22% more of the total variance of emotions, for a total eigenvalue of

65%. Therefore, two separate variables, positive emotion – which consists of measurements of happiness and surprise – and negative emotion – which consists of measurements of fear, disgust, and sadness – were created. A second factor analysis was conducted in which a fixed number of factors (2) was set and the direct oblimin rotation was selected to investigate correlations among the factors. This showed practically no correlation between the two factors $p = .03$. In agreement with the initial factor analysis, the cumulative eigenvalue of the two factors was 21.68%, for a total eigenvalue of 64.86%.

Therefore, the factors were orthogonal and a third factor analysis was conducted in which a varimax rotation was used to look at which variables loaded onto the two factors. This showed that the first three emotions loaded onto one factor (fear, disgust and sadness) and the last two (happiness and surprise) loaded onto a second factor. The eigenvalue for fear, disgust, and sadness (negative emotions) accounted for about 43.19% of the total variance in emotions. The eigenvalue for surprise and happiness (positive emotions) accounted for an additional 21.67% of the total variance in emotions.

Next, positive and negative emotions were independently regressed against perceived threat. Positive emotions were not significant predictors of perceived threat (F (1, 242) = .65, β = .05, p = .42, R^2 = -.001). However, negative emotions indeed significantly predicted perceived threat to freedom (F (1, 242) = 10.50, β = .20, p = .001, R^2 = .04). Therefore, it may be said that negative emotions (fear, disgust, and sadness) lead to higher levels of perceived threat.

Table 5

Means, standard deviations, and correlations for negative emotions, anger, and negative thoughts

Emotion	Mean	*SD*	1.	2.	3.
1. Negative Emotions	4.50	1.61	—		
2. Anger	1.97	1.07	.17**	—	
3. Negative Thoughts	.83	1.38	.05	.23**	—

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Gender

Gender differences have been found in the context of narratives, though Moyer-Gusé & Nabi (2010) admit that neither E-ELM nor EORM explicitly address differences in gender. For example, in Moyer- Gusé & Nabi (2011)s' study concerning safe sex intentions, the authors found a boomerang effect among only males who consumed an E-E message. "For males, safer sex intentions were lowest after exposure to the E-E program—even lower than pretest levels—indicating a boomerang effect. However, among females, exposure to the E-E program led to greater safer sex intentions than the other two programs" (pp. 423-424). However, in the current study analysis of variance (ANOVA), analyses showed no effect of gender on character involvement (F (1, 242) = .23, β_{male} = .03, β_{female} = .00, p = .63, R^2 = .001), transportation F (1, 242) = 3.52, β_{male} = -.03, β_{female} = -.12, p = .06, R^2 = .01), emotion F (1, 242) = 1.34, β_{male} = -.07, β_{female} = .00 p = .25, R^2 = .001), perceived threat F (1, 242) = 2.30, β_{male} = .10, β_{female} = .00 p = .13, R^2 = .005), reactance (F (1, 242) = .07, β_{male} = .02, β_{female} = .00, p = .79, R^2 = .004), or persuasion (F (1, 242) = 2.75, β_{male} = -.11, β_{female} = .00, p = .10, R^2 = .007). The current study found no gender differences.

Risk factors.

Along with investigating the moderating role of gender, Moyer-Gusé and Nabi (2011) also found that for those who had no direct sexual experience, exposure to a pro-safe sex E-E program led to greater safe sex intentions. However, for those who had direct sexual experience, exposure to various programs did not influence their sexual behavior intentions.

Considering the young age of participants in the study at hand and the topic of skin cancer, past experience with skin cancer would not be a logical moderating variable to investigate. Instead, potential risk factors were investigated. Several questions were used to measure participants' potential risk for skin cancer, and an average score was then calculated from these questions in which higher scores indicated greater risk factors ($M = 3.03$, $SD = .55$). Risk factors did not predict perceived threat (F (1, 242) = 1.01, $\beta =$ -.06, $p = .32$, $R^2 = .000$), reactance (F (1, 242) = .06, $\beta = .01$, $p = .87$, $R^2 = .000$), or persuasion (F (1, 242) = 2.54, $\beta = .10$, $p = .11$, $R^2 = .006$).

Overview

In all, the first three hypotheses were rejected. While character involvement and transportation had no significant effect on perceived threat, emotion was found to be a significant predictor. It was hypothesized that this relationship would be negative, however, greater emotions actually led to greater perceived threat. Therefore, all of the first three hypotheses were rejected.

Next, the relationship between perceived threat and reactance proneness was confirmed

(H4). Reactance proneness indeed moderated this relationship (H5) in that those who were high in reactance proneness and had high levels of perceived threat were particularly likely to experience reactance. However, for those who were low or moderate in reactance proneness, there was no significant relationship between perceived threat and reactance. Furthermore, reactance was found to significantly predict persuasion (H6). However, the mediated relationship between perceived threat, reactance and persuasion was insignificant. That is, perceived threat alone was a better predictor of persuasion than a model that included reactance as a mediating variable between perceived threat and persuasion.

After conducting SEM analyses, the best fitting overall model consisted of character involvement predicting transportation and emotion; transportation predicting emotion and persuasion (directly); emotion predicting perceived threat; perceived threat predicting reactance; and reactance predicting persuasion. Reactance proneness as a moderating variable between perceived threat and reactance was also included in the model. The overall results relative to the original hypotheses are presented in Figure 5. The overall findings relative to results are presented in Figures 6 and 7.

Character involvement, transportation and emotion were each expected to positively influence perceived threat. That is, the more involved, transported, or emotional participants were, their scores on perceived threat were hypothesized to increase. This, however, was not the case for any of the psychological mechanisms. Although transportation did not predict perceived threat, it had a direct effect on persuasion in that the more transported individuals were, the more their attitudes and

behavioral intentions were in agreement with what was advocated in the narrative (F (1, 242) = 10.50, β = .20, p = .001, R^2 = .04). Interestingly, transportation accounted for about 4% of the variance in persuasion, while character involvement, transportation, emotion, perceived threat, and reactance accounted for about 5% of the variance in persuasion. Therefore, the current study suggests that while transportation has a persuasive influence, this process might not completely occur through overcoming reactance, but transportation also has a direct effect on persuasion.

Additional SEM analyses were conducted to look at the relationship between the three psychological mechanisms, perceived threat, reactance, and persuasion. The SEM models proposed here reflected findings from both narrative persuasion literature as well as PRT literature. Therefore, the final model, which was a good fit to the data, suggested that character involvement predicted both transportation and emotion. Transportation had a significant positive direct effect on persuasion. Transportation also predicted emotion. Emotion worked through perceived threat and reactance to predict persuasion.

Upon further investigation of the influence of emotions, it was discovered that only negative emotions were significant predictors of perceived threat. That is, the more negative emotions (fear, disgust, and sadness) participants' experienced, the greater amount of perceived threat they had. Happiness and surprise had no effect on perceived threat.

Other factors that have been investigated in the past relative to narrative persuasion – gender and risk factors – were considered. In all, there were no effects of gender or risk factors on any outcome variable in the current work.

CHAPTER 4: Discussion

The goal of this work was to fill several gaps in current literature concerning reactance and narrative persuasion. Namely, this work set out with three goals. First, this work made the distinction between perceived threat to freedom and reactance by measuring reactance according to PRT. This had not been done previously in narrative persuasion literature. This made it possible to look at reactance as a mediator between perceived threat and persuasion. This also had not been done in previous narrative persuasion literature. Secondly, this work examined reactance proneness as a moderator of perceived threat and reactance in the context of narratives. Again, PRT work has established reactance proneness as a key moderating variable, yet narrative persuasion literature has largely overlooked this. Finally, this dissertation investigated the role of the three most cited psychological mechanisms in narrative persuasion literature – character involvement, transportation, and emotion – in combination with PRT.

An initial pilot test was first conducted in which three narratives were created with the intention of establishing three levels of character involvement, transportation, and emotion. One narrative was designed to elicit high levels of character involvement, transportation, and emotion; one narrative was designed to elicit moderate levels of character involvement, transportation, and emotion; and a final persuasive message, a non-narrative, was created. The non-narrative was intended to elicit the lowest levels of character involvement, transportation, and emotion while still focusing on the topic of skin cancer. However, this pilot test proved the establishment of these three conditions to be difficult. That is, a clear distinction of high, moderate, and low levels of the three

psychological mechanisms was not established. Therefore, the design of the dissertation was altered.

Instead of a three-condition design in which each condition consisted of a different narrative with hopes of manipulating the three psychological mechanisms, it was advised that one narrative be presented, and participants would naturally vary in the three psychological mechanisms. These measured variables would then be compared across all participants. Therefore, a second pilot study was conducted to ensure the narrative (which was created for the purpose of this dissertation) offered variation among individuals in terms of the three psychological mechanisms. Results from this pilot test showed that the narrative elicited good variation in terms of character involvement, transportation, emotion, participants' rating of the story, perceived persuasiveness, and reactance (Table 1). Importantly, the second pilot study verified a reliable measure of transportation as well.

Therefore, the main study was conducted using both the narrative as well as the measures of character involvement, transportation, and emotion, from the second pilot study. In addition, the main study included the well-established measures of perceived threat, reactance proneness, reactance, and attitudes and behavioral intentions (which made up the measure of persuasion).

Results of the hypotheses.

To fill the gaps outlined above, six hypotheses were offered in the main study. Of these, three were rejected and three were confirmed. Even though findings in the current work show support for several relationships of interest, these relationships are weak to modest. This is acceptable because weak and modest influences are common findings in

communication research. Upon conducting a meta-analysis of health campaigns, Noar (2006) found that most mass media campaigns have small-to-moderate effects. However, he states, "given the wide reach that mass media is capable of, a campaign with a small-to moderate effect size that reaches thousands of people will have a greater impact on public health than would an individual or group-level intervention with a large effect size that only reaches a small number of people (see Glasgow, 2002). Thus, large-scale health campaign efforts can be successful in achieving broad public health impact among communities in the United States and across the world, making further inquiry as to the best means to achieve this impact a worthy venture" (p. 36).

The first three hypotheses concerned three psychological mechanisms that were proposed as a means to reduce perceived threat, thereby reducing reactance in the context of narratives. The first mechanism, character involvement, had no effect on perceived threat; therefore, the first hypothesis was rejected. Similarly, transportation did not predict perceived threat. The second hypothesis was also rejected. Interestingly, emotion did predict perceived threat, but in the opposite direction to that which was proposed. That is, greater emotional involvement led to more perceived threat. Therefore, the third hypothesis was also rejected.

Upon further investigation, it was found that only negative emotions predicted perceived threat. This help explains the direction of this relationship. That is, those who experienced more negative emotions (fear, sadness, and disgust) had higher levels of perceived threat. Perceived threat is an antecedent of reactance, and reactance is composed of negative cognitions and anger. While PRT scholars have shown anger to be

a key component of reactance, the relationship between reactance and other negative

emotions has yet to be discussed. Dillard and Shen (2005) state:

> Citing similarities between antecedents of reactance and cognitive
>
> appraisals that lead to anger, some writers suggest that reactance might be
>
> considered, in whole or in part, as an emotion (Dillard & Meijenders, 2002; Nabi,
>
> 2002). Certainly, this claim aligns well with Brehm's description of reactance as
>
> the experience of hostile and aggressive feelings (Seltzer, 1983; White &
>
> Zimbardo, 1980; Wicklund, 1974). In this view then, reactance might be
>
> considered more or less synonymous with the family of concepts that index
>
> varying degrees of anger (e.g., irritation, annoyance, and rage). From this
>
> perspective, reactance might be operationalized in various ways including asking
>
> individuals to make a judgment on a close-ended scale regarding the degree to
>
> which they are experiencing anger (pp. 146-147).

 The current work suggests that along with anger, other negative emotions,

sadness, fear and disgust in particular, have an important influence on perceived threat,

the antecedent of reactance, and should be considered in the study of PRT.

Moving forward, the fourth hypothesis was supported – perceived threat predicted

reactance. Furthermore, this relationship was moderated by participants' reactance

proneness. Therefore, the fifth hypothesis was also supported. That is, individuals who

had high levels of perceived threat *and* were high in reactance proneness were the most

likely to experience reactance. However, for those low or moderate in reactance

proneness and perceived threat did not predict reactance. This will be touched on further below.

Last, consistent with PRT research, reactance significantly predicted persuasion, thus confirming the sixth hypothesis. As expected, this relationship was negative in that those who experienced reactance were less persuaded by the message. That is, those high in reactance indicated that their attitudinal and behavioral intentions were counter to that which was advocated in the narrative. On the other hand, those who indicated low levels of reactance were more likely to hold message-consistent attitudes and behavioral intentions. This is an important, substantive outcome in communication research concerning narratives, and verifies other PRT research (e.g., Dillard & Shen, 2005). This study confirms that psychological mechanisms elicited by the narratives can lead to message consistent attitudes and behavioral intentions through reducing perceived threat and reactance.

Reactance as mediator

In addition to the six hypotheses, reactance as a mediator between perceived threat and persuasion was investigated. Surprisingly, reactance did not mediate the relationship between perceived threat and persuasion. Instead, perceived threat had a direct relationship on persuasion. This is counter to what many PRT studies have found (Quick & Stephenson, 2008; Quick & Considine, 2008; Quick et al., 2013). For example, as stated above, Silvia (2006) found that when a threat to one's freedoms was placed at the beginning of a message, unfavorable cognitions (one aspect of reactance) fully mediated the effect of perceived threat on attitudes toward the advocated message.

However, Silvia also found that when the threat was placed at the end of a message, perceived threat had a direct, unmediated effect on attitudes. Findings from the current work support Silvia (2006). Even though the overall theme of skin cancer was intertwined throughout the story, explicit statements warning of the dangers of tanning beds and not using sunscreen was particularly formidable at the end of the story. Overt persuasive dialogue was located at this point. Piggybacking on Silvia's work, since the persuasive message in the current work was located at the end of the story, it is unsurprising that perceived threat had a direct effect on persuasion. Furthermore, reactance had a direct, negative effect on persuasion. Taken together, the narrative was persuasive – as participants' attitudes and behavioral intentions reflected the degree to which the individuals were transported, perceived a threat, and experienced reactance.

However, reactance was not a significant mediating variable between perceived threat and persuasion. This finding is important and raises more questions for future research. First, is the *placement* of the persuasive message or the *narrative nature* of the message responsible for perceived threat's direct influence on persuasion? Is reactance as a mediating variable between perceived threat and various forms of freedom restoration omitted from *all* models in which the persuasive message is delivered via narrative, or was reactance omitted as a mediator in the current study due to the *placement* of the persuasive message? It could be that narratives uniquely eliminate reactance as a mediating variable. On the other hand, it could be due to the fact that the persuasive message was particularly robust at the end of the narrative; therefore, findings reflect that which had been previously found by Silvia (2006). It is imperative that future studies

investigate the placement of the persuasive message and reactance in the context of narratives.

For example, future research investigating narrative persuasion and reactance should design a study in which two narratives are created. The first narrative would include an explicit persuasive message presented at the beginning of the story. The second narrative would be similar to the current study in that the explicit persuasive message would be at the end of the story. Participants would be randomly assigned to read one of the stories and the two groups would then be compared. According to Silvia's (2006) findings, reactance would mediate the relationship between perceived threat and persuasion for those in the first group. However, those in the second group would show a similar pattern as in the current study, in that perceived threat would have a direct effect on persuasion for these individuals. This would answer if it is the *placement* or *narrative nature* that is responsible for the omission of reactance as a mediator.

Reactance proneness as moderator

Upon examining reactance proneness, the current work agrees with previous PRT studies and finds reactance proneness to be a significant moderator of the relationship between perceived threat and reactance, such that those who were high in reactance proneness and had high perceived threat were especially likely to exhibit reactance. However, those who were low or moderate in reactance proneness did not significantly differ from one another in their level of reactance. Furthermore, perceived threat did not predict reactance for individuals who were low or moderate in reactance proneness. Interestingly, those who were high in reactance proneness and exhibited little to no

perceived threat had the lowest level of reactance (Figure 3). This reiterates the importance of measuring reactance proneness when using PRT in the context of narratives. If studies fail to take reactance proneness into account, it is possible that a relationship between perceived threat and reactance might be determined insignificant, while in reality this relationship indeed exists, but only for those high in reactance proneness. That is, the relationship between perceived threat and reactance might only be apparent after reactance proneness is taken into account. This study confirms past PRT studies in stating that reactance proneness is a necessary moderating variable that must be measured to fully understand the effect of perceived threat on reactance. Reactance and reactance proneness could be particularly important in the context of a narrative in which the persuasive message is placed at the beginning of the story. Future work concerning narratives, therefore, must include measures of both reactance proneness and reactance.

SEM and additional analyses

An SEM analysis revealed that the fit of the overall proposed model was not good (Figure 6a). Therefore, the model was altered. First, character involvement was found to have an insignificant effect on perceived threat. Therefore, the regression weight of this relationship was set to zero. The model was rerun; however, this model was also not a good fit (Figure 6b). A third SEM model was created, in which transportation had a direct effect on persuasion, and character involvement and emotion worked through perceived threat to predict reactance (which then predicted persuasion). This model was found to be a good fit. Character involvement and emotion worked through perceived threat (which also had a direct effect on persuasion) to influence persuasion (Figure 6c). This shows support for Silvia's findings that perceived threat directly predicts freedom restoration.

Additional analyses were conducted to investigate the potential effects of gender and risk factors. Since Moyer-Gusé and Nabi (2011) found gender effects in their study concerning teen pregnancy, gender was investigated relative to all three psychological mechanisms as well as PRT variables. Results showed no gender effects on either psychological mechanisms or PRT variables. Similarly, participants' potential risk factors for the subject of the study, skin cancer, showed no significant relationship between risk factors and the three psychological mechanisms or on PRT variables.

Psychological mechanisms

Initially, this study suggested that character involvement, transportation, and emotion work simultaneously and independent from one another. However, some have argued that character involvement may antecede transportation (Green, 2004); others have argued just the opposite, that character involvement is an outcome of transportation (Green et al., 2004; Slater & Rouner, 2002). Still others say character involvement could do both (Cohen, 2001; Cohen, 2006). For example, Murphy et al. (2011) suggest a reciprocal relationship between character involvement and transportation. The current work conducted additional SEM analyses to look at the relationship between the three psychological mechanisms of character involvement, transportation, and emotion. Various models were created based on the initial findings of the current work as well as findings from others (i.e., Murphy, 2011), and revealed that character involvement significantly predicted both transportation and emotion (Figure 7b). Furthermore, transportation significantly predicted emotion. Murphy et al. (2011) state, "although character involvement has long been hailed as an important direct predictor of EE effects, our model indicates that character involvement may be as important for its ability to

produce heightened levels of transportation and emotion which, in turn, relate to changes in knowledge, attitudes, and behavior" (p. 425). The current work's findings agree with this statement.

However, a reciprocal relationship between character involvement and transportation was not possible to test in the current work since each were measured at a single point in time during the posttest. Future research should further investigate the temporal order of character involvement, transportation, and emotion by measuring these at several points throughout a narrative.

Looking further at Murphy et al. (2011)'s work, the authors conducted SEM analyses and found character involvement led to heightened levels of both transportation and emotion. This was also found in the current study, and therefore corroborate Murphy et al.s' (2011) findings. Specifically, the authors found character involvement indirectly predicted knowledge, attitudes, and behavior through transportation and emotion. This dissertation confirms this. Indeed, character involvement worked through both transportation and emotion to predict persuasion.

Furthermore, transportation directly predicted persuasion; while emotion worked through perceived threat to predict persuasion. This is interesting because Murphy et al. (2011) note that subjects in their study were regular viewers of the program that was used as a stimulus. The authors state that non-regular viewers may exhibit different effects due to lower levels of character involvement, transportation, and emotion. The stimulus used in the current study was original and created specifically for this study. Yet, this work shows the same pattern founded by Murphy et al. (2011) persists among non-regular

viewers. Murphy et al. (2011) state that the three mechanisms of character involvement, transportation, and emotion, "produce different effects at different points in the persuasion process" (p. 425). This work agrees and has found similar patterns that were established in the Murphy et al. (2011)s' work. Therefore, future research should take this pattern (Figure 7b) and apply it to work concerning narrative persuasion and reactance. In addition, the current work also found a direct relationship between character involvement and emotions. This was not found by Murphy et al. (2011).

Limitations

There were several limitations in the current study. First, this dissertation only measured direct ways of restoring freedom (outlined by Quick et al, 2013). That is, it only measured attitudes toward the advocated message and behavioral intentions to use sunscreen or talk about skin cancer with friend. There are also indirect ways one may restore his or her freedom. These include increased liking for the threatened or eliminated freedom (e.g., liking tanning more in this case); seeing peers partake in the threatened or eliminated threat (e.g., having a friend go tanning or not wear sunscreen); discrediting the source of the threat; denying the threat exists; and/or partaking in an action that is similar to that which has been threatened (e.g., partaking in another risky, cancer-causing, activity such as smoking). The current work only considers direct was of restoring freedom. Other possible ways participants reasserted their freedoms were not considered. For example, questions that measure indirect restoration of freedom include 1) asking how un/likely participants are to confront friends or family about tanning or using sunscreen, 2) asking participants to rate the credibility of the narrative, and 3) measuring

participants' dis/liking of tanning. Future studies should also consider indirect ways of restoring freedom.

Additionally, Moyer-Gusé & Nabi (2010) found character involvement to reduce counterarguing and increase perceived threat. However, the increase in perceived threat was only found two weeks after exposure to the narrative during a delayed posttest. The current dissertation did not find character involvement to directly influence perceived threat or reactance. Perhaps a delayed test would have offered different results relative to character involvement. It is possible that character involvement has a delayed effect, but it was not measured in the current study since only one posttest was conducted. Future studies should consider adding a time-lagged posttest that would measure character involvement, perceived threat, reactance, and freedom restoration to investigate Moyer-Gusé & Nabi (2010)s' findings.

Another weakness of the current work is the lack a measure of participants' previous behavior concerning skincare. This is problematic because past behavior is the best predictor of future behavior (e.g., Ouellette & Wood 1998; Verplanken et al, 1998). Without being able to statistically control for past behavior, it is unknown if the current narrative had a true effect on behavioral intentions. That is, perhaps those who exhibited the most negative emotions and/or were least transported were also individuals already visiting tanning beds or not using sunscreen. This is particularly problematic when considering reactance. If an individual already regularly visits tanning beds, she or he would likely perceive a message about using sunscreen and avoiding tanning beds as a threat to her or his freedom. Therefore, an important step in future studies concerning

reactance and narrative persuasion would be the consideration of participants' previous and/or current behaviors.

Summary of findings relative to objectives

The first objective of the current work was to take advantage of one of the more recent advances in reactance literature – to look at reactance as a mediated process. Past studies concerning PRT in the context of narratives did not take this mediated relationship into consideration. Therefore, Hayes' (2013) PROCESS macro was used to test the mediated relationship between perceived threat, reactance, and persuasion. However, this relationship was nonsignificant. Adding reactance as a mediator did not significantly improve the relationship between perceived threat and persuasion. That is, perceived threat was a better predictor of persuasion alone than a model in which reactance was included as a mediating variable between perceived threat and persuasion. However, like perceived threat, reactance had a direct effect on persuasion.

This finding is different from that found in traditional PRT research. Quick et al. (2013) state that reactance is a two-step mediation process. The first step in this process is perceived threat. The second step is reactance. The second step in the process is reactance leading to freedom restoration. Therefore, reactance typically mediates the relationship between perceived threat and freedom restoration. However, as stated above, Silvia (2006) found that negative cognitions, one aspect of the measure of reactance, were omitted from a model that predicted freedom restoration when the persuasive message was placed at the end of the message. In this model, perceived threat directly predicted freedom restoration. However, when the persuasive message was placed at the beginning

of the message, the relationship between perceived threat and freedom restoration was fully mediated by negative cognitions. Therefore, findings from the current study suggest that reactance as a mediating variable was insignificant either due to the narrative nature of the message, or the explicit persuasive component of the message being particularly intense at the end of the story. Future research must investigate the placement of the persuasive message within narratives to answer whether or not reactance mediates the relationship between perceived threat and freedom restoration in all narratives, or is only omitted as a mediator when the persuasive message is at the end of the story.

The second objective of the current work was to measure reactance according to reactance literature. This had not been done previously in narrative persuasion work. Therefore, reactance was measured according to Dillard & Shen (2005). First, anger was measured using four closed-ended Likert-type questions. Secondly, negative cognitions were calculated by two independent coders. Scores on anger and negative cognitions were then standardized and added together to create the measure of reactance. Formerly, studies of narrative persuasion that looked at measures of reactance only did so using the closed-ended Likert-type questions of reactance. Measuring reactance in this way made it is possible to talk about the role of reactance within the context of narratives along the same lines as other reactance literature. That is, previous narrative persuasion literature discussed reactance, but, conceptually, this was a different variable than that discussed in reactance literature. Therefore, this work can talk about reactance in a way that compliments reactance literature.

Importantly, reactance was found to be a significant predictor of persuasion – those who exhibited greater reactance were less likely to hold message-consistent attitudes and behavioral intentions. However, according to this work, reactance did not mediate the relationship between perceived threat and persuasion. This is not typical in most PRT studies. Therefore, future studies must continue to look at the effects of reactance, and, as stated above, identify factors such as the placement of the persuasive message to understand the role of reactance in the context of narratives.

Scholars have offered other explanations of persuasion in the context of narratives. For example, social cognitive theory has been used as a means to explain the persuasive influence of narratives (Bandura, 1986; Bandura, 2002). According to this theory, individuals learn from and model their behavior after what they see in the narrative. In this way, narratives act as a proxy for various life situations and can influence individuals' knowledge, attitudes, and behaviors (Bandura, 2004).

The E-ELM is another theory that has been used to explain the power of narrative persuasion. According to this theory, the effectiveness of the persuasive message hinges on the degree to which individuals identify with characters and are transported into the story (Slater, 2002). A narrative can be persuasive insofar as the individual consuming the message is emotionally engaged or transported by the story. This theory, therefore, states that the three psychological mechanisms examined in the current study directly influence persuasion. The current work found this to be the case for transportation, but not for character or emotional involvement. That is, transportation directly influenced persuasion, but emotion worked through perceived threat and reactance to influence

persuasion. Furthermore, character involvement worked through transportation and emotion. Therefore, the E-ELM is important, but does not fully explain the persuasive influence of narratives because it does not take into account perceived threat or the ordering of the psychological mechanisms.

The EORM uniquely uses both SCT and E-ELM to recommend various ways in which different forms of resistance are reduced through narratives. It also offers novel recommendations about constructs provoked by narratives that reduce resistance. For example, according to the EORM parasocial interactions with characters, the narrative structure, and liking of characters may all be responsible for reduced levels of reactance. However, the current work found that emotions are also responsible for reactance. Therefore, the EORM is correct in that a combination of E-ELM and SCT can explain the mechanisms through which narratives persuade. However, the EORM must be modified to accommodate findings relative to reactance in the context of narratives. For example, it is more than simply the narrative structure, parasocial interactions (PSIs), or liking that reduces reactance. Emotions elicited by the narrative are also responsible for persuasion. Furthermore, the EORM states that transportation reduces counterarguing, but rather than effecting reactance, the current work found transportation to have a direct influence on persuasion. Future studies must include the three psychological mechanisms of character involvement, transportation, and emotion; in conjunction with concepts from PRT including perceived threat, reactance proneness, reactance, and freedom restoration.

This work further distinguished and investigated the relationship between the psychological mechanisms of character involvement, transportation, and emotion. As

stated above, transportation did not work through reactance, but instead had a direct effect on persuasion. This makes sense of Moyer-Gusé & Nabis' (2010) findings. These authors found transportation to not significantly predict negative cognitions (one component of reactance). Furthermore, this corroborates Murphy et al. (2011)'s findings that transportation predicts attitudes and behaviors. However, these scholars suggested that transportation is a better predictor of attitudes and behaviors than character identification and emotion. The current work suggests that character involvement and emotion influence attitudes and behavioral intentions (i.e., persuasion) through perceived threat and reactance. Therefore, all three mechanisms influence persuasion; however, the manner in which each does so, is different. For instance, character involvement works through emotion, and emotion, in turn, works through perceived threat and reactance to influence persuasion. On the other hand, as stated above, transportation directly predicts persuasion.

Findings from the current study call into question Dunlop et al. (2010)'s suggestion of transportation as a necessary and fundamental component in the process of narrative persuasion. The current work also found persuasion to be a reflection the downstream consequence of character involvement and emotion. That is, character involvement predicted emotion. Emotion then predicted perceived threat, which predicted persuasion. Greater character involvement predicted greater emotion. Greater emotion led to more perceived threat. Greater perceived threat led to less persuasion. After further analysis, it was found that negative emotion was responsible for the increase in perceived threat. Future studies should investigate the effects of both negative as well as positive

emotion on persuasion. The current work agrees that it is important to study the unique effects of the valence of emotion. A question worth answering in the future is if it possible to persuade individuals through positive emotions without them being transported into the story.

The SEM analyses in the current study show that character involvement predicts transportation and emotion. Transportation has a direct effect on persuasion. Emotion, on the other hand, predicts perceived threat. Perceived threat significantly predicts reactance and persuasion. Reactance, while not a mediator of perceived threat and persuasion, also directly predicts persuasion. This final model (Figure 7b) is the one that this project advocates moving forward. The model, the construction of which was theoretically driven, can help explain PRT in the context of narratives. Specifically, this model proposes a relationship among the psychological mechanisms of character involvement, transportation, and emotion, and the downstream effects of mechanism in leading to freedom restoration.

As this model has shown, persuasion is possible through narratives if one is connected to the characters, transported, and/or has moderate to low levels of perceived threat, reactance proneness, and reactance. However, persuasion is less likely for those who are not connected to the characters, experience little transportation, have greater negative emotions, and/or are high in perceived threat, reactance proneness, and/or reactance. Therefore, under certain conditions, some viewers can be happily ever persuaded.

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Appendix A: First Pilot Test

Message 1: A Day at the Beach (Persuasive message connected to storyline)

The two girls stood in the doorway, impatiently adjusting the shoulder straps of their oversized beach bags. "C'mon, Lisa, I want to lay out for a while before the parties get started!" Jen said. Lisa, her bikini strings poking out of her coverup around her neck, a similarly overstuffed beach bag at her own feet, stood hunched over a laptop opened on the hotel room desk. "Hang on, I just need to. It's taking forever to attach…" She trailed off. "Spring Break officially started over an hour ago—"Jen started. "Actually, it began two days ago— "Sarah interrupted, not looking up from her phone. "Well, we didn't GET here until an hour ago, and every second that goes by is another second we could be at the beach, in the sun…" "Sent!" Shouted Lisa, swiftly slamming her laptop closed and scooping up her bag. "Let's go!" "Keys and ID's, everyone?" Sarah asked. "Yes, I had mine ten minutes ago and I still have them, let's move!" Jen walked off down the hallway. "Got mine," Lisa said, letting the door click shut behind her. "SO glad that's over. That paper was a B to write." "Ummm, yeah. You worked on it all the way down here," Sarah said. "But now I'm done! I'm duh-un! I'm Duh-un!" Lisa whooped, shuffling and dougie-ing into the elevator. "Oh, please don't do that," said Jen. "Honey, there is no room for embarrassment on SPRING BREAK!" said Sarah, joining in the dance. The three girls emerged form the elevator a minute later, still giggling, and began to walk toward the glass lobby doors and out into the bright sunlight. They paused only briefly on the hotel patio to strategize the best place to set up their beach blankets. They soon moved to a relatively uncrowded area, near the beach entrance to the neighboring hotel. "Omigosh, this is SUCH a beautiful day," Jen gushed while spreading out a beach blanket. "I've been fantasizing about this sun for weeks." "Totally," Sarah said, helping Jen with a second blanket. "Holed up in that windowless, cold, library…" "What?" Lisa laughed. "It's not windowless!" "I know, I know," Sarah replied, "I was exaggerating for effect." Lisa laughed and pulled off her cover up. "Here, Jen," she said, reaching into her bag and rummaging around for something, "If you do my back, I'll do yours," she said, standing up with a tube of sunscreen in her hand. "Whoa! Jen! How do you already have tan lines!?" Jen, stuffing her coverup back into her bag, stood up awkwardly. "Well…" "Ummm, that's not from the tinted moisturizer you were using," said Sarah, more statement than question. "Well I was using that stuff, but you know, I'm really pale to begin with—" Jen began. "Was it not working enough for you or something? Also, you have great skin on its own! I keep telling you this!" Sarah interrupted. "Well, yes, sure, but I was really nervous that I'd come down here and burn horribly the first day and I didn't want to, like, be a lobster the entire time, so I went tanning a couple of times, just to, you know, get, like, a base layer," Jen admitted. "A couple of times?" Lisa said. "Are you crazy?" Sarah said simultaneously. "You guys, seriously, I burn so hard it's not even funny. This is better for me in the long run," Jen quickly said, sitting down and smoothing out her blanket. "Umm, I beg to differ, but whatevs," Sarah said. "Lisa, toss over that sunscreen. Jen, please do my back for me, and then I'LL do YOURS." Jen rolled her eyes, but caught the tube form Lisa. "Omigosh, guys. Guys, you remember that Johnny kid from my econ class?" Lisa asked, squinting down the beach. "Wait, whoa, Duan Juan Johnny?" Jen asked, falling into a fit of giggles. "Who?" Sarah asked.

"You'll remember when you see him. From the Fieldhouse fishbowl night. Followed me and Jen around…I mean, can you see what he's wearing!?" Lisa asked. "Oooooooh," Sarah said, recognition dawning on her face. Jen, still giggling, tried to squint up the beach. "Oh, I totally wish I had binoculars…" "Because THAT wouldn't be obvious or anything…" Sarah said, beginning to giggle herself. "Jen, you guys, shut up! I don't want him to see us! Oh my gosh," Lisa said, sitting down and turning her back to the group of boys down the beach. "Totally right, Lis," Jen said, getting out her phone, trying to stifle her giggles. "Hey, guys…" Lisa said. "Jen," Sarah said, leaning in and lowering her voice, "did you know your eyes are like a bottomless carribean sea?" They both collapsed into more giggles. "Guys," Lisa said again, watching a girl slowly walk in their direction. "What was the line about the halo? Or something about an angel, or something?" Jen asked, laughing. "GUYS," Lisa whispered emphatically as the girl walked by their blankets. "Hey…Jess?" Lisa said louder. "What's wrong? Is something going on?" The girl looked up at Lisa as if she had just now realized she was there. Her eyes were red and wet with tears, and she had been walking quickly toward the hotel behind them with nothing but her phone in her hand. "Oh, Lisa! Oh hi, guys!….sorry, I just…" Jess began, walking toward the girls on the blankets, more tears forming in her eyes as she talked, "I just had a phone call from my mom, she's coming home from the dermatologist and she has to have a biopsy on a suspicious mole—" "Oh my god," Jen said. "—I mean, I know it's silly to cry, I guess, it's just a biopsy, they don't know anything yet, just a biopsy doesn't mean cancer, I mean, even if it is cancer, it could be benign, but I guess it just hit me real hard when I got off the phone with my mom," Jess sniffled. "Oh, man, Jess, I'm so sorry to hear that," Lisa said, motioning for her to sit beside her. Jess sat down and wiped her eyes. "It's funny, she was lecturing me about making sure I was wearing at least 30 SPF this week," –Lisa shot a look at Jen—"and, I mean, she's given me the 'sunscreen lecture' since forever, but this time, I was thinking about what if she wasn't around anymore to nag me about things, ha, you know?" Jess sniffled and smiled sheepishly. "I know I'm being a little dramatic…" "No, not at all," said Lisa, rubbing Jess's back. "Anyway," Jess said, "I'm on my way upstairs to call my brother. I'm sort of over crying in front of people on Spring Break." "I know, geesh, how totally lame of you," Jen said with a smile. Jess smiled back. "I'm also going to get some sunscreen from the gift shop. We only brought 15 SPF in our group, and my mom said that Melanoma is the number one cancer in adults 25 to 29 years old. It is recommended that everyone wear a sunscreen with an SPF of 30 or higher everyday. Like, I know in my head I should be wearing at least 30 spf sunscreen out here today, or should have been doing, like, all the time, because it's good for me, but now I'm going to because it feels like something I can do for her, like right now, you know?" "Oh, totally. I know what you mean," Lisa said. Jen and Sarah murmured in agreement. "Ok. Phew! Ok, thank you Lisa. I'm going to get going. Have fun today, guys," Jess said, standing back up. "We will. Hey, you going to the Daiquiri Deck for happy hour later?" Lisa asked. "Totally. Planning on it. Just need a minute, you know," Jess smiled again, wiping the last of her tears off her face. "Sweet," said Sarah. "Totally," said Jen, "we'll have a drink—" "or two—" "or five—" "for your mom," Jen finished. Jess laughed. "Thanks, you drunks. See you later!" The girls watched Jess walk up to the hotel. Jen

turned around to see both her friends staring right back at her. "A-HEM," Sarah said. "Ok! Ok! I know! I'm a stupid college girl! I'll never go tanning again!!" Jen said, hands up in surrender. Lisa laughed. "Fair. Now please, someone put some sunscreen on my back? I am more than ready to stretch out on this blanket and move as little as possible for the next hour."

What is the story you just read about? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

What is the main purpose or purposes of the story? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

Is the story trying to provide you with information:
❍ Yes
❍ No
If yes: About what information? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

Is the story trying to persuade you?
❍ Yes
❍ No

If yes: What is it trying to persuade you about? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

The use of sunscreen played an important role in the story.

Not at all				Very Much
1	2	3	4	5

Without the references to sunscreen the story would be different.

Not at all				Very Much
1	2	3	4	5

The use of sunscreen was connected to the plot.

Not at all				Very Much
1	2	3	4	5

This story was…

Enjoyable						Not Enjoyable
1	2	3	4	5	6	7

This story was…

Entertaining						Not Entertaining
1	2	3	4	5	6	7

This story was…

Interesting						Not Interesting
1	2	3	4	5	6	7

This story was…

Likeable						Not Likeable
1	2	3	4	5	6	7

This story was…

Informative						Not Informative
1	2	3	4	5	6	7

Please rate the degree to which you felt the following emotions while reading the first message: Fear:

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

Disgust:

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

Sadness:

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

Happiness:

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

Surprise:

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

While I was reading the message, I could easily picture the events in it taking place.

Not at   Very
all   Much
1   2   3   4   5   6   7

While I was reading the message, activity going on in the room around me was on my mind.

Not at   Very
all   Much
1   2   3   4   5   6   7

I could picture myself in the scene of the events portrayed in the message.

Not at   Very
all   Much
1   2   3   4   5   6   7

I was mentally involved in the story while reading.

Not at   Very
all   Much
1   2   3   4   5   6   7

After finishing the story, I found it easy to put it out of mind.

	Not at all						Very Much
	1	2	3	4	5	6	7

I wanted to learn how the story ended.

	Not at all						Very Much
	1	2	3	4	5	6	7

The message affected me emotionally

	Not at all						Very Much
	1	2	3	4	5	6	7

I found myself thinking of ways the story could have turned out differently.

	Not at all						Very Much
	1	2	3	4	5	6	7

The events in the story are relevant to my everyday life.

	Not at all						Very Much
	1	2	3	4	5	6	7

The events in the story have changed my life.

Not at all						Very Much
1	2	3	4	5	6	7

This story was created in order to persuade readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to entertain readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to influence readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created to raise awareness about health behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The writers of this story have an intention to alter readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

How much do you like Jen, the girl who went tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you like Sarah, one of the girls to condemn Jen for tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you like Jess, the girl whose mother has to have a biopsy on a suspicious mole?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you like Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How similar are you to Jen, the girl who went tanning?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How similar are you to Sarah, one of the girls to condemn Jen for tanning?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How similar are you to Jess, the girl whose mother has to have a biopsy on a suspicious mole?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How similar are you to Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Jen, the girl who went tanning?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Sarah, one of the girls to condemn Jen for tanning?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Jess, the girl whose mother has to have a biopsy on a suspicious mole?

    Not At All   A Great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not At All   A Great Deal

1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Jen, the girl who went tanning?

Not At All   A Great Deal

1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Sarah, one of the girls to condemn Jen for tanning?

Not At All   A Great Deal

1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Jess, the girl whose mother has to have a biopsy on a suspicious mole?

Not At All   A Great Deal

1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not At All   A Great Deal

1   2   3   4   5   6   7   8   9   10

The message threatened my freedom to choose to wear sunscreen.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The message tried to make a decision for me.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The message tried to manipulate me.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The message tried to pressure me.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

Message 2: Tonight, Drinks! (Persuasive message not connected to storyline)
Lisa and Sarah lounged next to each other on the bed, both scrolling on their phones. Sarah let out a sigh, letting her phone fall onto her lap. "Jen! Are you ready to go yet? The guys are already in the lobby!" "Just a sec, Sarah!" Jen replied from the bathroom. Sarah stood up and looked at the other girl on the bed. "Come on, Lisa, get your purse. We're gonna have to move it." "OK, I'm on it" Lisa peeled herself up off the bed, simultaneously adjusting her skirt and reaching for her purse. Sarah grabbed her own purse and began rummaging in it. "Jen!" she called, "Should we trust you with a room key?" "Um, absolutely not," Jen replied from the bathroom. "But I AM finally ready!" shJene declared, opening the bathroom door. "You are not, actually, you still need to put on shoes! Let's go! The guys are gonna be pissed if we miss the chance to get a good spot!" said Lisa. "They're big boys, they can go by themselves," Jen interrupted. "Mike won't pass up any chance to flirt with Lisa —" Jen began. "Shut up!" replied Lisa. "You like it," bantered Jen. "Ugh!" Lisa replied. "I still can't believe you are wearing those shoes," Lisa said, watching Jen strap on chunky bright red 6-inch high heels. "Nice try changing the subject, first of all, but secondly, like I've said, it's not like I'm wearing these to dinner with your family. This is the best time to wear awesome shoes like this!" Jen replied. "Agreed. Now," Sarah said, handing Lisa a room key, "Let's go!" Soon after, the group was standing in a long line, snaking around the side of an old warehouse building plastered with graffiti. "I'm so excited! I've been waiting months for this!" Jen said, hopping up and down as much as her heels would let her. "We'd get to see a lot more of them if we had gotten here a bit earlier," Steven grumbled. "Dude, we are no more than five minutes later than you wanted us to be. This entire line didn't appear in those five minutes," Sarah replied. "And look! We're moving!" Jen said excitedly. The group shuffled forward as the line began to shift toward the corner. "Wow, I can actually see the entrance now!" Lisa teased. "We are getting close!" Mike smiled at Lisa and fake-punched her on the shoulder. "Good one, Lisa," he said. Sarah caught Jen's eyes and turned away from Lisa and Mike to stifle a laugh. Her smiled drooped as she stood reading a billboard on a rooftop across the street from the group. "Hey, Jen," Sarah said, pointing at the billboard. "Do you see this?" Jen turned to look where Sarah was pointing, her eyes growing slightly larger as she read the billboard. "Hey, guys?" she said. Getting no response, she turned to the group. "Guys! Read this billboard!" "Melanoma is the number one cancer in adults 25 to 29 years old." Steven said, squinting. "Number one!?" Lisa whispered incredulously. "It is recommended that everyone wear a sunscreen with an SPF of 30 or higher every day," Sarah finished. "See? Jen, you should never have gone to the tanning beds on campus! Aaand Lisa and I are NOT crazy for wearing sunscreen on spring break! You guys can't call us old ladies for it any more—we knew what we were doing!" "Actually, I just didn't want my skin to get wrinkly, you've seen my aunt—" Lisa began— "You've got amazing skin," Mike said quietly. Lisa paused

briefly, "—but, uh, I mean I just didn't want to get premature wrinkles, I didn't know melanoma was even a possibility for people that young! I mean, whoa!" "Hmmm, guess I'll be borrowing your sunscreen, Sarah," Jen sheepishly said, as the line began to shuffle forward once more. "Please do!" Sarah replied. Then, inching close to Lisa, Sarah whispered, "If you need help putting sunscreen on your back tomorrow, I bet Mike would love to help you with that!" Steven groaned, "Aaaargh. I heard that. Gross, guys." Lisa turned red and shoved Sarah back behind her. "Ah, where almost inside!" Jen shouted, "tomorrow, sunscreen for all, but tonight, drinks and music!"

What is the story you just read about? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

What is the main purpose or purposes of the story? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

Is the story trying to provide you with information:
○ Yes
○ No

If yes: About what information? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

Is the story trying to persuade you?
○ Yes
○ No

If yes: What is it trying to persuade you about? Please write down anything that comes to your mind.

_____
_____
_____

_____
_____

The use of sunscreen played an important role in the story.

Not at all				Very Much
1	2	3	4	5

Without the references to sunscreen the story would be different.

Not at all				Very Much
1	2	3	4	5

The use of sunscreen was connected to the plot.

Not at all				Very Much
1	2	3	4	5

This story was…
Enjoyable   Not Enjoyable

1	2	3	4	5	6	7

This story was…
Entertaining   Not Entertaining

1	2	3	4	5	6	7

This story was…
Interesting   Not Interesting

1	2	3	4	5	6	7

This story was…
Likeable   Not Likeable

1	2	3	4	5	6	7

This story was…
Informative   Not Informative

1	2	3	4	5	6	7

Please rate the degree to which you felt the following emotions while reading the first message: Fear:

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

Disgust:

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

Sadness:

Not at all   A great Deal
  1   2   3   4   5   6   7   8   9   10
Happiness:
  Not at all   A great Deal
  1   2   3   4   5   6   7   8   9   10
Surprise:
  Not at all   A great Deal
  1   2   3   4   5   6   7   8   9   10

While I was reading the message, I could easily picture the events in it taking place.
  Not at all   Very
                                      Much
    1   2   3   4   5   6
                                        7

While I was reading the message, activity going on in the room around me was on my
mind.
  Not at all   Very
                                      Much
    1   2   3   4   5   6
                                        7

I could picture myself in the scene of the events portrayed in the message.
  Not at all   Very
                                      Much
    1   2   3   4   5   6
                                        7

I was mentally involved in the story while reading.
  Not at all   Very
                                      Much
    1   2   3   4   5   6
                                        7

After finishing the story, I found it easy to put it out of mind.
  Not at all   Very

                                    Much

1   2   3   4   5   6

7

I wanted to learn how the story ended.
  Not at all   Very

                                    Much

1   2   3   4   5   6

7

The message affected me emotionally
  Not at all   Very

                                    Much

1   2   3   4   5   6

7

I found myself thinking of ways the story could have turned out differently.
  Not at all   Very

                                    Much

1   2   3   4   5   6

7

The events in the story are relevant to my everyday life.
  Not at all   Very

                                    Much

1   2   3   4   5   6

7

The events in the story have changed my life.

Not at all   Very
                                                     Much

   1   2   3   4   5   6
                                                     7

This story was created in order to persuade readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to entertain readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to influence readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created to raise awareness about health behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The writers of this story have an intention to alter readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

How much do you like Jen, the girl who went tanning?

Not at all   A great Deal
   1   2   3   4   5   6   7   8   9   10

How much do you like Sarah, the girl who noticed the billboard?

Not at all   A great Deal
   1   2   3   4   5   6   7   8   9   10

How much do you like Lisa, one of the girls to condemn Jen for tanning?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How similar are you to Jen, the girl who went tanning?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How similar are you to Sarah, the girl who noticed the billboard?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How similar are you to Lisa, one of the girls to condemn Jen for tanning?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Sarah, the girl who noticed the billboard?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Lisa, one of the girls to condemn Jen for tanning?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Jen, the girl who went tanning?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Sarah, the girl who noticed the billboard?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Lisa, one of the girls to condemn Jen for tanning?

Not at all   A great Deal
1   2   3   4   5   6   7   8   9   10

The message threatened my freedom to choose to wear sunscreen.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The message tried to make a decision for me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The message tried to manipulate me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The message tried to pressure me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

Message 3: Schools Sun Sickness (Non-narrative)

The frigid winters usually leave everyone hungry for sun – especially young, appearance-conscious individuals. Many look to tanning salons for assistance in accomplishing that perfect glow. And as it turns out, on a surprising number of college campuses now, these students don't have far to go.   Half of the top 125 U.S. colleges and universities listed in US News and World Report have indoor tanning facilities either on campus or in nearby student-focused housing, according to a study published Tuesday in JAMA Dermatology, a journal of the American Medical Association.   In addition, 14 percent of those colleges allowed students to use campus cash to pay for exposure to the ultraviolet rays of tanning beds. This despite abundant evidence that using tanning beds raises the risk of skin cancer, including deadly melanoma. And teenagers and young adults are especially at risk.   "I think this is one health issue that is not on the map when it comes to college-aged kids," says Sherry Pagoto, an associate professor of medicine at the University of Massachusetts Medical School and first author of the study. "It's something that we don't always think of as dangerous as tobacco, but it really is."   Melanoma is the number one cancer in adults 25 to 29 years old. It is recommended that everyone wear a sunscreen with an SPF of 30 or higher everyday.   "In contrast to most other cancers where the incidence rate has stabilized or declined, the incidence of melanoma continues to increase," Dr. Craig Elmets, chairman of the department of dermatology at the University of Alabama at Birmingham, tells Shots. Indoor tanning can increase a person's melanoma risk by 75 percent, and research shows almost one-quarter of non-Hispanic white women ages 18 to 35 use a tanning salon.   Researchers completed the survey by searching for "tanning" on college and university websites. The callers acted as though they were interested in the college and wanted to know what amenities it had, or as if they were a

potential patron of the campus salon.   Colleges in the Midwest and Northeast were much more likely to have indoor tanning on campus and in off-campus housing, not surprisingly. By contrast, schools in the sun-drenched West had no on-campus tanning.   Worrying to Pagoto was the fact that 36 percent of colleges that had off-campus housing with tanning facilities referred students to that housing on their website.   "Tobacco and alcohol are not allowable purchases on many campuses," Pagoto says, "We would encourage colleges to take that one step further and add tanning to that list."   Parents should also add access to tanning beds to their checklist and investigate whether or not money they put on their children's cash card could be used to tan.   Unlike some of the other crazy things you do in college, your risk for skin cancer doesn't go away, says Pagoto. The damage done to your skin in your teenage and college years will stick with you for the rest of your life.

What is the story you just read about? Please write down anything that comes to your mind.

_____
_____
_____
_____
                         _____

What is the main purpose or purposes of the story? Please write down anything that comes to your mind.

_____
_____
_____
_____
                         _____

Is the story trying to provide you with information:
❍ Yes
❍ No

If yes: About what information? Please write down anything that comes to your mind.

_____
_____
_____
_____
_____

Is the story trying to persuade you?
- ○ Yes
- ○ No

If yes: What is it trying to persuade you about? Please write down anything that comes to your mind.

_____
_____
_____
_____
_____

The use of sunscreen played an important role in the story.

    Not at all   Very Much

       1   2   3   4   5

Without the references to sunscreen the story would be different.

    Not at all   Very Much

       1   2   3   4   5

The use of sunscreen was connected to the plot.

    Not at all   Very Much

       1   2   3   4   5

This story was…

  Enjoyable   Not Enjoyable

    1   2   3   4   5   6   7

This story was…

  Entertaining   Not Entertaining

    1   2   3   4   5   6   7

This story was…

  Interesting   Not

                               Interesting

    1   2   3   4   5   6

                              7

This story was…
  Likeable   Not
                              Likeable
        1   2   3   4   5   6
                                                            7

This story was…
  Informative   Not
                              Informative
        1   2   3   4   5   6
                                                            7

Please rate the degree to which you felt the following emotions while reading the first
message: Fear:
        Not at all   A great Deal
            1   2   3   4   5   6   7   8   9   10
Disgust:
        Not at all   A great Deal
            1   2   3   4   5   6   7   8   9   10

Sadness:
        Not at all   A great Deal
            1   2   3   4   5   6   7   8   9   10
Happiness:
        Not at all   A great Deal
            1   2   3   4   5   6   7   8   9   10
Surprise

While I was reading the message, I could easily picture the events in it taking place.

Not at   Very
 all   Much
 1   2   3   4   5   6   7

While I was reading the message, activity going on in the room around me was on my mind.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7

I could picture myself in the scene of the events portrayed in the message.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7

I was mentally involved in the story while reading.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7

After finishing the story, I found it easy to put it out of mind.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7

I wanted to learn how the story ended.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7

The message affected me emotionally
  Not at   Very
   all   Much
   1   2   3   4   5   6   7
             7

I found myself thinking of ways the story could have turned out differently.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7
The events in the story are relevant to my everyday life.
  Not at   Very
   all   Much
   1   2   3   4   5   6   7

The events in the story have changed my life.

Not at all						Very Much
1	2	3	4	5	6	7

This story was created in order to persuade readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to entertain readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to influence readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created to raise awareness about health behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The writers of this story have an intention to alter readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message threatened my freedom to choose to wear sunscreen.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to make a decision for me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to manipulate me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to pressure me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Appendix B: Second Pilot Test Questionnaire
(Same stimulus as used in main study. See below**).**

What is the story you just read about? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

What is the main purpose or purposes of the story? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

 Is the story trying to provide you with information:
❍ Yes
❍ No
If yes: About what information? Please write down anything that comes to your mind.

_____
_____
_____
_____
_____

Is the story trying to persuade you?
❍ Yes
❍ No

If yes: What is it trying to persuade you about? Please write down anything that comes to your mind.

_____
_____
_____
_____
_____
The use of sunscreen played an important role in the story.

Not at all   Very Much
        1   2   3   4   5

Without the references to sunscreen the story would be different.
        Not at all   Very Much
        1   2   3   4   5

The use of sunscreen was connected to the plot.
        Not at all   Very Much
        1   2   3   4   5

This story was…
    Enjoyable   Not
                                                                Enjoyable

        1   2   3   4   5   6   7

This story was…
    Entertaining   Not
                                                              Entertaining

        1   2   3   4   5   6   7

This story was…
    Interesting   Not
                                                               Interesting

        1   2   3   4   5   6   7

This story was…
    Likeable   Not
                                                                Likeable

        1   2   3   4   5   6   7
                                                          7

This story was…
    Informative   Not
                                                               Informative

        1   2   3   4   5   6   7

Please rate the degree to which you felt the following emotions while reading the first
message: Fear:
    Not at all   A great Deal
            1   2   3   4   5   6   7   8   9   10
Disgust:

Not at all   A great Deal
    1   2   3   4   5   6   7   8   9   10

Sadness:

Not at all   A great Deal
    1   2   3   4   5   6   7   8   9   10

Happiness:

Not at all   A great Deal
    1   2   3   4   5   6   7   8   9   10

Surprise:

Not at all   A great Deal
    1   2   3   4   5   6   7   8   9   10

While I was reading the message, I could easily picture the events in it taking place.

Not at   Very
 all   Much
  1   2   3   4   5   6   7

I was mentally involved in the narrative while reading it.

Not at   Very
 all   Much
  1   2   3   4   5   6   7

I forgot about the world around me while reading the narrative.

Not at   Very
 all   Much
  1   2   3   4   5   6   7

I wanted to learn how the narrative ended.

Not at   Very
 all   Much
  1   2   3   4   5   6   7

The narrative affected me emotionally.

Not at   Very
 all   Much
  1   2   3   4   5   6   7

I found myself thinking of ways the narrative could have turned out differently.

Not at   Very
 all   Much
  1   2   3   4   5   6   7

I could picture myself in scenes of the events portrayed in the narrative.

Not at all						Very Much
1	2	3	4	5	6	7

I found my mind wandering while reading the narrative.

Not at all						Very Much
1	2	3	4	5	6	7

The events in the narrative are relevant to my everyday life.

Not at all						Very Much
1	2	3	4	5	6	7

I felt moved by the narrative.

Not at all						Very Much
1	2	3	4	5	6	7

This story was created in order to persuade readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to entertain readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to influence readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created to raise awareness about health behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The writers of this story have an intention to alter readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message threatened my freedom to choose

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to make a decision for me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to manipulate me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to pressure me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

How much do you like Jen, the girl who went tanning?

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

How much do you like Sarah, one of the girls to condemn Jen for tanning?

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

How much do you like Jess, the girl whose mother has cancer?

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

How much do you like Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

How similar are you to Jen, the girl who went tanning?

Not at all									A great Deal
1	2	3	4	5	6	7	8	9	10

How similar are you to Sarah, one of the girls to condemn Jen for tanning?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How similar are you to Jess, the girl whose mother has cancer?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How similar are you to Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Jen, the girl who went tanning?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Sarah, one of the girls to condemn Jen for tanning?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Jess, the girl whose mother has cancer?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

    Not at all   A great Deal

       1   2   3   4   5   6   7   8   9   10

How much do you wish to be like Jen, the girl who went tanning?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you wish to be like Sarah, one of the girls to condemn Jen for tanning?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you wish to be like Jess, the girl whose mother has cancer?

    Not at all   A great Deal

      1   2   3   4   5   6   7   8   9   10

How much do you feel like you wish to be like Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not at all   A great Deal

   1   2   3   4   5   6   7   8   9   10

For each of the following, please indicate the degree to which you felt this as you were reading the narrative.

I felt irritated while reading the narrative.

None of this   A great deal of this
   feeling   feeling
      1   2   3   4   5

I felt angry while reading the narrative.

None of this   A great deal of this
   feeling   feeling
      1   2   3   4   5

I felt annoyed while reading the narrative.

None of this   A great deal of this
   feeling   feeling
      1   2   3   4   5

I felt aggravated while reading the narrative.

None of this   A great deal of this
   feeling   feeling
      1   2   3   4   5

The use of sunscreen is...

Bad	1	2	3	4	5	6	7	Good
Foolish	1	2	3	4	5	6	7	Wise
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Detrimental	1	2	3	4	5	6	7	Beneficial

I intend to always wear sunscreen.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to discuss using sunscreen with friends.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to encourage my friends to use sunscreen.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

Odd Was there anything in this study you found odd? If so please give us more details.

❍ Yes

❍ No

If yes: What did you find odd about this study?

_____
_____
_____
_____
_____

Did you find any mistakes, either in the narrative or in the questionnaire, while participating in this study?

❍ Yes

❍ No

If yes: What did you find odd about this study?

_____
_____
_____
_____
_____

Finally, we need a bit more information about you.

Age What is your age in years? _____

Sex What is your gender?
- ❍ Female (1)
- ❍ Male (2)
- ❍ Neither (3)
- ❍ I prefer not to answer (4)

Grade Which of the following best describes your current University of Minnesota status?
- ❍ 1st year (1)
- ❍ 2nd year (3)
- ❍ 3rd year (4)
- ❍ 4th year (5)
- ❍ 5th year (6)
- ❍ 5+ years (7)
- ❍ Non-traditional student (8)
- ❍ Graduate student (9)

Major What is your major? If you have not chosen a major, please wright "undecided."
_____

Appendix C: Main Study

Pretest

The use of sunscreen is...

Bad	1	2	3	4	5	6	7	Good
Foolish	1	2	3	4	5	6	7	Wise
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Detrimental	1	2	3	4	5	6	7	Beneficial

I intend to always wear sunscreen.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to discuss using sunscreen with friends.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to encourage my friends to use sunscreen.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

What is the likelihood that you will use sunscreen this week?

What is the likelihood that you will go to a tanning bed this week?

Very Unlikely						Very Likely
1	2	3	4	5	6	7

Have you or anyone in your immediate family been diagnosed with skin cancer?
❍ Yes
❍ No
If yes, how many people in your immediate family have been diagnosed with skin cancer? ____

Imagine that your skin is exposed to strong sunshine at the beginning of the summer with no protection. If you stayed in the sun for 30 minutes, your skin would:
❍ Not burn at all, just tan afterwards (
❍ Burn at first, then tan afterwards
❍ Just burn and not tan

What type of skin color do you have when you do not consider yourself tan?
- ❍ Very fair
- ❍ Fair
- ❍ Medium
- ❍ Dark
- ❍ Very dark

About how many sunburns have you had in the past year?
- ❍ I've never burned
- ❍ 1 time
- ❍ 2-3 times
- ❍ 3-4 times
- ❍ 5 or more times

A diet consisting mostly of fruits and vegetables is...

Bad	1	2	3	4	5	6	7	Good
Foolish	1	2	3	4	5	6	7	Wise
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Detrimental	1	2	3	4	5	6	7	Beneficial

I intend to eat three balanced meals a day.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to discuss eating three balanced meals every day with my friends.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to encourage my friends to eat three balanced meals.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

Have you or anyone in your immediate family been diagnosed with heart disease?
- ❍ Yes
- ❍ No

If yes, how many people in your immediate family have been diagnosed with heart disease? ____

Have you ever had a heart attack or been told that you have heart disease?
○ Yes
○ No

Have you ever been told that you have high blood pressure (hypertension) or have you ever been given blood pressure medicine?
○ Yes
○ No

Do you eat 5 or more servings of fruit and vegetables per day?
○ Yes
○ No

Do you walk (or do other moderate activities) for at least 30 minutes on most days, or at least 3 hours per week?
○ Yes
○ No

The use of cigarettes is...

Bad	1	2	3	4	5	6	7	Good
Foolish	1	2	3	4	5	6	7	Wise
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Detrimental	1	2	3	4	5	6	7	Beneficial

I am currently a smoker.
- ❍ Yes
- ❍ No

If yes:

I intend to always use cigarettes.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

If yes: How many cigarettes do you typically smoke per day?
- ❍ 1 or fewer (1)
- ❍ 2-5 (2)
- ❍ 6-10 (3)
- ❍ 11-15 (4)
- ❍ 16-20 (5)
- ❍ 21 or more (6)

I intend to encourage my friends to not smoke or quit smoking.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

Have you or anyone in your immediate family been diagnosed with lung cancer?
- ❍ Yes
- ❍ No

If yes: How many people in your immediate family have been diagnosed with lung cancer? _____

Have you ever lived in a household with smokers?
- ❍ Yes
- ❍ No

I become frustrated when I am unable to make free and independent decisions.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

I become angry when my freedom of choice is restricted.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

It irritates me when someone points out things which are obvious to me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

Regulations trigger a sense of resistance in me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

I find contradicting others stimulating.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

When something is prohibited, I usually thinking "that's exactly what I am going to do".

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

I resist the attempts of others to influence me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

It makes me angry when another person is held up as a model for me to follow.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

When someone forces me to do something, I feel like doing the opposite.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

I consider advice from others to be an intrusion.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

Advice and recommendations induce me to just the opposite.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

Demographics Finally, we need a bit more information about you.

Age What is your age in years? _____

Sex What is your gender?
- ○ Female
- ○ Male
- ○ Neither
- ○ I prefer not to answer

Grade Which of the following best describes your current University of Minnesota status?
- ○ 1st year
- ○ 2nd year
- ○ 3rd year
- ○ 4th year
- ○ 5th year
- ○ 5+ years
- ○ Non-traditional student
- ○ Graduate student

Major What is your major? If you have not chosen a major, please right "undecided." _____

Appendix D: Stimulus and Posttest

The two girls stood in the doorway, impatiently adjusting the shoulder straps of their oversized beach bags.

"C'mon, Lisa, I want to lay out for a while before the parties get started!" Jen said.

Lisa, her bikini strings poking out of her coverup around her neck, a similarly overstuffed beach bag at her own feet, stood hunched over a laptop opened on the hotel room desk.

"Hang on, I just need to….it's taking forever to attach…" She trailed off.

"Spring Break officially started over an hour ago—" Jen started.

"Actually, it began two days ago—" Sarah interrupted, not looking up from her phone.

"Well, we didn't GET here until an hour ago, and every second that goes by is another second we could be at the beach, in the sun…"

"Sent!" Shouted Lisa, swiftly slamming her laptop closed and scooping up her bag. "Let's go!"

"Keys and ID's, everyone?" Sarah asked.

"Yes, I had mine ten minutes ago and I still have them, let's move!" Jen walked off down the hallway.

"Got mine," Lisa said, letting the door click shut behind her. "SO glad that's over. That paper was a B to write."

"Ummm, yeah. You worked on it all the way down here," Sarah said.

"But now I'm done! I'm duh-un! I'm Duh-un!" Lisa whooped, shuffling and dougie-ing into the elevator.

"Oh, please don't do that," said Jen.

"Honey, there is no room for embarrassment on SPRING BREAK!" said Sarah, joining in the dance.

The three girls emerged from the elevator a minute later, still giggling, and began to walk toward the glass lobby doors and out into the bright sunlight. They paused only briefly on the hotel patio to strategize the best place to set up their beach blankets. They soon moved to a relatively uncrowded area, near the beach entrance to the neighboring hotel.

"Omigosh, this is SUCH a beautiful day," Jen gushed while spreading out a beach blanket. "I've been fantasizing about this sun for weeks."

"Totally," Sarah said, helping Jen with a second blanket. "Holed up in that windowless, cold, library…"

"What?" Lisa laughed. "It's not windowless!"

"I know, I know," Sarah replied, "I was exaggerating for effect."

Lisa laughed and pulled off her cover up. "Here, Jen," she said, reaching into her bag and rummaging around for something, "If you do my back, I'll do yours," she said, standing up with a tube of sunscreen in her hand. "Whoa! Jen! How do you already have tan lines!?"

Jen, stuffing her coverup back into her bag, stood up awkwardly. "Well…"

"Ummm, that's not from the tinted moisturizer you were using," said Sarah, more statement than question.

"Well I was using that stuff, but you know, I'm really pale to begin with—" Jen began.

"Was it not working enough for you or something? Also, you have great skin on its own! I keep telling you this!" Sarah interrupted.

"Well, yes, sure, but I was really nervous that I'd come down here and burn horribly the first day and I didn't want to, like, be a lobster the entire time, so I went tanning a couple of times, just to, you know, get, like, a base layer," Jen admitted.

"A couple of times?" Lisa said.

"Are you crazy?" Sarah said simultaneously.

"You guys, seriously, I burn so hard it's not even funny. This is better for me in the long run," Jen quickly said, sitting down and smoothing out her blanket.

"Umm, I beg to differ, but whatevs," Sarah said. "Lisa, toss over that sunscreen. Jen, please do my back for me, and then I'LL do YOURS."

Jen rolled her eyes, but caught the tube form Lisa.

"Omigosh, guys. Guys, you remember that Johnny kid from my econ class?" Lisa asked, squinting down the beach.

"Wait, whoa, Duan Juan Johnny?" Jen asked, falling into a fit of giggles.

"Who?" Sarah asked.

"You'll remember when you see him. From the Fieldhouse fishbowl night. Followed me and Jen around…I mean, can you see what he's wearing!?" Lisa asked.

"Oooooooh," Sarah said, recognition dawning on her face.

Jen, still giggling, tried to squint up the beach. "Oh, I totally wish I had binoculars…"

"Because THAT wouldn't be obvious or anything…" Sarah said, beginning to giggle herself.

"Jen, you guys, shut up! I don't want him to see us! Oh my gosh," Lisa said, sitting down and turning her back to the group of boys down the beach.

"Totally right, Lis," Jen said, getting out her phone, trying to stifle her giggles.

"Hey, guys…" Lisa said.

"Jen," Sarah said, leaning in and lowering her voice, "did you know your eyes are like a bottomless carribean sea?" They both collapsed into more giggles.

"Guys," Lisa said again, watching a girl slowly walk in their direction.

"What was the line about the halo? Or something about an angel, or something?" Jen asked, laughing.

"*GUYS*," Lisa whispered emphatically as the girl walked by their blankets. "Hey…Jess?" Lisa said louder. "What's wrong? Is something going on?"

The girl looked up at Lisa as if she had just now realized she was there. Her eyes were red and wet with tears, and she had been walking quickly toward the hotel behind them with nothing but her phone in her hand.

"Oh, Lisa! Oh hi, guys!….sorry, I just…" Jess began, walking toward the girls on the blankets, more tears forming in her eyes as she talked, "I just had a phone call from my mom, she's coming home from the dermatologist and she has to have a biopsy on a suspicious mole—"

"Oh my god," Jen said.

"—I mean, I know it's silly to cry, I guess, it's just a biopsy, they don't know anything yet, just a biopsy doesn't mean cancer, I mean, even if it is cancer, it could be benign, but I guess it just hit me real hard when I got off the phone with my mom," Jess sniffled.

"Oh, man, Jess, I'm so sorry to hear that," Lisa said, motioning for her to sit beside her. Jess sat down and wiped her eyes. "It's funny, she was lecturing me about making sure I was wearing at least 30 SPF this week," –Lisa shot a look at Jen—"and, I mean, she's given me the 'sunscreen lecture' since forever, but this time, I was thinking about what if she wasn't around anymore to nag me about things, ha, you know?" Jess sniffled and smiled sheepishly. "I know I'm being a little dramatic…"

"No, not at all," said Lisa, rubbing Jess's back.

"Anyway," Jess said, "I'm on my way upstairs to call my brother. I'm sort of over crying in front of people on Spring Break."

"I know, geesh, how totally lame of you," Jen said with a smile.

Jess smiled back. "I'm also going to get some sunscreen from the gift shop. We only brought 15 SPF in our group, and my mom said that Melanoma is the number one cancer in adults 25 to 29 years old. It is recommended that everyone wear a sunscreen with an SPF of 30 or higher everyday. Like, I know in my head I should be wearing at least 30 spf sunscreen out here today, or should have been doing, like, all the time, because it's good for me, but now I'm going to because it feels like something I can do for her, like right now, you know?"

"Oh, totally. I know what you mean," Lisa said. Jen and Sarah murmured in agreement.

"Ok. Phew! Ok, thank you Lisa. I'm going to get going. Have fun today, guys," Jess said, standing back up.

"We will. Hey, you going to the Daiquiri Deck for happy hour later?" Lisa asked.

"Totally. Planning on it. Just need a minute, you know," Jess smiled again, wiping the last of her tears off her face.

"Sweet," said Sarah.

"Totally," said Jen, "we'll have a drink—"

"or two—"

"or five—"

"for your mom," Jen finished.

Jess laughed. "Thanks, you drunks. See you later!"

The girls watched Jess walk up to the hotel. Jen turned around to see both her friends staring right back at her. "A-HEM," Sarah said.

"Ok! Ok! I know! I'm a stupid college girl! I'll never go tanning again!!" Jen said, hands up in surrender.

Lisa laughed. "Fair. Now please, someone put some sunscreen on my back? I am more than ready to stretch out on this blanket and move as little as possible for the next hour."

Before you are asked any further questions, we want to know your initial thoughts after reading this narrative.

Before you are asked any further questions, we want to know your initial thoughts and feelings after reading this narrative. Please write down anything that comes to mind.

Thought 1

_____

Thought 2

_____

Thought 3

_____

Thought 4

_____

Thought 5

_____

Thought 6

_____

Thought 7

_____

Thought 8

_____

Thought 9

_____

Thought 10

_____

What is the story you just read about? Please write down anything that comes to your mind.

_____
_____
_____
_____
_____

What is the main purpose or purposes of the story? Please write down anything that comes to your mind.

_____
_____
_____
_____
_____

Who went to a tanning bed before going on spring break?
- ❍ Jen
- ❍ Lisa
- ❍ Sarah

Is the story trying to provide you with information:
- ❍ Yes
- ❍ No

If yes: About what information? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

Is the story trying to persuade you?
- ❍ Yes
- ❍ No

If yes: What is it trying to persuade you about? Please write down anything that comes to your mind.

_____
_____
_____
_____

_____

Please indicate the degree to which you agree or disagree with the following statements:

The message threatened my freedom to choose to wear sunscreen.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The message tried to make a decision for me.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The message tried to manipulate me.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The message tried to pressure me.

Strongly Agree	Somewhat Agree	Neither Agree Nor Disagree	Somewhat Disagree	Strongly Disagree
1	2	3	4	5

The use of sunscreen played an important role in the story.

Not At All				Very Much
1	2	3	4	5

Without the references to sunscreen the story would be different.

Not At All				Very Much
1	2	3	4	5

The use of sunscreen was connected to the plot.

Not At All				Very Much
1	2	3	4	5

This story was…

Enjoyable						Not Enjoyable
1	2	3	4	5	6	7

This story was…

Entertaining						Not Entertaining
1	2	3	4	5	6	7

This story was…
  Interesting   Not Interesting
      1   2   3   4   5   6   7

This story was…
  Likeable   Not Likeable
      1   2   3   4   5   6   7

This story was…
  Informative   Not Informative
      1   2   3   4   5   6   7

Please rate the degree to which you felt the following emotions while reading the first
message: Fear:
      Not at all   A great Deal
          1   2   3   4   5   6   7   8   9   10
Disgust:
      Not at all   A great Deal
          1   2   3   4   5   6   7   8   9   10
Sadness:
      Not at all   A great Deal
          1   2   3   4   5   6   7   8   9   10
Happiness:
      Not at all   A great Deal
          1   2   3   4   5   6   7   8   9   10
Surprise:

Not at all   A great Deal
  1   2   3   4   5   6   7   8   9   10

While I was reading the message, I could easily picture the events in it taking place.

Not at all						Very Much
1	2	3	4	5	6	7

I was mentally involved in the narrative while reading it.

Not at all						Very Much
1	2	3	4	5	6	7

I forgot about the world around me while reading the narrative.

Not at all						Very Much
1	2	3	4	5	6	7

I wanted to learn how the narrative ended.

Not at all						Very Much
1	2	3	4	5	6	7

The narrative affected me emotionally.

	Not at all						Very Much
	1	2	3	4	5	6	7

I found myself thinking of ways the narrative could have turned out differently.

	Not at all						Very Much
	1	2	3	4	5	6	7

I could picture myself in scenes of the events portrayed in the narrative.

	Not at all						Very Much
	1	2	3	4	5	6	7

I found my mind wandering while reading the narrative.

	Not at all						Very Much
	1	2	3	4	5	6	7

The events in the story are relevant to my everyday life.

	Not at all						Very Much
	1	2	3	4	5	6	7

I felt moved by the narrative.

Not at all						Very Much
1	2	3	4	5	6	7

This story was created in order to persuade readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to entertain readers.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created in order to influence readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

This story was created to raise awareness about health behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The writers of this story have an intention to alter readers' behaviors.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message threatened my freedom to choose to wear sunscreen.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to make a decision for me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to manipulate me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message tried to pressure me.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The message threatened my freedom to choose

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The message tried to make a decision for me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The message tried to manipulate me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

The message tried to pressure me.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1	2	3	4	5

How much do you like Jen, the girl who went tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you like Sarah, one of the girls to condemn Jen for tanning?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How much do you like Jess, the girl whose mother has cancer?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How much do you like Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How similar are you to Jen, the girl who went tanning?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How similar are you to Sarah, one of the girls to condemn Jen for tanning?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How similar are you to Jess, the girl whose mother has cancer?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How similar are you to Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Jen, the girl who went tanning?

Not At
All

A Great
Deal

1   2   3   4   5   6   7   8   9   10

How much do you feel like you know Sarah, one of the girls to condemn Jen for tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you feel like you know Jess, the girl whose mother has cancer?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you feel like you know Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you wish to be like Jen, the girl who went tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much you wish to be like Sarah, one of the girls to condemn Jen for tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you wish to be like Jess, the girl whose mother has cancer?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

How much do you feel like you wish to be like Lisa, the first girl to see and console Jess and to condemn Jen for tanning?

Not At All									A Great Deal
1	2	3	4	5	6	7	8	9	10

For each of the following emotions, please indicate the degree to which you felt this as you were reading the narrative.

I felt irritated while reading the narrative.

None of this feeling				A great deal of this feeling
1	2	3	4	5

I felt angry while reading the narrative.

None of this feeling				A great deal of this feeling
1	2	3	4	5

I felt annoyed while reading the narrative.

None of this feeling				A great deal of this feeling
1	2	3	4	5

I felt aggravated while reading the narrative.

None of this feeling				A great deal of this feeling
1	2	3	4	5

The use of sunscreen is...

Bad	1	2	3	4	5	6	7	Good
Foolish	1	2	3	4	5	6	7	Wise
Unfavorable	1	2	3	4	5	6	7	Favorable
Negative	1	2	3	4	5	6	7	Positive
Detrimental	1	2	3	4	5	6	7	Beneficial

I intend to always wear sunscreen.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to discuss using sunscreen with friends.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

I intend to encourage my friends to use sunscreen.

Very Unlikely						Very Likely
1	2	3	4	5	6	7

Appendix E: Means, Standard deviations and correlations for each measured variable

Means, Standard deviations, and correlations for Character Involvement

Measure	Mean	*SD*	1.	2.	3.	4.
1. Likening the Character	7.39	2.29	—			
2. Similarity to Character	4.87	2.61	.30**	—		
3. Know the Character	6.08	2.43	.47**	.55**	—	
4. Wish to be Character	3.45	2.60	.23**	.47**	.41**	—

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Means, Standard deviations, and correlations for Transportation

Measure	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Picture Events	5.59	1.45	—									
2. Mentally Involved	5.02	1.45	.57**	—								
3. Forgot World	3.77	1.62	.39**	.50**	—							
4. Learn Ending	4.71	1.74	.41**	.50**	.55**	—						
5. Affected Emotionally	3.79	1.84	.30**	.43**	.55**	.48**	—					
6. End Differently	4.24	1.74	.33**	.31**	.48**	.37**	.37**	—				
7. Picture Events	4.47	1.87	.48**	.46**	.37**	.41**	.40**	.40**	—			
8. Mind Wandering	4.45	1.81	.20**	.37**	.41**	.32**	.19**	.05	.13**	—		
9. Relevant to Life	3.87	1.61	.29**	.20**	.32**	.29**	.46**	.28**	.43**	.05	—	
10. Moved by Narrative	3.80	1.59	.28**	.32**	.29**	.41**	.65**	.32**	.40**	.11	.54**	—

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Means, Standard deviations, and correlations for Emotions

Emotion	Mean	*SD*	1.	2.	3.	4.	5.
1. Fear	4.58	2.19	—				
2. Disgust	2.93	1.96	.38**	—			
3. Sadness	5.98	2.31	.50**	.13*	—		
4. Happiness	4.00	1.92	.22**	.05	.23**	—	
5. Surprise	3.76	1.94	.35**	.17*	.29**	.48**	—

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Means, Standard deviations, and correlations for Perceived Threat

Measure	Mean	*SD*	1.	2.	3.	4.
1. Threatened to choose	1.70	.88	—			
2. Make decision for me	2.07	1.06	.66**	—		
3. Message manipulated	2.23	1.16	.43**	.63**	—	
4. Pressured me	2.48	1.21	.45**	.55*	.71**	—

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Means, Standard deviations, and correlations for Reactance Proneness

Measure	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Frustrate	1.89	1.45	—										
2. Angry	1.80	1.45	.56**	—									
3. Irritates	2.13	1.62	.20**	.27**	—								
4. Reg. Trigger	2.84	1.74	.19**	.21**	.19*	—							
5. Contradicting	3.07	1.84	.03	.06	.09	.29**	—						
6. Prohibited	3.88	1.74	-.03	.02	.02	.41**	.40**	—					
7. Resist	2.51	1.87	.10	.05	.20**	.04	.18**	.05	—				
8. Model	2.95	1.81	.08	.06	.17**	.26**	.15**	.16**	.16**	—			

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
9. Forces	3.10	1.61	.08	.09	.07	.33**	.30**	.40**	.20**	.34**	—		
10. Intrusion	3.96	1.59	.00	-.02	.15**	.28**	.28**	.29**	.16**	.31**	.35**	—	
11. Advice and Rec.	4.12	.78	-.07	-.05	.07	.28**	.18**	.36**	.08	.29**	.35**	.65**	—

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Means, Standard deviations, and correlations for Reactance – (Closed-ended only)

Measure	Mean	SD	1.	2.	3.	4.
1. Irritated	2.30	1.26	—			
2. Angry	1.80	1.05	.50**	—		
3. Annoyed	2.27	1.26	.68**	.38**	—	
4. Aggravated	1.82	1.82	.62**	.66**	.59**	—

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Means, Standard deviations, and correlations for Persuasion

Measure	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Good/Bad	6.59	.83	—										
2. Foolish/Wise	6.60	.93	.70**	—									
3. Unfav./Fav	6.15	1.37	.51**	.57*	—								
4. Neg./Pos.	6.50	.99	.68**	.90**	.57**	—							
5. Undesir./Desir.	5.64	1.60	.44**	.46**	.63**	.53**	—						
6. Detrim./Benefi.	6.59	1.03	.55**	81*	.48**	.78**	.35**	—					
7. Always Wear	4.92	1.62	.41**	.37**	.33**	.39**	.28**	.32**	—				
8. Discuss	3.68	1.76	.27**	.25**	.25**	.25**	.23**	.14**	.46**	—			
9. Encourage	4.37	1.64	.30**	.26**	.25**	.26**	.22**	.16*	.48**	.71**	—		

10. Use SS	2.58	2.13	.05	.08	.15*	.11	.23**	.01	.32**	.40**	.37**	—
11. Go Tanning[1]	6.46	1.39	.09	.05	.13*	.04	.04	.04	.17*	-.03	.08	-.17**	—

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)
1. This item was reverse coded