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NARRATIVE PERSUASION AMPLIFICATION VIA INTERACTIVE
NARRATIVE MEDIA

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
Communication, Technology, and Society

by
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Accepted by:
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ABSTRACT

This research was intended to investigate if interactive narrative media enhances the effects of narrative persuasion utilizing a story about opioid overdose kits. Using Social Cognitive Theory (SCT), the Entertainment Overcoming Resistance Model (EORM), and the Extended Parallel Processing Model (EPPM) as theoretical frameworks, this study examines the benefits of narrative persuasion and applies them to interactive narrative media. While these benefits have been established with traditional, unidirectional media, they have rarely been examined in media wherein the audience has the ability to affect the narrative. The hypotheses tested in this experiment posit that the interactive narrative media will elicit more positive attitudes towards the topic of the narrative while the viewers experience greater levels of narrative identification, transportation, and task-related self-efficacy related to the use of Naloxone kits to aid a person undergoing an opioid overdose.

An experiment was conducted with university students who were provided either interactive or non-interactive narrative media. Results tested with a series of independent-samples t-tests found that both interactive and non-interactive narrative media elicited similar amounts of narrative identification, transportation, and task-related self-efficacy. This study proposes that the benefits of interactivity may lie beyond a not hitherto designated interactivity threshold. Research has shown this threshold has been crossed by more complex media, but its limitations and features have yet to be discovered.

Keywords: social cognitive theory, entertainment overcoming resistance model, extended parallel processing model, interactivity, interactive narrative media, narrative persuasion, transportation, identification, self-efficacy, attitude

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CHAPTER 1

INTRODUCTION

Stories and learning are inextricably linked. Cautionary tales with veiled morals about going into the wilderness alone, trusting strangers, or hubris towards the gods have been with us since ancient times. Agents of conquest have spread propaganda stories telling of the improvement of other civilizations that have bent a knee to their rulers. These traditions have continued to modern day through radio, television, and even social media. Of the newer methods of storytelling though, digital gaming stands out for its capability to present a story but have the audience affect its outcome through the choices they make. These types of media are used to encourage health conscious behaviors (Peng, 2009) as well as recruit for politically active groups using interactive narratives (Gieselmann, 2007). In a story where the goal is to persuade the audience, this study seeks to examine whether the elements of transportation, identification, and self-efficacy are enhanced by interactive elements.

Looking at the different aspects of narrative persuasion, this study looks to examine how interactive narrative media could enhance the persuasive effects of stories. In order to test this, the study will compare the effects of a traditional, uni-directional narrative and an interactive narrative by giving participants a story in which the main character obtains and uses an opioid overdose kit to help save a life. Both groups will get the same basic story, the interactive group will have a narrative affected by choices the participant makes, whereas the narrative group will lack interactive elements. Afterward,

each group will be tested on the persuasiveness of the story, their transportation, identification with the main character, and their self-efficacy regarding this topic.

CHAPTER 2

LITERATURE REVIEW

Humans are a storytelling species. One of the earliest recordings of narratives being discussed is in Aristotle's 'Poetics' in which he discriminates between two kinds of communication: rhetoric and poetics (Hutton, 1982). Rhetoric is straightforward, non-narrative addresses intended to persuade or inform, while poetics included plays and poetry, which were the primary forms of fiction in his culture. This work also features a concept Aristotle called "mythos" which is described as an organization of events, often translated as plot (Hutton, 1982). This classical era distinction between the rhetorical and poetic would remain mostly unchallenged until the 20th century when scholars would begin to study narrative aspects in everyday human communication (Gerrig, 1993; Fisher, 1987).

One of the most prominent scholars to look at this use of narrative was Walter Fisher (1987) who proposed that all communication between humans could be conceptualized as chronologically situated and historically/culturally informed symbolic interpretations of a perceived reality. This led to his use of the phrase "*Homo narrans*" (p.62) to describe our dependence on stories. This view of narratives is very broad, so this study will be using a more recent definition: "a representation of connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit or explicit messages about the topic being addressed" (Kreuter et al., 2007, p. 222). This definition is useful for its encapsulating quality wherein narratives are seen as discreet artifacts or events, which is how they are used in media such as books, television

programs, movies, and games; but it does not limit the style of narrative which can include soap operas, cartoons, journalism, testimonials, and classical storytelling (Kreuter et al., 2007)

Narrative Persuasion

For this study, narratives will be utilized in terms of their persuasive power. Narrative persuasion has seen much influence from two authors: Aristotle and Gerald Miller. Aristotle's 'Rhetoric' shows the first theoretical model of persuasion based on the elements used to do the persuading; namely *ethos*, *pathos*, and *logos* (Dillard & Pfau, 2002). Ethos refers to the character and identity of the speaker, sometimes called charisma; pathos is the mental or emotional state the speaker wishes to turn their audience toward; and logos is the evidence given to support their claims (Demirdöğen, 2010). These can be both verbal and nonverbal according to the means employed by the speaker.

Miller's (1980) contribution focuses on audience members' attitude and behavior changes in response to the persuasion. Miller classified these changes into 3 categories: response shaping, response reinforcing, and response changing (1980). Response shaping molds and conditions a response or attitude to a stimulus to which the audience may have no other response. A common example is teaching a child to do a task in a particular way in response to an order such as "tidy up the living room." Response shaping can also be referred to as "attitude forming" in some similar literature.

Response reinforcing takes an already established response or attitude to a stimulus and strengthens and encourages it, often with the goal of making those responses

and attitudes more fervent and resistant to change (Miller, 1980). This can be seen in religious, political, and even corporate gatherings where the philosophy, values, and vision of a group are restated and celebrated.

And lastly, response changing attempts to take an already established response or attitude to a stimulus and change that response. Miller (1980) describes this process as the one by which “smokers are persuaded to become nonsmokers, automobile drivers are persuaded to walk or use public transportation, Christians are persuaded to become Moslems [*sic*], and so on” (p.10). Response changing can also be referred to as “attitude change” and is the process most often studied as it fits most closely with the common usage of the word “persuasion.” Response changing is the approach to which this study is most concerned.

Narrative persuasion has been studied in a large variety of contexts including advertising, attitudes and behaviors regarding health, political, and scientific issues (Chang, 2013; Green, 2006; Kreuter et al., 2007; McComas & Shanahan, 1999; Oliver, Dillard, Bae, & Tamul, 2012). Its potential versatility and power stems from four of its strengths, which Kreuter (2007) identifies as: “overcoming resistance, facilitating information processing, providing surrogate social connections, and representing emotional and existential issues” (p. 222).

Resistance can be defined by either a defiance against change or persuasive appeals (Knowles & Linn, 2004). The ability to counteract resistance is unique in that it seems to both oppose Miller’s (1980) concept of response reinforcing while supporting response changing, both acts that he would define as persuasion. One example of this

comes from an experiment by Moyer-Gusé and Nabi (2009) wherein participants were asked to view either a dramatic, narrative program or a non-narrative program about unplanned adolescent pregnancy and its accompanying obstacles, then asked to view them again after 2 weeks, completing a questionnaire after each viewing. They found that those exposed to the narrative program expressed greater decreasing resistance than those with the non-narrative program.

The label of “facilitating information processing” may seem like an overly general label, but it encompasses a broad spectrum of research and application. It follows the vein of Fisher’s (1987) philosophy in that humans are natural storytellers, which means that they also naturally receive stories well. Therefore, informative and persuasive messages couched skillfully into narratives should enhance their retention and effectiveness (Green et. al., 2002). Some older examples of this include famous cautionary tales told to children about the danger of strangers or going alone into isolated places. More modern examples can be seen in Fisch’s capacity model (Fisch, 2000) which attempts to explain and evaluate the effectiveness of children’s educational media and in narrative learning theory (Bruner, 1991) wherein andragogy is enhanced by having educators encourage adult students to find a place to apply newly learned subject matter within their own life experiences.

The “surrogate social connections” (Kreuter et al., 2007, p. 222) refers to the emotional connection and investment one may feel toward a character in the narrative. Another term for this is a parasocial relationship, distinguishing it from face-to-face or mediated relationships. These relationships with fictional characters have been found to

provoke the same emotional and informative responses as with those a person interacts with face-to-face (Piccirillo, 1986). One harmful example of the effects of parasocial relationship was found when researchers studied predisposition of eating disorders in collegiate women who held strong parasocial relationships with thin characters in television and magazines (Harrison, 1997). Another study demonstrated that exposing participants to a narrative in which the characters discussed sexual history and safe sex practices with a sexual partner increased the likelihood of those participants having similar discussions with sexual partners over the next 2 weeks (Moyer-Gusé et. al., 2011). This study found that there was a positive relationship between the likelihood of these discussions occurring and the level of identification the participant felt with the character in the narrative by reducing counterargument and increasing self-efficacy related to the task. The concepts of identification and self-efficacy are closely related to parasocial relationships but will be discussed later in the paper.

Lastly, the ability to represent “emotional and existential issues” (Kreuter et al., 2007) is a powerful communication tool. Akin to the parasocial aspect just discussed, a well composed narrative can express not only facts, but experience as it was felt by another person. One study (Murphy, et. al., 2013) comparing narrative and nonnarrative persuasion about cervical cancer found that not only were narrative methods associated with higher emotional reactions, but those emotional reactions also predicted attitudes toward cancer screening.

When talking about narrative persuasion, its useful to look at some theoretical frameworks that have developed to explain it. One prominent theory which is often

applied to narrative persuasion is social cognitive theory (SCT) (Bandura, 1989). This theory states that people gain knowledge in two ways: experientially & vicariously by imitating models (Bandura, 2003). Experiential learning is that which a person does themselves. This primarily means experimentation without aid where trial and error are the only teachers. Vicarious learning on the other hand means watching and listening to others to gain from their experiences. These others need not be ones personally seen, but they can also be presented in media. Bandura (2004b) states that models can teach “knowledge, values, cognitive skills, and new styles of behavior” (p.78). A model’s likeability and similarity to the viewer may also come into play. A media viewer may be motivated to imitate an attractive or similar model’s behavior when they observe the model’s success and see the behavior rewarded (Bandura, 2004b). Conversely, the theory also says that viewers observing an unattractive model being punished for their actions can reduce motivation to imitate that action. Beyond learning though, the theory goes on to talk about self-efficacy toward the task being modeled. If a viewer has little faith in their ability to perform the task or believes the results won’t be worth the work put into it, they are less likely to attempt the new behavior.

Another theoretical model of importance to a discussion of narrative persuasion is the entertainment overcoming resistance model (EORM) by Moyer-Gusé (2008). Based on previously established theories of the extended elaboration likelihood model (EELM) and SCT, EORM sought to explain the persuasive effects of entertainment-education content. This was the label given to “prosocial messages embedded into popular entertainment content” (p.408), whether its intention was persuasion or not. It posits that

certain features of entertainment affect persuasive aspects of the content, leading viewers to adopt attitudes and behaviors consistent with the educational story content. For example, a phenomenon called psychological reactance can occur if persuasive messages are perceived by viewers as advocating for the limiting of the viewers freedom or attempting to coerce them into actions they wouldn't normally take. It's a type of resistance that not only makes them unwilling to take the suggested action but may result in increased participation of the discouraged behavior. EORM states that the narrative persuasion's narrative structure, parasocial interactions seen within the story, and the enjoyment of the story can reduce the likelihood reactance will occur.

Another model that may be of note to this particular study is Witte's Extended Parallel Processing Model (EPPM) (Witte, 1992). This model lays out a generalized prediction of behavior based on responses from fear-appeal based health risk messages. The first step in the response is appraisal of the threat. If the likelihood of the threat affecting the individual is deemed minimal, the threat is disregarded. If the individual finds the risk to their person more likely, then they evaluate the efficacy of the response that the message is advocating. The easier the individual believes the response to be, the more self-efficacy they will feel toward it and will be more likely to engage in preventative behavior. But if the response is seen as difficult or ineffectual against the threat, then the individual will feel low self-efficacy and will instead take steps to reducing the feeling of threat; usually through psychological defense strategies (Witte, 1992). The simplicity and generality of this model has allowed it to be used with a wide variety of health threats from seatbelt usage (Sadeghnejad et. al., 2016), HIV prevention

(Witte, 1994; Jin et al., 2017), and climate change (Hart & Feldman, 2014; Xue et al., 2016; Labosier, 2018).

These theories related to narrative persuasion make it not only a compelling field of study, but a potentially effective communicative tool to be used in a wide variety of media. For this study though, we will be looking at a particular kind of media, namely interactive narrative media, and how it can potentially enhance narrative persuasion. As the behavior of the subject of the persuasive narrative this experiment will present will be hard to measure, we will primarily be measuring attitude toward the subject. As such the first and main hypothesis of this study is as follows:

H1: Participants in the interactive group will show more positive attitudes toward opioid overdose treatment than those in the narrative group.

However, this power of persuasion is more complicated and will be investigated more thoroughly by looking at three specific factors related to narrative persuasion. These three factors are identification, transportation, and self-efficacy.

Identification

Originally part of Freud's psychoanalytic theory, Freud (1940) used the concept of identification to describe a nonconscious, mental act of a male child of taking on their father's identity to satisfy latent Oedipal desires. Later, identification was expanded upon, distinguishing it from imitation as an internal component of the self, rather than an external behavior (Wollheim, 1974). Identification is not just copying the actions of others but internalizing a part of the perceived person and sacrificing part of the self it replaces. This is an important distinction as it emphasizes the forgetting of self and the

focusing on the other. Wollheim (1974) further extended his definition of identification to include not only parents, but any person or character a child might admire. While at this stage identification is still seen as an aspect of development for children and adolescents, it brings the concept squarely into media effects territory as these persons or characters may come from media (Erikson, 1968; Bettelheim, 1976).

Hefner et. al.(2007) define identification as “a temporary alteration of media users’ self-perception by inclusion of perceived properties of the target media character” (p. 40). This inclusive definition brings together the earlier iterations of identification and focuses them on the internal aspect of the media viewer’s experience. And while it seems focused on a particular character within the media, it also sheds light on how the audience views the media as a whole through the perspective, or at least primarily centered around, the internalized media character (Liebes, 1996).

When it comes to narrative persuasion and identification, many theoretical models and experiments have shown support for identification’s aid in persuasion. With SCT, learning through a model necessitates some level of identification to be willing to enact the actions the model is doing. Bandura (2004a) notes “Observers learn to fear that which frightened or injured models, to dislike what repulsed them, and to like what gratified them. Self-debilitating fears and inhibitions can be eliminated by modeling that depicts effective coping strategies and instills a sense of coping efficacy” (p. 78). Whether in media or in person, this is a very similar description to the process of identification.

EORM cites four uses of identification: reducing counterarguing, reducing selective avoidance, increasing perceived vulnerability, and changing outcome

expectancies (Moyer- Gusé, 2008). When a viewer has begun to identify with a character, sacrificing some part of themselves temporarily, they can become less critical of the actions of the character; making them less likely to argue about their actions (Cohen, 2001). This is similar to the concept of transportation discussed in the next section, though with a primary focus on a character in a story, rather than the events of the story. Identification with a character can also make a viewer more likely to seek out the narrative, which may override negative feelings about the message in the narrative (Moyer- Gusé, 2008). Identifying with a character can also increase perceived vulnerability by showing the viewer the character being concerned (or suffering from) some danger the viewer may have had preconceptions of immunity to. This, in turn, can influence viewer expectations on outcomes of performing actions themselves; though this can be positive or negative depending on whether the character is rewarded or punished for the action (Moyer- Gusé, 2008).

EEPM also supports these last two points from EORM. It posits that making a narrative message with a character the intended audience may identify with would help them take the threat of the message more seriously. From there, the message can then have the main character choose to demonstrate behaviors to avert the threat before it happens, which encourages the viewer to adopt the same attitude and practices (Prati et. al., 2011).

Next, this study will look at a similar concept in narrative persuasion, transportation.

Transportation

Originally conceptualized by Richard Gerrig (1993) when talking about reading novels, it has been described as a “distinct mental process, an integrative melding of attention, imagery, and feelings” (Green & Brock, 2000, p.701). The term transportation came from Gerrig’s (1993) use of a metaphor for a feeling of travelling familiar to readers of engaging literature:

Someone ("the traveler") is transported, by some means of transportation, as a result of performing certain actions. The traveler goes some distance from his or her world of origin, which makes some aspects of the world of origin inaccessible. The traveler returns to the world of origin, somewhat changed by the journey. (pp. 10-11)

With the submerging of the psychological self into the narrative world, the person loses some temporary grip on reality, becoming physically desensitized to their world of origin to the point where they may miss out on events occurring around them (Green & Brock, 2000), experiencing emotional changes due to fictional events (Gerrig, 1993; Green & Brock, 2000), and adopting beliefs from the text that the reader doesn’t hold themselves (Green et. al., 2006). This latter effect reveals a commonality with the concept of identification wherein a part of the self is sacrificed, if only temporarily, for a part of the narrative, and is what this research is most concerned with.

One concern that has appeared in literature concerning transportation has been whether transportation is easier to achieve with works of non-fiction over fiction. It would be logical to assume that transportation would be easier to achieve when reading

about more realistic narrative world. But research has not yet borne this out. In one example of this (Strange & Leung 1999), participants were given one of two narratives featuring a teenager considering becoming a high school dropout. Each of the stories had the teenager giving a different reason for this decision, one was for personal psychological issues while the other emphasized shortcomings in his inner-city high school. Participants were then told that the story was either based on a story featured in the news (therefore true) or one from a novel (fiction). Participants who tested higher for transportation were found to have greater feelings toward reform of whatever institution seemed to let the student down in the version they read. Whether or not the account was fact or fiction had no significant effect on participants' expressed feelings. Similarly, Caputo and Rouner (2011) showed their participants a movie regarding mental health, manipulating whether they labeled the movie as fiction or non-fiction. As with the other study, transportation was not affected by the fiction or non-fiction labels.

This aspect of transportation that disregards how true a story is has led some to believe that transportation may make readers less critical, or less likely to question claims made in the story, which could be directly influencing their beliefs while also reducing resistance to persuasion (Green & Brock, 2000). Another explanation may hold that transportation alters the perception of media consumption from one of data absorption to experiential data (Fazio & Zanna, 1981), creating a fascinating comparison to literature and the developing technology of virtual reality (Ryan, 2001).

Of the theories discussed earlier, only EORM discusses transportation directly, crediting it with aiding in reducing counterarguing and selective avoidance. The

absorption of the viewer into the story makes the viewer less likely to debate the messages presented by the plot (Moyer- Gusé, 2008). It may also draw a viewer into a narrative scenario that they might otherwise fear, whether it be about a terrifying possessed doll or the thought of death by cancer (Moyer- Gusé, 2008). The fact that transportation doesn't seem to be affected by whether the narrative is fiction or non-fiction can aid in the diversity of variety and style of the narratives presented. This ability to draw an audience into a dangerous or fearful situation is also of value to EPPM and SCT.

If one were creating a health message about unsafe sex, using recreational drugs, or avoiding hazardous materials, using a story to transport a viewer to those situations is far safer than having them there in reality. And having an expert or purely fictional character navigate this dangerous situation allows the audience to see how it can be handled effectively. In this way, transportation is important to an effective health message according to the EPPM and through learning by a model via SCT.

Lastly, this paper will address self-efficacy before applying these concepts to interactive narrative media.

Self-Efficacy

Another way narrative can reduce resistance to persuasion is by enhancing perceptions of self-efficacy in the media consumer. Conceptualized by Albert Bandura (Bandura & Walters, 1963; Bandura, 1982) in contrast to the reactive, deterministic behaviorist movement in psychology, self-efficacy emphasized behavior as a result of beliefs about the self rather than purely biological or experiential factors (Pajares, 2003).

Self-efficacy has since been adopted heavily in the fields of psychology and education, especially in regard to children. Encouraging a child or adolescent to believe they have the capability to pursue their goals and desires makes for a more proactive and dynamic population, more likely to attempt new actions with confidence (Pajares, 1996; Jones & Prinz, 2005; Stajkovic & Luthans, 1998).

Self-efficacy is developed through interpreting information from four sources. The first is mastery experience, which denotes the self's perceptions of a successful outcome in the past; wherein more successes typically equates to higher self-efficacy (Pajares, 2003). Secondly is the vicarious experience through other selves, comparing their performances in a task and making estimations as to how well they themselves may do in that situation. Then there are the verbal messages and social persuasions from others. Having others praise or deride the self's effort in a task can have a heavy influence on whether they think themselves capable of it in the future (Pajares, 2003). Lastly, there are physiological states that may occur when attempting or even contemplating a task such as stress or anxiety (Pajares, 2003). If one feels anxious about an action before even starting to attempt it, they are less likely to think they could perform it at all.

From a theoretical standpoint, it is no surprise that self-efficacy is vital to SCT. Learning how to perform a behavior or task would wouldn't be very beneficial if the viewer didn't have the belief that they could actually accomplish what they are seeking to do (Bandura, 2008a). EORM affirms this by predicting that educational content demonstrated by an effective model in a story will increase the viewer's belief that they

can accomplish the task as well. And for EPPM, it is vital that a positive model in the narrative is shown to be efficacious. If a viewer accepts the threat as viable, then they will evaluate the efficacy of the behavior to avert the threat and their self-efficacy in performing that behavior. If the viewer doesn't believe themselves capable of performing the behavior, EPPM posits that they will instead take actions to reduce the fear by disregarding the threat, likely leading to behavior opposite of the intended message.

Now, with narrative persuasion, the elements of it this study is concerned with, and applicable theories discussed, this study will talk about the focus of the research: interactive narrative media.

Interactive Narrative Media

For the most part, the types of narratives this text has referred to have been broad, media-based stories. However, this research is primarily focused on one particular expression of narrative via interactive narrative media. It departs from Fisher's (1987) broad narrative definition wherein interactive narrative media may be construed as a phone call, video conference, or mail correspondence as all human communication can be expressed as narrative and will be using the parameters as set down by Kreuter and associates (2007).

As for the interactive aspect of interactive narrative media, this research will be using a definition created by Cover (2006) which describes media in "which content is affected, resequenced, altered, customized or re-narrated in the interactive process of audiencehood" (p. 140). Therefore, the primary focus of this study when it comes to interactivity is the audience's effect on the media's narrative through their actions.

Simple examples of this media can be seen in “Choose Your Own Adventure” (CYOA) books, the visual novel genre of games, and Netflix’s *Black Mirror: Bandersnatch* (McLean, 2018). More complex examples such as video games can allow the viewer smaller changes, but these narratives still stick to a branching plot model for the most part. Either way, without the active process undertaken by the user, the media may stop responding and the narrative ceases.

This audience power in the narrative would preclude most unidirectional mass media such as television or newspaper. These may have prompts meant to encourage a particular action from the viewer/reader as they are consuming the media, but the displayed outcome will not be affected if that action is taken or not. Participatory cues without effect on the narrative have already been studied in this context with little impact (Piotrowski, 2014), nor would it include interactions that only serve to advance an established narrative like turning a page or clicking “Next” in a digital survey (Calvert et al., 2005). Neither of these types of interaction affected the narrative and so would be excluded by the definition chosen.

Since the concept of interactive narrative media has been defined, its time to apply the theories connected to narrative persuasion. The best example of this is in regards to interactive narrative media and SCT as it has been addressed by Bandura himself (2004a) towards creating programs to encourage better health practices. He gives two examples. The first regards games created to educate children on personal health regarding issues like diabetes, asthma, cystic fibrosis, and the dangers of smoking (Bandura, 2004a). These games have characters modeling healthy behaviors and being

rewarded in the narrative as SCT states, but the interactivity adds another layer of involvement. The children aren't just watching the characters on screen, they have some control over them. The children are maneuvering the characters to choose healthy meals, keep air free of irritants, or participating in virtual physical therapy. Through the children's actions, the characters remain healthy and obtain their goal. Through interactivity, the healthy choices the characters make are also the children's choices, which they are getting rewarded for. The children may become their own models for healthy choices. In addition, the interactivity of this media also allows them a unique mix of learning from a model and experimentation. They are able to make mistakes, learn from them, and then re-practice successful strategies in a low-stakes digital environment with an immediate reaction from the media.

The other example Bandura (2004a) points out is customized health programs or applications that track certain behaviors or activities. For instance, think of a fitness app one might download on their smartphone to keep track of and encourage more physical activity. This app could easily be seen as an example of media, but how interactivity and narrative are involved may not be as obvious. A study by Murnane and associates (2020) found that even when such health apps presented progress of the user as graphs displaying levels of activity over time, users perceived a story about themselves. The main character of the story being themselves and the narrative being the levels of achievement in their goal of fitness. The interactivity of this came in with the user's physical activity the app was tracking. Bandura (2004a) also commented on the ability to alter these apps to reflect levels of achievement appropriate to the skill and/or fitness of

the individual, helping to give more realistic standards to achieve and helping with self-efficacy.

The EORM and EPPM had less literature of its application to interactive narrative media. But as the three hypotheses regarding identification, transportation, and task-related self-efficacy are discussed, these theories, along with SCT will be applied.

The reason interactive narrative media may be a stronger source of identification is the narrative control given to the viewer. Unlike media such as newspaper or television, interactive narrative media has the viewer making active decisions through the main character about how the narrative should play out and the media responds (sometimes instantly) to those choices. A popular experiment to test this is by having subjects randomly sorted into two groups, allowing one to play a video game directly while the others watched footage of that same game being played. These studies found that those who played the game directly felt a higher level of identification with the character they played compared to those who watched the pre-recorded footage (Schneider et. al., 2004; Hefner et. al.,2007; Lin, 2013). These experiments show a solid positive relationship between identification and interactivity.

The theories discussed may also support this. For SCT, the model the user is watching and interacting with is both the main character and themselves. The main character could present a duality of both other and self that the user is learning from. EORM's model may see increased identification for this same reason, further reducing reactance and counterarguing because the user is performing the actions themselves. Likewise, while the user is navigating the main character through dangerous and

frightening circumstances, their identification with the main character may be heightened and they perceive themselves as more vulnerable. The outcome of the user's actions, whether successful or otherwise, may also alter their expectancies if they face similar situations. And EPPM may also predict that the interactivity with the message may increase identification with the character the user is controlling, thus make the threat feel more real. With these effects in mind, this study predicts that interactivity will allow the participants to feel greater levels of identification with the main character.

H2: Participants in the interactive group will report higher identification with the main character than those in the narrative group.

One of transportation's most intriguing qualities is its physical and emotional effects on the media consumer. These are felt by the consumer but can also be conveniently measured directly from the body. A study (Madsen, 2016) testing for transportation in media utilized this through a horror-themed video game. One group of participants actively played the game while the other group watched previously recorded footage of gameplay. During their media consumption, participants' physical reactions were monitored via heart rate, respiratory rate, and electrodermal activity, which the researchers correlated greater changes with greater fear response. In all three physical measures, the group that played the game (or more interactive group) showed far greater changes than those who just watched the game (Madsen, 2016). A similar experiment conducted by Schneider et. al.(2004) used skin conductance as "an indicator of physiological activation in the sympathetic nervous system" (p. 368). Their method involved looking at reactions to killing non-player characters in first-person shooter

games. One set of games contained little to no narrative element, the other set had been praised by critics as having excellent narratives. Researchers found that those playing games with narrative had greater physiological responses to killing non-player characters than did those without narratives (Schneider et al., 2004). While measuring transportation in a similar way, this experiment stands out as approaching interactive narratives from the opposite direction, manipulating the presence of narrative rather than the interactive element. Studies like these present compelling evidence for interactivity's effect on transportation.

Theoretically, interactivity would aid both SCT and EPPM with transportation. Users of interactive narrative media would not only be able to watch demonstrations of behaviors and tasks, but actually get to practice them in a more proactive manner; giving them a greater feel of investment in the situation resulting in greater transportation with the media. Furthermore, the reaction of the media to the user's behaviors may act as a confirmation or correction for the user's choices. This cycle of investment and reaction between the user and the media is likely to enhance the transportation felt by the user.

H3: Participants in the interactive group will report higher transportation than those in the narrative group.

In regard to self-efficacy and interactive narrative media, Klimmt and Hartman (2006) suggest that two other benefits exist in interactive narrative media that may enhance self-efficacy: immediacy and the ratio between input and output. Immediacy notes the time between the consumer's action and the effect it has on the medium. Often, this time is very small, giving immediate feedback to the consumer. The ratio between

input and output similarly looks at the amount of effort put forth by the consumer and the effect had on the medium (Klimmt & Hartman, 2006). For example, in a video game with an athletic theme, a consumer may only press a few buttons in combination but witness a gold medal Olympic performance as a result.

Some of the best examples of this come from programs designed to improve consumer health. A study (Shegog et al., 2001) focused on teaching children about asthma through an interactive computer program involving 22 narratives about asthma. Results showed not only increased knowledge about asthma and its treatment, but also saw a significant increase in children's self-efficacy toward self-treatment and a decrease in hospitalization for asthma related medical problems with children who were exposed to the program. The scenarios provided by interactive narrative media like the ones shown in this example provide media consumers with the ability to practice and experiment in a digital environment wherein practice may not be available elsewhere (Peng, 2009). Whether it be learning and practicing about safer sex or what to do during a potentially terminal asthma attack, these digital environments create safe, instructional areas that actively reward for correct actions and present little actual danger to the consumer, thus giving them an increased sense of self-efficacy toward the situation.

From a theoretical side, this immediacy would also seem to support SCT, EPPM, and EORM in a similar fashion to transportation, where the input and feedback of the media would congratulate or correct the behavior chosen by the user, thus providing increased levels of efficacy for the task. Furthermore, the fictitious environment where the user is practicing the task or behavior is relatively safe with little risk to the user,

allowing them to experiment in a way unidirectional media can't accomplish. The ability to go back and try again, learning from mistakes without great loss and without the aid of another person, may enhance the self confidence and task-related self-efficacy of the user.

H4: Participants in the interactive group will report higher task-related self-efficacy than those in the narrative group.

Rationale

In light of the abilities and limitations discussed regarding narrative persuasion, most of the research to date has focused more on traditional media rather than the interactive narrative media specified here. The goal of this research is to contribute to the body of knowledge regarding narrative persuasion toward this type of media. Two examples of events already ongoing warrant this investigation. First is the use of “propaganda games” (Gieselmann, 2007) wherein politically active groups use games to propagate their beliefs. The United States Army has come under criticism for using this tactic by creating a free computer game aimed at high school aged adolescents that educates on both combat and non-combat procedures done in the army with the goal of recruitment. This tactic has also been taken up by Neo-Nazi groups; the most prominent example being a game called “Zog’s Nightmare” (Selepak, 2010) which promotes violence against the type of people deemed undesirable by their philosophy.

On a more positive note, initiatives like “RightWay Café” (Peng, 2009), a roleplaying, narrative game focused on encouraging healthy eating behavior which allows players to practice and be rewarded for this behavior in a virtual space are

utilizing these tools of persuasion and technology for a highly pro-social benefit.

Evaluations on this program have shown increased healthy behaviors, self-efficacy, and a reduction of perceived barriers toward a healthy lifestyle. Further study and support for the medium of interactive narrative media may help to show its ability to initiate change, for better or worse.

CHAPTER 4

METHOD

The method used to test hypotheses was an experiment. The goal of the experiment was to examine whether the presence of interactive elements in media may enhance the persuasion of a narrative, looking specifically at the factors of identification, transportation, and self-efficacy. The best way to do this was to create two versions of the same story and add interactive elements to one. Both stories were tested equally without regard to differing subject, message, or medium.

Participants

Participants were students ($N = 114$) from a Southeastern U.S. university whose participation in the study was compensated with a nominal amount of class credit. Participants' reported genders were male (38.3%) and female (59.8%) with 2 students (1.9%) not identifying as either. Average age of the participants was 19.35 ($SD = 1.11$). The majority of participants identified as white (86.9%) with some black (7.5%), Asian (2.8%), and with the remainder identifying as "other" (1.9%).

Two knowledge questions were included at the end of the study to test participants' attention to stimuli. The first question was "Which of the following is NOT a way Naloxone can be administered in the Naloxone Kit?" with the available answers being "1) Mucosal atomization device (aka Nasal spray)", "2) Skin Patch", or "3) EpiPen." The correct answer was chosen by 96.64% of participants. The second question asked, "Where did the main character find the person who had overdosed?" with the available answers being "1) Hospital", "2) Gas Station", "3) Airport", and "4) Local

Bar.” The correct answer was chosen by 97.4% of participants. Participants who did not answer both questions correctly were removed from the sample for analysis ($n = 7$). This brought the final sample size to 107 participants.

Design and Procedure

The study was conducted online via the survey service Qualtrics. After digitally providing informed consent, participants were randomly assigned to one of two groups: control and interactive. Each group was presented with the stimuli material specific to each group, which appeared for a designated amount of time, depending on word count, before they were permitted to continue. After going through the presented text, the participant would then be evaluated via a questionnaire measuring different variables, followed by demographic information.

Stimulus Materials

The two groups were differentiated by the texts presented to them. As discussed earlier, the narrative chosen for this experiment was a first-person story about a person who gets approved to carry an opioid overdose kit for a sibling but happens upon a stranger overdosing in a public restroom. The intended persuasive message of the text was the life preserving potential of having an opioid overdose kit. Settings and characters were as generalized as possible to keep the focus on the situation. Attention to how characters are portrayed was given so as not to create villains, only portraying the main character as the hero.

The control group ($n = 57$, 53.3%) was given this story as a narrative without any interactive features except to advance the text. An abridged version of the story was as follows (full version in appendix A):

Your brother is coming to stay with you for a while after recovering from a painful car accident. While you know he has been declared cured by his doctor, his friends have expressed concern that he has continued asking for refills on his opioid prescriptions. Your brother has had addiction problems in the past and you are concerned. Talking to your own doctor, they agree there may be a problem and approve you for an opioid overdose kit as a potential caregiver for someone with a history of opioid use. When going to pick your brother up from the airport late at night, you have to stop at a small gas station desperately needing both fuel and to answer the call of nature. Going into gas station, you see there is only one unisex bathroom and the door is locked. You bang on the door impatiently only to hear a gasp and the sound of a crumpling body on the other side of the door. You run to get the attendant and they open the door to find an unconscious man on the floor. An assortment of items lying next to the man suggest heroin, the symptoms the man presents supports this as well. As the attendant calls emergency services, you go out to your car and return, using the opioid overdose kit. As you wait, the man's breathing becomes more normal. EMTs and police officers arrive, taking the man away and getting a statement from those involved. Both professionals thank you for your vigilance and congratulate you on potentially saving a life. You have quite a story to tell your brother.

The interactive group ($n = 50$, 46.7%) was given the same story as the control group, but this text was occasionally interrupted by an offering of two choices the reader could take with the main character reflecting their actions. An example is presented here:

...Pounding on the door of the restroom, you hear a loud gasp followed shortly by the sound of a body crumpling to the floor along with a metallic clanging. This is not good. You must act, so you decide to...

- (A) Look for an attendant to tell them what happened.
- (B) Attempt to open the door by force.

The options offered are really illusions of choice. In this scenario, the results would be nearly the same. In A, you would find the attendant, who would immediately open the door to see the collapsed occupant. B would have that same attendant show up in response to the sound of the door slamming open after you have broken the flimsy lock. This was done to make any series of choices the participant selects result in the same successful conclusion the participants in the narrative group received.

The narrative created for this experiment was original and had intentional elements toward the support of this study. To encourage identification, the second person “you” was used to designate the main character, who was also written in the style of a blank slate protagonist. This type of protagonist “is a character that has no particularly defining features so that the audience can project itself onto the hero’s role and vicariously live out the experience” (Jeng, 2015, p. 86). This allowed the participant to fill in the details of the protagonist’s sex, race, appearance, etc. in their own imagination. Evocative language and vivid imagery were attempted in the writing to describe the

actions and events in the narrative in order to induce transportation (Green & Brock, 2000; Green & Clark, 2013). This allows the action and continuum of events to take the center stage in the mind of the reader while details of setting and description support the action.

The subject matter of the narrative was chosen based on measuring attitude and self-efficacy. At the time of writing for this study, the United States was experiencing an alarmingly high occurrence of opioid addiction. Naloxone kits, or opioid overdose kits, were one means of preventing death from an opioid overdose. These kits were effective and designed to be easy to use for non-medical personnel, but there was a prevailing mindset that this ease and effectiveness might make taking opioids recreationally seem safer, and thus encourage its abuse. This made the opioid overdose kits a somewhat controversial subject, which may mean some participants could have started the experiment with a bias against opioid overdose kits. However, this also meant that the experiment wouldn't likely see an overwhelmingly positive attitude toward the subject as it might with subjects like adopting a dog from a dog shelter or becoming an organ donor. As this experiment was testing for different levels of attitude between interactive and non-interactive narrative media, this seemed the best course of action.

As for self-efficacy, the ease of use of naloxone kits made describing their utilization easier to describe in a purely textual medium. Further, with the prevalence of opioid overdose at the time of writing, this skill was also seen as a pro-social, educational subject that may encourage participants to actively aid someone undergoing an opioid

overdose or obtaining a Naloxone kit if they believe a friend or loved one is abusing opioids.

In the questionnaire following the narrative, participants were evaluated about factors such as participant's involvement in the narrative, their general self-efficacy, their sense of self-efficacy toward helping people by having an opioid overdose kit, their attitude toward the possession and use of such kits, and basic demographic questions such as age, student status (undergrad or grad), and major.

Measures

Attitudes. Because the behavior behind the use of opioid overdose kits is highly situational, attitude toward opioid overdose kits is the best way to assess the persuasiveness of the narrative. This was done adapted scale from Tian and Robinson (2017) with 4 statements on a 7-point Likert-type scale (1 = Strongly disagree; 7 = Strongly agree). Examples statements include: "I believe opioid overdose kits are a useful tool for non-medical persons"; "I believe providing a countermeasure to opioid overdose will encourage higher opioid usage"; "I believe public access to opioid overdose kits is essential"; and "I believe the risks of opioid overdose kits outweigh the benefits."

Transportation. Using an adapted measure from de Graaf and colleagues (2012), it is composed of ten items designed to assess imagery, attentional focus, and the feeling of being in a narrative world. All aspects inherent in transportation. Items were measured on a 7-point Likert-type scale (1 = Strongly disagree; 7 = Strongly agree). Example items included "During reading, it felt as if I made a journey to the story world"; "My attention was focused on the events that were described in the story"; and "During reading, I saw

before me what was described in the story.” These items were averaged to form an index ($M = 6.10$, $SD = .90$, Cronbach’s $\alpha = .92$).

Identification. Adapted from Cohen (2001), the items used to measure identification were 6 statements on a 7-point Likert-type scale (1 = Strongly disagree; 7 = Strongly agree). Examples of these items include “While reading the story, I forgot myself and was fully absorbed.”; “At key moments in the story, I felt I knew exactly what the character I took the perspective of was going through.”; “While reading the story, I wanted the character I took the perspective of to succeed in achieving their goals.” This section will not be presented to the control group. These items were averaged to form an index (Index mean= 5.81, SD= .95, Cronbach’s $\alpha=.81$).

General self-efficacy. The 10-item measure used to measure self-efficacy was adapted from the General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) and on a 7-point Likert-type scale (1 = Strongly disagree; 7 = Strongly agree). These items came directly from the GSE to measure the participants general self-efficacy. It was modified to fit the scales already presented to the participants. Examples of these include “I can always manage to solve difficult problems if I try hard enough.”; “It is easy for me to stick to my aims and accomplish my goals.”; “I can solve most problems if I invest the necessary effort.” These items were averaged to form an index (Index mean= 5.67, SD= .90, Cronbach’s $\alpha=.93$).

Task related self-efficacy. An additional 6 items were created to measure self-efficacy specifically for the content presented to the participants for aiding individuals experiencing an opioid overdose. This is also measured on a 7-point Likert-type scale (1

= Strongly disagree; 7 = Strongly agree). Example questions include: “I could research how to get an opioid overdose kit to help a loved one”; “I could recognize the most common symptoms of opioid overdose”; and “I could administer a dose of the medicine used to treat opioid overdose using one of the typical methods available (injection, EpiPen, nasal spray).” These items were averaged to form an index ($M = 5.11$, $SD = 1.21$, Cronbach’s $\alpha = .80$).

Demographic information. For demographic information, participants were asked to indicate their age, gender, race/ethnicity, and major.

CHAPTER 5

RESULTS

All variables were assessed for normality and met the criteria necessary to proceed with analysis. Hypotheses were tested with a series of independent-samples *t*-tests using IBM SPSS version 26. Table 1 summarizes the statistics associated with these tests.

The first hypothesis predicted participants in the interactive group would show more positive attitudes toward opioid overdose treatment than those in the control group. H1 was not supported. The attitudes of those in the interactive group ($M=4.76$, $SD=1.72$) did not differ from those in the control group ($M = 4.84$, $SD = 1.71$), $t(df = 105) = .17$, $p = .87$.

In the second hypothesis, participants in the interactive group were predicted to report higher identification with the main character than those in the control group. However, identification was nearly equal between the interactive group ($M = 5.82$, $SD = .95$) and control group ($M = 5.79$, $SD = 1.00$), $t(df = 104) = .17$, $p = .87$. Thus, the H2 was not supported.

Hypothesis 3 predicted participants in the interactive group would report higher transportation than those in the control group. Similar to the previous hypotheses, practically equivalent experiences of transportation were reported by the interactive group ($M = 6.09$, $SD = .93$) and control group ($M = 6.11$, $SD = .87$), $t(df = 105) = -.10$, $p = .92$. These results did not support H3.

Lastly, the fourth hypothesis predicted participants in the interactive group would report higher task-related self-efficacy than those in the control group. H4 was not supported, as participants reported uniform amounts of task-related self-efficacy in both the interactive group ($M = 5.07, SD = 1.11$) and control group ($M = 5.14, SD = 1.29$), $t(df = 105) = -.32, p = .75$.

Table 1

Group means

	<i>t</i>	Interactive	Control
Attitude toward opioid treatment	-.25	4.76 (1.72)	4.84 (1.71)
Transportation	.17	5.82 (.95)	5.79 (1.00)
Identification	-.10	6.09 (.93)	6.11 (.87)
Task-related self-efficacy	-.32	5.07 (1.11)	5.14 (1.29)

Note: Standard deviations in parentheses

CHAPTER 6

DISCUSSION

The goal of this study was to examine whether media with greater interactivity from the audience would be more persuasive narratively than media without interactive elements. The results did not support the first hypothesis as participants in the interactive group showed equally positive attitudes toward opioid overdose treatment as those in the control group. The second hypothesis was also not supported as participants in the interactive group reported similar levels of identification with the main character as those in the control group. Similarly, the third hypothesis was not supported since the interactive group reported uniform transportation as those in the control group. Lastly, the fourth hypothesis failed to be supported as participants reported comparable amounts of task-related self-efficacy in both the interactive group and control group.

While there wasn't a reportedly significant difference between the interactive and the control groups, all these variables were reported as being experienced to a high degree (mostly positive in the case of attitude). This supported the body of literature cited in this study as the narrative elicited the effects to which it was designed, but perhaps the materials for the interactive group weren't interactive enough.

Theoretical Implications

The definition for interactive narrative media used in this study was media in “which content is affected, resequenced, altered, customized or re-narrated in the interactive process of audiencehood” (Cover, 2006, p. 140). While the interactive materials did fit this definition as the choices the participants made in the interactive

group did affect the story, (altering events and the actions of the main character), it may be that there is a minimum amount of interaction necessary to enhance the effects this for which this study tried to look. An example of research in this theoretical direction was performed by examining engagement with digital media wherein children were asked to read a passage on the computer with an adult present, but in one group the child advanced the media on the screen while in the other, the adult did (Calvert et. al., 2005). They found no difference in the level of engagement among participants. And while this study's narrative was affected significantly more than simply advancing the story in the interactive group, the choices the participants were given were few in number and strictly predetermined. This was done for the sake of simplicity and brevity, but it may have limited the amount of interaction the participant experienced with the media to the point of not conferring the enhanced effects this study predicted. During the rest of this discussion section, I will be referring back to this interactivity threshold and how the various elements of narrative persuasion that this study looked at may have been affected.

Hypothesis 1's prediction posited that those in the interactive group would have a more positive attitude toward opioid overdose treatment than those in the non-interactive group. This hypothesis was formed based on the research of Kreuter and associates' (2007) research on narrative persuasion and its benefits of "overcoming resistance, facilitating information processing, providing surrogate social connections, and representing emotional and existential issues" (p. 222). Through the narrative written for this study, it was believed these benefits would be enhanced through greater levels of identification, transportation, and task-related self-efficacy and give the participants a

more positive attitude in regard to the primary focus of the story, which was the use of Naloxone kits for helping to treat opioid overdoses. Unfortunately, the results of the experiment not only showed a similar level of positivity between both groups, but also that the measure for attitude was unreliable. The equivalent level of positivity does seem to match the results of the other hypotheses. This would make sense as it would mean both groups had a very similar experience, regardless of the presence or absence of interactive elements present in the stimuli, and would likely have similar attitudes after reading the story.

With hypothesis 2's primary focus, the primary reason that was presented for why interactive narrative media may induce greater levels of identification than non-interactive media was viewer's decisions affecting the narrative, as this also fit with the definition chosen for interactive narrative media. Interactive group participants were given decisions for the main characters actions that were important to the story through text prompts that altered the story depending on the choices made. But looking at the results, both the interactive and non-interactive group report having experienced a high level of identification. It may be that the limited number of decisions and lack of active agency beyond those decisions the interactive group had didn't bring them beyond a particular level of interactivity needed to enhance identification. This could be a very useful insight into the mechanics of interactive narrative media.

This study could have made an incorrect assumption about the user-as-model mentality mentioned earlier in relation to SCT, EORM and interactive narrative media. I believed having the user interact with the world as the main character would enhance

identification through seeing themselves in the main character. Perhaps the audience didn't perceive themselves to be like the main character enough to subsume their identity and make it their own; identifying with the character, but not taking ownership of it. Green & Jenkins (2014) in their research with CYOA books, noted that in some cases identification was disrupted when the actions posed to the participants to choose from were ones the participant wouldn't make. It may be the audience thought of other alternatives that broke the feeling of identification.

Transportation, the focus of Hypothesis 3, is similar in many ways to identification. Both are experiences where the media viewer temporarily trades part of themselves for something in the narrative world. For transportation, that trade is an enhanced awareness of the events and settings in the media in exchange for a reduced awareness of their physical surroundings. This hypothesis predicted that the interactive group would report more intense transportation than the non-interactive group, but the results showed similar levels for both.

A possibility for this result may be that, instead of making the participant feel more invested in the story by giving them influence, the opportunity to make decisions became a distraction. They had been reading a story, occasionally clicking continue, when suddenly the text asks them to make a decision before the narrative can continue. A similar occurrence is reported in video games when utilizing cutscenes, which are non-playable parts of the game usually when the narrative is progressing without any direct control from the player (Hooper, 2018). This interruption of agency can disrupt the pattern of the gameplay and break transportation. Perhaps certain expectation and

structural requirements have to be met for interactive narrative media to function optimally.

Returning to what was discussed with the identity and the duality of the interactive narrative media being both a character and user, SCT and EPPM might also posit that the audience may not have seen the user/main character as an efficacious model. If they didn't trust themselves or the main character to handle the dangerous situation, then making the decisions might have caused a disconnect for the interactive group, making them feel more like an audience member than participant when the main character was tackling the intense circumstances. This would have put them in a similar position to the control group in terms of both identification and transportation.

For Hypothesis 4, the story elicited high task-related self-efficacy from participants regarding using a Naloxone kit. Through this narrative, participants were able to experience the three of the four sources of task-related self-efficacy as stated by Pajares (2003): vicarious experience, verbal messages and social persuasions, and mastery experience. The vicarious experience was woven through most of the narrative as the participant saw the motivations, education about, and utilization of a Naloxone kit. Verbal messages and social persuasions came through the various professionals in the narrative who encouraged the main character in their obtaining and use of the kit. The final element, mastery experience, is given at the end of the narrative where the participant is congratulated on the correct use of the Naloxone kit that may have saved a man's life. The fourth source, physiological state, was unable to be measured due to then

nature of the experiment, which would have needed equipment to measure physical reactions from participants.

With all that said, the interactive and non-interactive groups both reported having nearly identical levels of task-related self-efficacy. As with the previous two hypotheses, the similar levels between the groups could have been due to an insufficient amount of interactivity. The interactive group had choices as to how to handle the dangerous situation in which the main character was found, but the decisions may have been too shallow. Perhaps having a more numerous or more consistent stream of decision making is important to interactivity. Similarly, the immediacy of the media discussed earlier when talking about the support interactivity would give SCT, EPPM, and EORM may have been less of a factor with fewer decisions to make.

Also, if the participant didn't see themselves/the main character as an efficacious model to learn from. Administering a naloxone kit isn't as easy as choosing to do so. So perhaps greater interactivity in the details of how to go about the process of using the kit might have been needed.

Limitations

One of the main limitations of this study was the simplicity of the media used to test the hypotheses. Due to the resources and skillset of the author, the narrative was presented as a text-based story and a text-based story with seemingly branching choices for the reader to make. The experiment design held with the definition of interactive media to which the study ascribed, but the level of interactivity was basic. The majority

of the research used to support this study was done on more complex media, so more complex media may have elicited more significant effects similar to other studies.

As previously stated with the discussion of Hypothesis 1, the adaptation of the attitude measure was shown to be unreliable. This may have been a result of the adaptation to make answering the survey more uniform and easier for the participants or badly written statements by the author. This adaptation of the measure shouldn't be used again.

There may have also been demographic limitations as the majority of participants were young, white adults in their late teens to early twenties attending a large, Southeastern U.S. university who may have earned extra credit for completing the survey. It is very possible that participants of different demographics such as age, socio-economic status, employment, literacy, and health would provide different results. This would be essential to find more generalizability.

The experiment was also conducted online, whenever and wherever the participants could access the survey. The environment and time the participants took the survey could have had an effect on their results, especially if there were many distractions. This could have greatly effected transportation in particular and given less than ideal results.

Another issue of note was the subject matter upon which the narrative was based. The opioid crisis was and had been an ongoing issue in the United States at the time of this study, and how to deal with it was still controversial. One of the more common tools used to combat rampant opioid addiction, the Naloxone kit, was central to the story the

participants read. While it was both safe and effective of preserving the life of someone experiencing a potentially fatal opioid overdose, some believed its proliferation would give the illusion that taking opioids was safer, thus encouraging opioid abuse. The topic was chosen partially for its controversial nature to look at participant's attitude after reading the story, but also because the author thought the use of a Naloxone kit was a simple to describe and beneficial process that the participants could benefit from learning about.

Another consideration for all hypotheses was the presence of a ceiling effect. Identification, transportation, and task-related self-efficacy were all reported in similarly high amounts. While this means the narrative was successful in eliciting these effects on the participants, it could mean that future experiments may need to use more comparative methods or more descriptive scales when evaluating participant experiences.

The EORM used in part to support this study also assumes an entertainment aspect to the media it evaluates. While I'm not sure how entertaining the participants found the narrative, its possible their expectations when asked to do an online survey precluded some aspect of entertainment. Also, the feeling of possibly feeling evaluated, even anonymously without any data leading back to them, may have influenced their experience with the narrative.

A choice that was made in regards to this study was to try to keep the stories for the interactive and control groups as similar as possible, and one aspect of interactive narrative media that was left out because of this was the possibility of participant failure. There was no series of decisions a participant could choose that didn't lead to the man in

the gas station being saved. It may be the ability to fail and go back and try again may be critical to efficacious learning.

Lastly, it should be noted that all the information conveyed in the narrative regarding obtaining a Naloxone kit was based on South Carolina law, where the author resides. If this experiment was to be done again with a similar narrative, the description of how a Naloxone kit should be obtained should be changed depending on location, if possible.

Future Research

For future research, one of the biggest questions this research poses is the possibility of an interactivity threshold; some lower-limit of interactivity the media consumer must experience to get the enhanced feelings of identification, transportation, and self-efficacy interactive narrative media seems to show. As noted, this enhanced effect has been found with video games and multiuser virtual world platforms, but what about the more emergent forms of virtual reality (VR) that are becoming more and more popular? Of particular interest to this study is the development of interactive artificial intelligence (AI) that reacts to media consumer's actions in more intelligent ways. This kind of AI has even been used in media as simple as text-based adventures that, while being purely textual, gives a vast amount of narrative agency to the media consumer. Another media of note at the time of writing is online tourism wherein viewers are taken around physical sites and museums through an internet connection.

Finding this interactivity threshold would be advantageous to countless fields of education and communication. Teaching, health communication, and environmental

communication materials that help the media consumer learn and be persuaded to adopt more prosocial practices and attitudes would be invaluable. Further research into interactivity would help them develop the tools to make these materials possible.

Other aspects of interactivity could also be further studied, such as exposure time. Non-interactive media like books, movies, and television shows have a single narrative line to follow and viewing them again gives you the same story. Interactive narrative media provides the chance to go through the story, but making different choices, potentially making drastic changes to the narrative. Every time a viewer goes back through the interactive narrative media could mean more exposure to the narrative's message, possibly increasing persuasion. Or perhaps repeated exposure may make the message more obvious, increasing resistance to it. This would require making a story that viewers would want to keep coming back to but answering the question of whether more exposure means more persuasion would be important to educational efforts.

And as mentioned in the discussion with transportation, another question to answer is how to optimize the presentation of interactive elements in narrative media. Perhaps certain levels of consistency and expectations need to be met to get the full benefits of interactivity. Throwing interactive elements in a story may prove to be not only ineffective, but disruptive to the flow of the story.

Concerning SCT and interactive narrative media, the importance of experimentation should be considered; especially the possibility of failure. Failing may decrease the viewers self-efficacy toward the task presented, but the inability to fail may

not test them and rob them of a feeling of consequence when it comes to the decisions they make in the media.

Another line of research to investigate would be looking at attitude change, identification, transportation, and self-efficacy in more complex forms of media to help isolate those elements, both mechanical and narrative, that enhance these effects.

Literature, cinematography, and the growing field of game development all have their literature on this, but having a comparative, over-arching viewpoint like the field of media effects enjoys could possibly unify these studies. An example of this is the comparison between literature and VR in terms of transportation (Ryan, 2001). Many readers can attest to how lost they get when reading words on a page, but can an even greater level of transportation be experienced when the majority of the senses are active in a virtual world? On the opposite end of the scale, literary elements such as the blank slate protagonist have been used in almost all forms of narrative media, but where is the empirical research showing that it elicits identification in the viewer? Media effects research is in a unique position to study all these things and advance our knowledge on how *Homo narrans* use and tell stories.

APPENDICES

Appendix A

Narrative Content

Non-Interactive Group

It's been a little over a year since your brother's accident. A malfunctioning traffic light led to his car being hit directly in the driver's side door, resulting in a broken femur. Not only was it intensely painful but it kept him from jogging and running for six months. You think that's what really got to him. He's always been an active guy, but doing arm exercises doesn't give you the same thrill as gliding down a path on your own two legs. Despite the increased downtime though, you haven't heard much from him in the last six months. When you finally saw him over the holidays, he seemed much leaner than you remembered him being and he was suffering a terrible cold. That's when you started suspecting there was more going on than siblings falling out of touch.

A mutual friend told you that they suspected there might be some drug abuse. Your brother was still taking pain medication but being very discreet about it. Soon after that, he called you from out of the blue, asking if he could stay with you for a while. When you asked why, he sheepishly admitted that he may have a problem with pain meds. He wanted to get off them, but he needed help. Your spare bedroom would be perfect for him, so you say that you would be happy to have him for as long as it took.

After expressing his gratitude and hanging up, you get to thinking about the news you've seen recently about opioid addiction. There are supposed to be kits you can get in case someone overdoses on opioids. After some more thought, you decide it's better to be safe than sorry. Doing a quick internet search shows these kits are available in your state if you or someone close to you has a history of opioid use.

Over the next week, you give your doctor a call and tell them the situation. After telling them the medicine you believe your brother was taking, they agree that this could be a lifesaving precaution and send an appropriate prescription to your pharmacy. Later, you find yourself walking to the back of the practically empty pharmacy. The pharmacist in back looks bored, but seems to professionally brighten as you approach. You tell them why you're here and give the appropriate identification information. She reaches behind the counter and brings out a zipped orange pouch with white text reading "Naloxone Kit" with the state seal below. She opens it to show you its contents: 2 pairs nitrile gloves, 2 disposable CPR face shields, 1 dose of Naloxone in an EpiPen, 1 dose of Naloxone in a mucosal atomization device (aka nasal spray she explains as an aside), and a laminated instruction card. She then grabs a sheet of receipt paper that just finished printing, saying it's your proof of your prescription and puts it in the pouch as well.

The pharmacist looks around at the nearly empty store and offers to give you a brief explanation on how to administer the drug. You nod and accept her offer.

She smiles and reaches for the nasal spray first. It's a white plastic device shaped like a top-heavy cross. The top is covered by a tall white cap as you've seen on most nasal sprays and the textured ends of the crossbar show where to put your fingers. The pharmacist holds it up, ring and middle fingers on the end of the crossbar, her thumb pressing slightly on the bottom bar like a syringe plunger.

“Pretty simple, just take the cap off, put the top part in one nostril, and press the plunger up to spray in the nose. It may take a minute or so to take effect. If their breathing continues to slow, use a CPR face shield to help them breathe until it kicks in.”

She then puts the nasal spray back in the pouch, taking out the EpiPen. It's a white plastic cylinder with a cap at either end, one blue and one orange. The pharmacist holds it in her fist, the colored caps poking out, the orange one on the bottom.

“For the EpiPen, just remember ‘Blue to the Sky, Orange to the Thigh’,” she says, giving you the sheepish grin of every employee having to repeat a silly slogan. She points to the blue cap.

“The blue side is the safety cap. Once it's off, you're ready to go. Just aim the orange side at the middle of the outer thigh and press it hard into the thigh until you hear a click. After the click, count to 3 slowly, then remove.” She points to the orange cap now.

“The orange side dispenses the needle without you having to take it off, and when you are done injecting, it will cover the needle by itself again, so you shouldn't have to worry about poking yourself with it. Do be careful though. And like with the nasal spray, you might need to help them with their breathing before it fully takes effect.”

She gives you a nod. “And that's it, any questions?”

You shake your head and thank her for her help. You turn away to leave.

“Oh yeah, I nearly forgot to tell you the most important thing,” you hear the pharmacist tell your back. You turn and give her your attention again.

“Remember the 3 main symptoms of an opioid overdose: shallow breathing, pinpoint pupils, and disorientation or unconsciousness. The shallow breathing is the biggest concern, which is why you have the CPR face shields in case you need to help with breathing. And, this should probably go without saying, but call for medical aid as soon as possible, even if they seem to get better immediately.” She gives you another small smile. “Alright, that’s my spiel. Have a great day!”

You thank her for her help and exit the pharmacy.

It's been about two weeks since you picked up the overdose kit. You're on your way to the airport to pick up your brother and nature is calling. It's a two-hour drive late at night down dark country roads to the airport. Out of the gloom, a beacon of hope emerges as an old gas station.

No one seems to be there aside from a loading truck in the back and one old pickup truck in the front, but the lights are on and the door opens to your push. Looking around, you almost miss the decrepit looking sign indicating a single, customer-use only bathroom. You rush to the door, mentally promising to grab a snack on the way out, when you find the door locked. Impatiently, you pound on the door asking whoever is in there to hurry up. As soon as you stop pounding, you hear the sound of gasping breath, metal and plastic hitting tile floor, followed by a body crumpling. This is not good. Immediately you decide to try to force open the door.

Concern overwhelming you, you step back and put a shoulder hard to the door. The door resists only for a moment before the cheap latch breaks and the door bangs open. There's a man on the floor dressed in overalls and a flannel shirt, one sleeve rolled all the way up to the shoulder. He's lying on his side unconscious, eyes only half open, but you can see his pupils are tiny. Your mind goes back to the pharmacist and you notice his breathing is shallow. You hear a gasp behind you.

Turning, you see a man and a woman. The former is in a gas station attendant uniform while the latter is dressed like a stereotypical trucker. The man sputters, “We heard the door slam! What happened!?”

Aloud you say, “Unconscious, pinpoint pupils, and shallow breathing. I think this is an opioid overdose.”

The trucker suddenly reaches out and pulls the three of you back to the door, her focus on the ground. Then she points to four objects on the ground you were too focused to notice: a spoon, lighter, used syringe, and some nylon cord. “Pretty sure this is heroin,” she mutters.

The three of you move simultaneously. The attendant backs out of the room, grabs his cell phone, and starts dialing 911. The trucker steps forward, one boot out and moves the paraphernalia on the floor near the wall, under the sink. You tell her to watch him for a sec before you rush out to your car.

After you got the overdose kit, you decided to keep it in your car since there would be few times you would go anywhere without it. And you’re glad you did. You rush back into the gas station with the orange pouch in hand. The attendant is talking to an operator and the trucker is waiting for you outside the bathroom.

“I have a kit here. Opioid overdose. Heroin is an opioid right?” She nods in a confident affirmative.

You open the pouch and put on a pair of gloves. Then you look in the kit at the nasal spray and EpiPen. You decide to use the EpiPen.

You grab the EpiPen and take out the informational card to double check its use. You hold the white cylinder in your fist, the orange cap on the end pointing down, the blue end cap pointing up. “Blue to the sky, orange to the thigh...”

“What?” the trucker asks.

“Nothing. Just hold this leg still.”

She complies, holding his closest thigh. You remove the blue safety cap, then aim the orange into the middle of the thigh. You press the orange end to the man’s thigh and feel the needle slide out of its sheath with a click. Slowly you count to 3, then remove the needle; the orange piece sliding safely over the needle. There doesn’t seem to be any

change, but the card says it can take a minute or so to take effect. You look over at the trucker.

“Help me move him out of the bathroom.” She nods and the two of you slide him into the store proper. The attendant comes up to you and tells you that an ambulance is on its way. You feel a little relieved and turn to the trucker, handing her one of the CPR face shields and the info card from the pouch. “Do you know how to do CPR?”

“Yeah, why?”

“If his breathing starts to slow, keep him breathing until the medicine kicks in. I've really got to go.” You say this, nodding toward the bathroom.

“Oh yeah, go ahead. I got this.”

Feeling even more relieved, you come out of the bathroom just in time to hear the approach of an ambulance siren. The attendant and trucker stand to either side of the unconscious man whose breathing seems more normal.

“Any changes?” you ask.

Both shake their heads, though the attendant adds, “He seems to be a little better though.”

“So long as he’s breathing well, I think we’re in the clear.” You give them both a little smile which spreads to their faces. Just then the Ambulance pulls into the parking lot. The attendant goes to the store entrance and props it open, telling the EMT's that we think it might be a heroin overdose. One of the EMT's holds up a bag similar to yours, only bigger, navy, and of higher quality material.

As they come in with a gurney, you hold out the now empty medicine container in your still gloved hand. “I gave him this about three minutes ago.”

They both look at it briefly and both seem to relax a little. “Excellent. Glad to have someone prepared.” One of the EMT's comments.

Soon the man is loaded on the gurney and makes it out the door as a police car arrives. Two officers step out, splitting up so one can talk to the EMT's and the other can ask you, the trucker, and attendant some questions. After getting statements from everyone, the officer turns to you and thanks you too.

“You may have just saved a life tonight.”

The officer walks back outside to join his partner. The store attendant smiles widely and offers you some snacks on the house. You get your favorite snacks and a bottled iced coffee for the road while saying your goodbyes to the helpful attendant and trucker.

With your orange pouch in hand, you put it back under your seat in the car, making a mental note to replace the used contents of the kit. As you pull out onto the dark road again, you think about the story you will have to tell your brother.

Interactive Group

It's been a little over a year since your brother's accident. A malfunctioning traffic light led to his car being hit directly in the driver's side door, resulting in a broken femur. Not only was it intensely painful, but it kept him from jogging and running for six months. You think that's what really got to him. He's always been an active guy, but doing arm exercises doesn't give the same thrill as gliding down a path on your own two legs. Despite the increased downtime though, you haven't heard much from him in the last six months. When you finally saw him over the holidays, he seemed much leaner than you remembered him being and he was suffering a terrible cold. That's when you started suspecting there was more going on than siblings falling out of touch.

A mutual friend told you that they suspected there might be some drug abuse. Your brother was still taking pain medication but being very discreet about it. Soon after that, he called you from out of the blue, asking if he could stay with you for a while. When you asked why, he sheepishly admitted that he may have a problem with pain meds. He wanted to get off them, but he needed help. Your spare bedroom would be perfect for him, so you say that you would be happy to have him for as long as it took.

After expressing his gratitude and hanging up, you get to thinking about the news you've seen recently about opioid addiction. There are supposed to be kits you can get in case someone overdoses on opioids. After some more thought, you decide it's better to be safe than sorry. Doing a quick internet search shows these kits are available in your state if you or someone close to you has a history of opioid use.

Over the next week, you give your doctor a call and tell them the situation. After telling them the medicine you believe your brother was taking, they agree that this could be a lifesaving precaution and send an appropriate prescription to your pharmacy. Later, you find yourself walking to the back of the practically empty pharmacy. The pharmacist in the back looks bored, but seems to professionally brighten as you approach. You tell them why you're here and give the appropriate identification information. She reaches behind the counter and brings out a zipped orange pouch with white text reading "Naloxone Kit" with the state seal below. She opens it to show you its contents: 2 pairs nitrile gloves, 2 disposable CPR face shields, 1 dose of Naloxone in an EpiPen, 1 dose of Naloxone in a mucosal atomization device (aka nasal spray she explains as an aside), and a laminated instruction card. She then grabs a sheet of receipt paper that just finished printing, saying it's your proof of your prescription and puts it in the pouch as well.

The pharmacist looks around at the nearly empty store and offers to give you a brief explanation on how to administer the drug. You nod and accept her offer.

It's been a little over a year since your brother's accident. A malfunctioning traffic light led to his car being hit directly in the driver's side door, resulting in a broken femur. Not only was it intensely painful, but it kept him from jogging and running for six months. You think that's what really got to him. He's always been an active guy, but doing arm exercises doesn't give the same thrill as gliding down a path on your own two legs. Despite the increased downtime though, you haven't heard much from him in the last six months. When you finally saw him over the holidays, he seemed much leaner than you remembered him being and he was suffering a terrible cold. That's when you started suspecting there was more going on than siblings falling out of touch.

A mutual friend told you that they suspected there might be some drug abuse. Your brother was still taking pain medication but being very discreet about it. Soon after that, he called you from out of the blue, asking if he could stay with you for a while. When you asked why, he sheepishly admitted that he may have a problem with pain meds. He wanted to get off them, but he needed help. Your spare bedroom would be perfect for him, so you say that you would be happy to have him for as long as it took.

After expressing his gratitude and hanging up, you get to thinking about the news you've seen recently about opioid addiction. There are supposed to be kits you can get in case someone overdoses on opioids. After some more thought, you decide it's better to be safe than sorry. Doing a quick internet search shows these kits are available in your state if you or someone close to you has a history of opioid use.

Over the next week, you give your doctor a call and tell them the situation. After telling them the medicine you believe your brother was taking, they agree that this could be a lifesaving precaution and send an appropriate prescription to your pharmacy. Later, you find yourself walking to the back of the practically empty pharmacy. The pharmacist in the back looks bored, but seems to professionally brighten as you approach. You tell them why you're here and give the appropriate identification information. She reaches behind the counter and brings out a zipped orange pouch with white text reading "Naloxone Kit" with the state seal below. She opens it to show you its contents: 2 pairs nitrile gloves, 2 disposable CPR face shields, 1 dose of Naloxone in an EpiPen, 1 dose of Naloxone in a mucosal atomization device (aka nasal spray she explains as an aside), and a laminated instruction card. She then grabs a sheet of receipt paper that just finished printing, saying it's your proof of your prescription and puts it in the pouch as well.

The pharmacist looks around at the nearly empty store and offers to give you a brief explanation on how to administer the drug. You nod and accept her offer.

It's been about two weeks since you picked up the overdose kit. You're on your way to the airport to pick up your brother, and your bladder is about to explode. It's a two-hour drive late at night down dark country roads to the airport. Out of the gloom, a beacon of hope emerges as an old gas station.

No one seems to be there aside from a loading truck in the back and one old pickup truck in the front, but the lights are on and the door opens to your push. Looking around, you almost miss the decrepit looking sign indicating a single, customer-use only bathroom. You rush to the door, mentally promising to grab a snack on the way out, when you find the door locked. Impatiently, you pound on the door asking whoever is in there to hurry up. As soon as you stop pounding, you hear the sound of gasping breath, metal and plastic hitting tile floor, followed by a body crumpling. This is not good. Immediately you decide to...

A) *try to force down the door.*

B) *go find help*

If A-

[Concern overwhelming you, you step back and put a shoulder hard to the door. The door resists only for a moment before the cheap latch breaks and the door bangs open. There's a man on the floor dressed in overalls and a flannel shirt, one sleeve rolled all the way up to the shoulder. He's lying on his side unconscious, eyes only half open, but you can see his pupils are tiny. Your mind goes back to the pharmacist and you notice his breathing is shallow. You hear a gasp behind you.

Turning, you see a man and a woman. The former is in a gas station attendant uniform while the latter is dressed like a stereotypical trucker. The man sputters, "We heard the door slam! What happened!?"

If B-

[Running down a nearby hallway to the stock area, you find a man and woman in back. The former is in a gas station attendant uniform while the latter is dressed like a stereotypical trucker. They both turn to look at you and immediately see the fear in your expression. The attendant speaks up, "Is something wrong?"

“I think so,” you say. “I heard someone collapse hard in the bathroom, but the door is locked, and I can’t check.”

The attendant and trucker start toward the hall you just came from immediately. The attendant reaches the door first, knocking and asking if everything is okay in there. There’s no response. He repeats his actions with more urgency. Still no response. He looks over to the trucker, asking her for help in getting the door open before yelling to the bathroom “We’re breaking down this door unless you answer now!”

Together, they easily break the cheap latch holding the door shut and the door bangs open. All three of you enter. There’s a man on the floor dressed in overalls and a flannel shirt, one sleeve rolled all the way up to the shoulder. He’s lying on his side unconscious, eyes only half open, but you can see his pupils are tiny. Your mind goes back to the pharmacist and you notice his breathing is shallow.]

Aloud you say, “Unconscious, pinpoint pupils, and shallow breathing. I think this is an opioid overdose.”

The trucker suddenly reaches out and pulls the three of you back to the door, her focus on the ground. Then she points to four objects on the ground you were too focused to notice: a spoon, lighter, used syringe, and some nylon cord. “Pretty sure this is heroin,” she mutters.

The three of you move simultaneously. The attendant backs out of the room, grabs his cell phone, and starts dialing 911. The trucker steps forward, one boot out and moves the paraphernalia on the floor near the wall, under the sink. You tell her to watch him for a sec before you rush out to your car.

After you got the overdose kit, you decided to keep it in your car since there would be few times you would go anywhere without it. And you’re glad you did. You rush back into the gas station with the orange pouch in hand. The attendant is talking to an operator and the trucker is waiting for you outside the bathroom.

“I have a kit here. Opioid overdose. Heroin is an opioid right?” She nods in a confident affirmative.

You open the pouch and put on a pair of gloves. Then you look in the kit at the nasal spray and EpiPen. You decide to use the...

- C) *Nasal Spray*
- D) *EpiPen*

If C-

[You grab the nasal spray and take out the informational card to double check its use. You take the cross-shaped object in your hand, holding it like a syringe with your ring and index fingers on the textured end of the crossbar and your thumb lightly pressing the bottom part upwards. With your other hand, you remove the cap, then insert the top into one of the man's nostrils. Pressing the plunger with your thumb, you hear a muffled hiss as it sprays the medication into his nose. You remove the device from his nose and watch.

There doesn't seem to be any change, but the card says it can take a minute or so to take effect. You look over at the trucker.

"Help me move him out of the bathroom." She nods and the two of you slide him into the store proper.

The attendant comes up to you and tells you that an ambulance is on its way. You feel a little relieved and turn to the trucker, handing her one of the CPR face shields and the info card from the pouch. "Do you know how to do CPR?"

"Yeah, why?"

"If his breathing starts to slow, keep him breathing until the medicine kicks in. I've really got to go." You say this, nodding toward the bathroom.

"Oh yeah, go ahead. I got this."]

If D-

[You grab the EpiPen and take out the informational card to double check its use. You hold the white cylinder in your fist, the orange cap on the end pointing down, the blue end cap pointing up. “Blue to the sky, orange to the thigh...”

“What?” the trucker asks.

“Nothing. Just hold his leg still.”

She complies, holding his closest thigh. You remove the blue safety cap, then aim the orange into the middle of the thigh. You press the orange end to the man’s thigh and feel the needle slide out of its sheath with a click. Slowly you count to 3, then remove the needle; the orange piece sliding safely over the needle. There doesn’t seem to be any change, but the card says it can take a minute or so to take effect. You look over at the trucker.

“Help me move him out of the bathroom.” She nods and the two of you slide him into the store proper.

The attendant comes up to you and tells you that an ambulance is on its way. You feel a little relieved and turn to the trucker, handing her one of the CPR face shields and the info card from the pouch. “Do you know how to do CPR?”

“Yeah, why?”

“If his breathing starts to slow, keep him breathing until the medicine kicks in. I’ve really got to go.” You say this, nodding toward the bathroom.

“Oh yeah, go ahead. I got this.”]

Feeling even more relieved, you come out of the bathroom just in time to hear the approach of an ambulance siren. The attendant and trucker stand to either side of the unconscious man whose breathing seems more normal.

“Any changes?” you ask.

Both shake their heads, though the attendant adds, “He seems to be a little better though.”

“So long as he’s breathing well, I think we’re in the clear.” You give them both a little smile which spreads to their faces. Just then the Ambulance pulls into the parking lot. The attendant goes to the store entrance and props it open, telling the EMT's that we think it might be a heroin overdose. One of the EMT's holds up a bag similar to yours, only bigger, navy, and of higher quality material.

As they come in with a gurney, you hold out the now empty medicine container in your still gloved hand. “I gave him this about three minutes ago.”

They both look at it briefly and both seem to relax a little. “Excellent. Glad to have someone prepared.” One of the EMT's comments.

Soon the man is loaded on the gurney and makes it out the door as a police car arrives. Two officers step out, splitting up so one can talk to the EMT's and the other can ask you, the trucker, and attendant some questions. After getting statements from everyone, the officer turns to you and thanks you too.

“You may have just saved a life tonight.”

The officer walks back outside to join his partner. The store attendant smiles widely and offers you some snacks on the house. You get your favorite snacks and a bottled iced coffee for the road while saying your goodbyes to the helpful attendant and trucker.

With your orange pouch in hand, you put it back under your seat in the car, making a mental note to replace the used contents of the kit. As you pull out onto the dark road again, you think about the story you will have to tell your brother...

Appendix B

Post-Narrative Questionnaire

Attitudes

Please indicate your agreement with each of the following statements using the scale provided: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

1. I believe opioid overdose kits are a useful tool for non-medical persons.
2. I believe providing a countermeasure to opioid overdose will encourage higher opioid usage.
3. I believe public access to opioid overdose kits is essential.
4. I believe the risks of opioid overdose kits outweigh the benefits.

Transportation

Please indicate your agreement with each of the following statements using the scale provided: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

1. I had a vivid image of the events in the story.
2. I pictured the described events.
3. While I was reading the story, I visualized the events that took place in it.
4. During reading, I had the feeling as if I was present at the events in the story.
5. While I was reading the story, I was in the world of the story in my imagination.
6. During reading, I saw before me what was described in the story.
7. During reading, it was as if I was present in the spaces that were described.
8. When I was reading the story, it seemed as if I was there in my thoughts.
9. My attention was focused on the events that were described in the story.
10. During reading, it felt as if I made a journey to the story world.

Identification

Please indicate your agreement with each of the following statements using the scale provided: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

1. While reading the story, I felt as if I was part of the action.
2. While reading the story, I forgot myself and was fully absorbed.
3. I was able to understand the events in the program in a manner similar to that in which the character I took the perspective of in the story understood them.
4. At key moments in the story, I felt I knew exactly what the character I took the perspective of was going through.

5. While reading the story, I wanted the character I took the perspective of to succeed in achieving their goals.

6. When the character I took the perspective of succeeded I felt joy, but when they failed, I was sad.

General Self-Efficacy

Please indicate your agreement with each of the following statements using the scale provided: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

1. I can always manage to solve difficult problems if I try hard enough.
2. If someone opposes me, I can find the means and ways to get what I want.
3. It is easy for me to stick to my aims and accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
6. I can solve most problems if I invest the necessary effort.
7. I can remain calm when facing difficulties because I can rely on my coping abilities.
8. When I am confronted with a problem, I can usually find several solutions.
9. If I am in trouble, I can usually think of a solution.
10. I can usually handle whatever comes my way.

Task Related Self-efficacy

Please indicate your agreement with each of the following statements using the scale provided: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

1. I could research how to get an opioid overdose kit to help a loved one.
2. I could recognize the most common symptoms of opioid overdose.
3. I could administer a dose of the medicine used to treat opioid overdose using one of the typical methods available (injection, EpiPen, nasal spray).
4. I feel more confident about administering opioid overdose medication.
5. Having an opioid overdose kit would make me more sensitive to opioid overdose issues.

Appendix C

Consent Form

Information about Being in a Research Study
Clemson University

Narrative Study

KEY INFORMATION ABOUT THE RESEARCH STUDY

Voluntary Consent: Dr. Erin Ash is inviting you to volunteer for a research study. Dr. Ash is an Associate Professor in the Department of Communication at Clemson University conducting the study with Alexander Scott, a graduate student in the same department. You may choose not to take part and you may choose to stop taking part at any time. You will not be punished in any way if you decide not to be in the study or to stop taking part in the study. If you choose not to take part or choose to stop taking part at any time, this will not affect your grade.

Alternative to Participation: An alternative for participation in this study is available if you choose not to participate in this study but wish to receive the extra course credit. Please contact Alexander Scott at abscott@clemson.edu for information.

Study Purpose: The purpose of this research is to test whether certain elements in media affect how persuasive a story is at changing attitudes toward a particular topic.

Activities and Procedures: Your part in the study will be to read a story, then answer questions about your reaction to that story.

Participation Time: It will take you about 30-40 minutes to complete this study.

Risks and Discomforts: The risks associated with participation in this study are minimal. The story in this study does present you with a scenario in which a person is suffering from a drug overdose, but where the main character helps them. If you should find this overly disturbing, you are encouraged to exit the study. As previously stated, stopping participation at any time will not have a negative repercussion on you.

Possible Benefits: While you may not benefit directly from this study, the contribution made to the field of Communication Studies and Media Effects could

aid in shaping future programs and campaigns with both entertainment and prosocial benefits.

INCENTIVES

For participating in this study, you will receive extra course credit from the instructor who informed you of this study. The amount of extra credit will be determined by the instructor but was likely stated when informed about this study.

EQUIPMENT AND DEVICES THAT WILL BE USED IN RESEARCH STUDY

For this survey, all you should need is the use of a computer or smart device connected to the internet. Your responses will be collected by Qualtrics, a third-party survey service, and sent to the researchers after the data collection period is complete.

PROTECTION OF PRIVACY AND CONFIDENTIALITY

The results of this study may be published in scientific journals, professional publications, or educational presentations. The data collected and retrieved from Qualtrics will be stored on a private database accessible only to the principal investigator and associates working on the research. While it is nearly impossible to promise complete anonymity, the data collected by this experiment is not of a compromising or identifying nature. The only data you will be asked to divulge about your identity will be your age, major, gender identity, and ethnic identity. The information collected in this study will not be used or distributed for future research studies.

CONTACT INFORMATION

If you have any questions or concerns about your rights in this research study, please contact the Clemson University Office of Research Compliance (ORC) at 864-656-0636 or irb@clemson.edu. If you are outside of the Upstate South Carolina area, please use the ORC's toll-free number, 866-297-3071. The Clemson IRB will not be able to answer some study-specific questions. However, you may contact the Clemson IRB if the research staff cannot be reached or if you wish to speak with someone other than the research staff.

If you have any study related questions or if any problems arise, please contact Alexander Scott at Clemson University at abscott@clemson.edu.

CONSENT

By participating in the study, you indicate that you have read the information written above, been allowed to ask any questions, and you are voluntarily choosing to take part in this research. You do not give up any legal rights by taking part in this research study.

If you choose to consent, the prompt below will serve as your digital signature and your confirmation of consent. You may print this form for your records.

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