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Emotional Responses to Opioid Public Service Announcements; Testing Trait Empathy's Impact on Message Processing and Attitude Change

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EMOTIONAL RESPONSES TO OPIOID PUBLIC SERVICE ANNOUNCEMENTS; TESTING TRAIT EMPATHY'S IMPACT ON MESSAGE PROCESSING AND ATTITUDE CHANGE

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ABSTRACT

Addiction to opioids, including abusing prescription pain killers and using heroin, is on a dramatic rise in the United States. Communities across the country are in the process of adapting new ways of addressing the issue, which have been met with significant opposition from the general public. This study examined the impact an individual's trait empathy has on whether persuasive public service announcements (PSAs) dealing with opioid addiction will be processed centrally or peripherally. Empathy has evolved, growing from an emotional experience, to a cognitive ability, to a function of both emotional and cognitive elements that can work both independently and interdependently of each other (Nathanson, 2003). The Elaboration Likelihood Model (ELM) suggests that motivation and ability are the determinants for whether a message will be processed centrally or peripherally. Given the dual nature of empathy, it is plausible that the emotional and cognitive elements of trait empathy could drive motivation and reinforce ability, making those individuals more likely to centrally process a message seeking to enhance attitudes toward opioid addicts. A 2 (high v low trait empathy) x 2 (high v low empathetic message) x 2 (strong v weak) between participant experiment was conducted**.** Outcome measures included reported empathy, stigmatized and stereotypical attitudes towards opioid addicts, and support for prosocial policies.

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

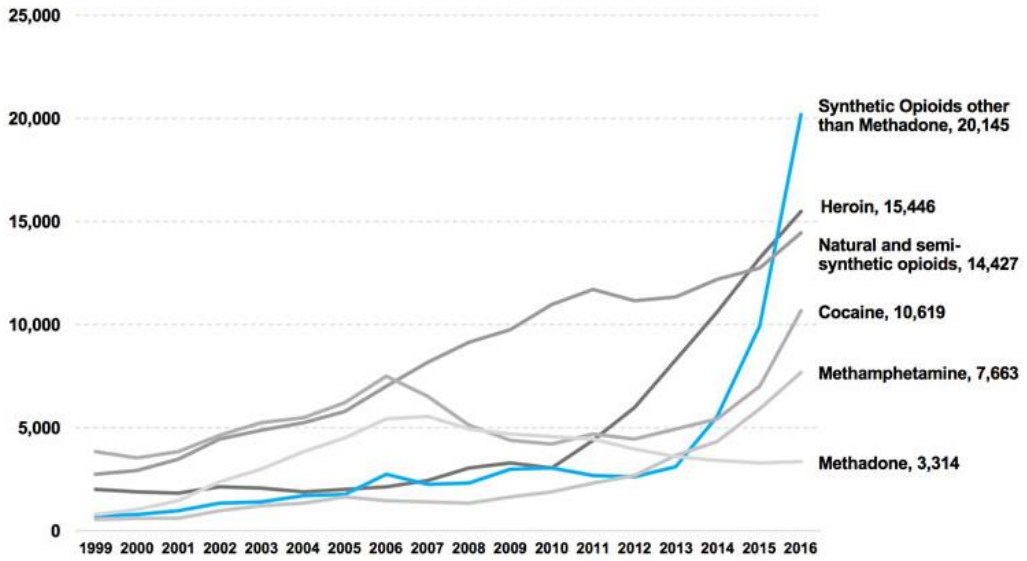
Figure Page

CHAPTER I

INTRODUCTION AND RATIONALE

Addiction to opioids is on the rise in the United States, ranging from abusing prescription pain killers such as fentanyl or OxyContin to injecting heroin. According to the National Institute on Drug Abuse (2017) more than 90 Americans die after overdosing on these types of drugs every day, and that number continues to grow rapidly.

Figure 1: Drugs Involved in U.S. Overdose Deaths 1999-2016 (CDC, 2016).



Roughly 25 percent, or one in four patients prescribed opioids for chronic pain misuse them and five percent of this population will eventually transition to heroin (NIDA, 2018). Looking specifically at the subpopulation of heroin addicts, roughly eighty-percent of heroin users had first misused prescription opioids (Cicero, Ellis, Surratt, & Kurtz, 2014). Beyond the devastating effects opioid addiction can have on the life of an addicted individual and their family, there are also community health concerns connected to opioid addiction including the spread of infectious diseases such as HIV and hepatitis C, and neonatal abstinence syndrome.

In response to this epidemic, local and national governmental branches have focused their efforts on adapting new ways of addressing this crisis—moving beyond the abstinence-only mode used for the past several decades. According to the U.S. Department of Health and Human Services, its five major priorities include: improving access to treatment and recovery services, promoting use of overdose-reversing drugs, strengthening our understanding of the epidemic through better public health surveillance, providing support for cutting-edge research on pain and addiction, and advancing better practices for pain management. Many communities have adapted their own progressive methods of helping addicts stay safe and get clean. For example, in 2016, the city of Ithaca, NY proposed a supervised heroin injection facility that would provide addicts with clean needles and medical supervision, while connecting them with public health services that would connect these individuals with recourses to get clean. This model was the first of its kind in the United States. A similar project was established in Vancouver, British Columbia in 2003 and the city saw fatal drug overdose rates drop by 35 percent in the first two years. Many states have also recently passed, or are in the

process of passing, laws allowing medical personnel, law enforcement, and everyday civilians to carry and administer the drug Naloxone (commonly referred to by the brand name Narcan). This medication blocks the effects of opioids on receptors in the brain, thereby having the ability to save an individual in an emergency overdose situation who would most likely die otherwise.

While these prosocial policies are slowly being implemented across the U.S., these types of policies are met with a significant amount of public and governmental resistance. For instance, the State of Maine has one of the highest opioid death rates in the U.S. with 376 opioid-related deaths in 2016, or an average of one person per day with an 867 percent increase in just two years (Miller, 2018). The current governor of Maine, Paul LePage, has responded to this epidemic by submitting several pieces of legislation and delaying responding to bills connected to providing more assistance, making it more difficult for individuals in an overdose situation to receive medical treatment. For instance, in 2017 the governor introduced bill LD 1558 which would force those in overdose situations to have to pay for the reversal drug Naloxone out of pocket, and completely prohibits those under the age of 21 from receiving the drug in an overdose situation. Since his appointment as governor, LePage has expressed a desire to disassemble many addiction-related assistance programs across the state due to his belief that these programs enable drug abusers to continue to abuse drugs without consequence (Miller, 2018).

Lack of empathy expressed towards the opioid epidemic is astounding, but not surprising. When an individual sees the circumstance of another within a context of internal attribution, or within their control, they are less likely to respond empathetically

(Johnson, Olivo, Gibson, Reed, & Ashburn-Nardo, 2009; Gapinski, Schwartz, & Brownell, 2006). Given this knowledge, is it even possible for media messages to help educate the public about the opioid epidemic when a large population of public still believes that addiction is a choice? Are there personality traits that could contribute to how open an individual is to care about, and being involved with, this issue? Understanding the role of trait empathy in how individuals process and respond to media messages is important and could be particularly valuable in understanding how to gain public support on prosocial policies that effect traditionally stigmatized groups.

To examine the role of trait empathy, this study will utilize the Elaboration Likelihood Model, a theory that predicts message processing routes based on individual characteristics and explore how trait empathy could play a role within this theoretical framework. The study explores whether emotional and cognitive dimensions of trait empathy can satisfy the motivational and ability components necessary for central route processing, which has been identified as the necessary route for deep message processing and long-term attitude change. This study will further advance communication research by adding to understanding of how personality differences and emotions impact message processing, while introducing the concept of trait empathy to communication literature and addressing a population that has yet to be addressed by communication scholars—individuals addicted to opioids.

The following chapter will contain a literature discussing the Elaboration Likelihood Model and various concepts relating to empathy, including dimensions of empathy, trait empathy, and state empathy. The study design will be presented in Chapter 3— Methodology with information regarding the stimulus materials and measures. The

statistical results will be presented in Chapter 4—Results. Lastly, a discussion of the results, limitations of the study, and areas for future research will found in Chapter 5—Discussion.

CHAPTER II

LITERATURE REVIEW

Elaboration Likelihood Model

The Elaboration Likelihood Model (ELM), formulated by Petty and Cacioppo (1986), is a message processing theory that predicts when an individual would be likely or unlikely to elaborate on a persuasive message. Elaboration refers to the process of giving close attention to and considering a message. Underneath this framework is the assumption that there are two distinct pathways, referred to as routes, through which individuals process messages. The two routes to persuasion identified in the ELM are the *central route* and the *peripheral route.* Two factors, *motivation* and *ability* are key in determining what processing strategy will be utilized.

Central processing. Central processing is the most desired route underneath the ELM framework but requires considerable more cognitive elaboration. An individual will carefully evaluate arguments made in the message, consider the implications of the communicator's ideas, and compare the information in the message to their own knowledge and values. When an individual has higher motivation to thoroughly consider and evaluate the message, they will process centrally. Two major potential motivators for

centrally processing are issue involvement and the need for cognition (NFC). If a topic or issue is personally relevant or has a direct impact on their own life, the message recipient will be more likely to carefully consider and evaluate persuasive messages. If the argument quality of the message is perceived as compelling, exposure to the message could lead to lasting attitude change if the individual believes they will benefit by adopting the position argued in the message.

Peripheral processing. The peripheral route is dramatically different than the central processing route, but the same two key factors, motivation and ability, still play a role. When individuals lack the motivation to carefully process a message, they will pursue a much simpler strategy and rely on superficial cues. If they lack the ability to carefully process a message, they may feel less confident in their opinions or their ability to dissect the message. Another factor that could inhibit ability is if an individual is distracted from the persuasive message, because they are not fully attending to the message they cannot thoroughly evaluate the merits of the message.

Individual differences. Individual characteristics can add to the complexity of the ELM. For example, if the issue in a message connects to a strong attitude, value, or ego-involved position of the individual, the individual can be biased and selective in how they interpret the message. This can result in the rejection of a message, regardless of how well the arguments are crafted. This could even go further by having highly involved individuals selectively exposing themselves to information that confirms their beliefs, and selectively limiting exposure to information that may conflict or contradict those beliefs. Even a message cue can serve distinct functions depending on the state and needs of an individual. The most widely explored example is the attractiveness of a speaker,

which can serve as either a peripheral or central cue depending on the individual. For instance, if an attractive speaker is promoting a beauty product, that could serve as a central cue. However, if the attractiveness is unrelated to the core of the messages, it may serve as a peripheral cue to someone who may not care intently about the message itself. In sum, cues in messages can serve multiple functions depending on individual characteristics and relationship to the message.

Need for cognition. Another potential motivator is the need for cognition (NFC). NFC is defined as "a stable individual difference in people's tendency to engage in and enjoy effortful cognitive activity" (Cacioppo, Petty, Feinstein, & Jarvis, 1996, p. 198). Individuals who are high in NFC enjoy thinking abstractly and using higher levels of cognitive effort. Those higher in NFC are known to have better recall of message arguments, have higher numbers of issue-relevant thoughts, and seek additional information on complex issues, which are indications that an individual is centrally processing information (Cacioppo et al., 1996). Because NFC is a personality trait, it can be successful way to encourage central processing when messages match this self-schema. A self-schema is defined as the beliefs, experiences, and generalizations one has about themselves. If some individual loads highly onto a trait, they will most likely deeply identify and recognize that trait in the world around them. This could be useful when designing messages which could be framed to 'match' types of self-schemas. Wheeler, Petty, and Bizer (2000) examined this idea by measuring the responses from students who were high or low in NFC to high or low NFC framed messages with either strong or weak arguments. Messages that matched these self-schemas were anticipated to encourage greater attention to the argument quality than messages that mismatched the

self-schema. The results correctly found a three-way interaction between NFC, message frame, and argument quality. Strong arguments led to more favorable opinions toward the product than did weak arguments, however the effect of the argument strength was greater when the content of the message matched the individual's underlying self-schema, or in simpler terms how the individuals thinks of themselves in terms of their beliefs, experiences, and other generalizations of themselves.

Ability. The other key determinant impacting the selection of the information processing route is the individual's ability to process the message. An example of ability would be knowledge. If an individual is more knowledgeable about an issue, they are better equipped to separate factual arguments from rhetorical fluff. This means that they are better able, and more confident, to identify and reject weak messages. On the other hand, it means that if they find an argument as credible and powerful, then it will have more of a lasting impact on attitude change.

Message heuristics. Inevitably, those who are processing peripherally rely on simple decision-making rules, also known as *heuristics.* Different examples of heuristics include celebrity or friend endorsements, readily believing an expert, or basing a decision on popularity. While this can make the message creator's job significantly easier, if the goal outcome is to generate lasting attitude change than creating messages around these heuristics is counterproductive as peripheral route processing is weaker and less subject to lasting change. However, it can be an effective strategy in marketing products and creating purchase intention for lesser cognitive time and financial resource involved products.

Matching

Overview. In the context of ELM, matching is considered to have occurred when a persuasive appeal in a message matches the self-schema, identity, functional basis of an attitude, or the affective-cognitive basis of attitudes of the message recipient (Wheeler, Petty, & Bizer, 2000). Regardless of the type of matching, each matching function "involves a sense that the message matches the type of person the recipient is, or matches they type of attitude they have" (p. 158). Matched message arguments have the potential to enhance information processing activity, arouse higher rates of argument scrutiny, and generate long term attitude change if the arguments presented are compelling to the message recipient when the elaboration likelihood is high.). However, the matches could serve as peripheral cues when the likelihood of thinking is low, bias information processing during high likelihood situations, and potentially serve as a determinant when the elaboration likelihood is neither high or low. The type of matching, however, has an impact on the amount of evidence for some of these roles over others. The four matching effects and their function within the context of the ELM will be discussed within this section.

Functional matching. Functional matching is guided by the fundamental functional hypothesis, which says that persuasive appeals are more effective when they present information that matches the function underlying an attitude as opposed to presenting information in such a way that does not match. The two core functions underlying attitudes are value-expressive functions and the social-adjustive function. A value-expressive function is an individual level self-concept of one's values, whereas a social-adjustive function is a value or attitude that is social desirable or geared toward

social interaction and enhancing cohesion in groups Wheeler, Petty, & Bizer; 2000). This essentially means that the root function of the attitude object, whether it be value-expressive or social-adjustive, needs to be identified and the framing of the message should match in order to be effective (Wheeler, Petty, & Bizer; 2000; Shavitt, 1989; Snyder & DeBono, 1989). These two functions have been commonly linked to the individual differences in self-monitoring (Snyder, 1974, 1979). Those who are high in self-monitoring typically have attitudes rooted in the social-adjustive function, as these individuals are more malleable in their behaviors or beliefs to fit the socially appropriate attitudes, and they therefore tend to respond more strongly arguments rooted in socially normative attitudes. On the other hand, those who are low in self-monitoring have more attitudes rooted in the value-expressive function, and therefore respond more to arguments with a value-expressive function.

While the effect of identifying the functional basis of an individual's attitude and matching message content to that basis has been noted as "clear and consistent", the *why* and *how* of this effect has not been as clearly understood (Wheeler, Petty, & Bizer, 2000, p. 166). Some scholars, such as Lavine and Snyder (1996) have explored the possibility that when arguments match the functional basis of the individual's attitude, greater attitude change occurs due to biased processing of the arguments. However, a study by Petty and Wegener (1998) hypothesized that it was more likely that this matching led to enhanced scrutiny, which is more indicative of deeper processing than biased processing. In their experiment, they manipulated the strength of matching versus mismatching information in advertisements about new consumer products to see if there was an interaction between function match and the strength of message arguments. If there were

biased processing or cue alternative were operation, there would be a main effect rather than an interaction. The results of this experiment found that the matched messages received more scrutiny, and while the arguments that matched were invariable more persuasive, matches with weak arguments had less persuasive power than mismatches.

The consensus among this research suggests that matching the message to the function served by an individual's attitude can have influential power in multiple ways and at different points along the elaboration continuum. In instances when the elaboration likelihood was not clearly constrained to be high or low, functional matching served to motivate enhanced information processing activity (Petty & Wegener, 1998). When the likelihood was low, functional matching seemed to serve as a peripheral cue (DeBono, 1987), and when the likelihood was high, matching appeared to generate a bias to the ongoing information processing (Lavine & Snyder, 1996). The why of this effect, as explored by DeBono and Packer (1991), seems to be due to perceived self-relevance. They found that individuals had the tendency to rate matching messages as being more self-relevant than mismatching messages, possibly because they are perceived to speak more directly to the type of person the recipient is. This idea of matching enhancing self-relevance is key in in the subsequent matching effects.

Self-schema matching. A relatively small amount of matching research has looked at the effects of self-schema matching. Self-schema is thought to be a construct of the self and information about ourselves, which one can rapidly identify. In a study done by Markus (1977), individuals who were schematic on the trait of either independence or dependence were quicker to report instances of schema-consistent prior behavior than those who did not load highly on either dependence or independence. Therefore, if a

message is matched to the self-schema of the individual, the message "seems more self-relevant or seems to contain information about "who [the message recipient] is" (Wheeler, Petty, & Bizer, 2000, p. 170). Like the studies examining functional matching, Bizer, Wheeler, and Petty (1998) found that rather than the relationship between self-schema and a matching message creating biased message processing, it was motivating participants to scrutinize the strong and weak arguments more closely.

Need for cognition was used as the self-schema variable in a study by Cacioppo and Petty (1982) that was inspired by a study done by Markus (1977) where it was found that individuals high in NFC were faster to respond to questions about whether schema-consistent adjectives (ex: thoughtful, curious) characterized them, and were equally quick to respond to schema-irrelevant traits. Cacioppo and Petty explored this idea NFC being a self-schema variable by conducting an experiment intended to measure the matching effects in the context of persuasion and message processing. They looked at the interactions of NFC trait, the high or low need for cognition frame of the message, and strong or weak arguments in advertisements. Their results found that for both high and low in need for cognition individuals, the effect of argument strength was greater when the framing of the message matched the self-schema. Due to the scarcity of work on the role of self-schemas and persuasion, there is opportunity for more research examining the role self-schema in conditions where elaboration is not constrained to be either high or low.

Social identity matching. Beyond the effects of self-schema, or personal identity, matching is the effect that matching the content of a message with social identity (i.e., group membership or affiliation) can have on persuasive outcomes. While research

on social identity and self-schemas has been conducted within separated domains, it has been argued that this distinction is unnecessary due to indistinguishable similarities between self-schema and identity appeals (Wheeler, Petty & Bizer, 2000). Like other elements that can be present in messages, social identity matching can serve multiple purposes depending on the individual. Identity matching can operate as a peripheral cue in low elaboration settings, with message recipients more readily accepting and having matching attitudes towards messages where an in-group member was expressing a positive or negative attitude than participants viewing messages with out-group members (Fleming & Petty, 1997a).

Identity matching. Identity matching, as other forms of matching, can also serve as a determinant of processing for individuals exiting in moderate baseline elaboration conditions. An experiment by Mackie, Worth, and Asuncion (1990) found that participants who read a message from an in-group source differentiated between the strength of the arguments used in the persuasive message (strong v weak) and the source of the message (in-group vs. out-group member), which indicated greater message processing. Social-identity matching, unlike the other matching types, has been shown contribute to processing bias under high elaboration likelihood situations. Evidence for this was provided in a study by Fleming and Petty (1997b), where individuals high in identification with their gender were found to be more persuaded by and had more positive thoughts towards messages that matched their gender than they did towards similar messages that mismatched their gender. On the other hand, when identification was low, matching did not have biased processing.

Cognitive vs. affective bases of attitudes matching. Matching the affective versus cognitive bases of attitudes is another strategy that has some similarities to functional matching but has its own unique properties. The important similarity between the two matching strategies is that they both speak to the base of the attitude itself, however in this instance it identifies whether the attitude is affective or cognitive based. A key difference between functional matching and cognitive vs. affective matching is that functional matching is "presumed to occur because of some underlying need or motivational state" which has not been so for the affective versus cognitive bases of attitudes (Wheeler, Petty, & Bizer, 2000, p. 175).

More recent publications have built upon this research by seeking to understand cognitive vs. affective bases of attitudes and persuasive appeals, to understand how this dynamic works when matching messages are also applied. Ryffel and Wirth (2016) sought to understand the processes behind why affective messages are more successful in changing affect-based attitudes, and why cognitive message are more successful in changing cognitive-based attitudes. They argued that there are two potential explanations: the first is that matching messages may heighten message scrutiny and be indicative of central route processing (as is seen with both functional and self-schema matching), and the second possibility is that processing fluency, or the ability to easily recognize the appeal in the message, may serve as a peripheral cue. The experiment looked at the interaction between attitude base (cognitive, affective), persuasion framing (cognitive, affective), and persuasion strength (strong, weak). Their findings suggest the matching did lead to processing fluency, with consequently affected perceived message truthfulness. However, in conflict with the other matching processes, strong persuasion

messages have an effect in mismatching situations and the messages are processed more thoroughly than strongly framed, matching messages. Rather than having matching, strongly framed messages motivate careful, deep processing, the effects of matching cognitive or affective and strongly framed messages had an opposite effect.

The mere perceptions of one's attitudinal basis has been suggested to have a unique effect beyond whether one's attitudes are affect- or cognition based (also referred to as structural bases). See, Petty, and Fabrigar (2008) explored this dynamic by conducting several studies to test the predictive power meta-bases have on selective information interest and actual behavior; the interaction between meta-bases and type of messages and whether these effects were independent of structural bases; and under what conditions do meta-bases exert their influences, and under what conditions do structural bases exert their influences. In sum of these studies, they found that meta-bases had more predictive power in situations with higher deliberation, and structural bases had more predictive power in more spontaneous situations. Meta-bases also had an incredibly strong impact on selective information interest, with individuals showing preference for and spending more time with content that aligned with their reported meta-base. These unique relationships indicate future potential for research exploring the unique contribution of meta-bases in the other matching scenarios.

The Role of Emotion in the ELM

Emotions have been found to influence attitudes and persuasive effect through the persuasive message itself, attitude object, or incidental contextual factors because "they can influence evaluative judgements through multiple cognitive and meta-cognitive processes" (Petty & Brinol, 2015, p. 2). Emotional responses have been found to have

positive effects on a wide range of issues, including environmental concern and proenviornmental behavior, encouraging volunteering with special needs individuals, and even registering to be an organ donor (Park, Turner, & Pastore 2008; Schwartz & Loewenstein, 2017; Skumanich & Kintsfather, 1996).

Emotion can serve several functions depending on the individual, serving as simple cues when the elaboration is low or either as arguments or cognition biases if the elaboration likelihood is high. In a low elaboration setting, if the attitude object is associated with positive emotions or mood states, individuals could in turn have more favorable views toward the message. A study by Greifendeder, Bless, and Pham (2011) found emotions to have a simple and direct effect on judgements in low cognition conditions. Several psychological processes have been proposed to explain this relationship including classical conditioning, emotion-based heuristics, misattribution of one's emotional state to the attitude object, and direct affect transfer (Petty & Brinol, 2015).

In a high elaboration setting, emotions can impact the motivation and ability to think. One of the most studied examples is the effects of fear appeals, which are found to have a positive effect under high thinking conditions. A study by Hockett and Hall (2017) found that fear appeals about the dangers of feeding wildlife had a stronger effect on central route processing, increasing negative attitude change and behavioral intention towards refraining from feeding wildlife. In sum, under low thinking conditions, the important aspect of the emotion is its valence, and under high thinking conditions is its ability provide motivation to those who can more deeply process messages.

Emotions also have the potential to bias thoughts under high elaboration conditions. The process, as noted by Petty and Brinol (2015) "is subtler than using emotion as an argument…for emotion to bias thinking, it is likely better that the emotion and its source not be very salient" (p. 5). Emotion can bias cognition because of the associative nature between emotion and memories. For example, when a person is happy, there is a heightened accessibility of memories and experiences associated with happiness and a lowered accessibility of incongruent emotions and memories. The particular type of emotion, whether positive or negative, can also have an impact on how an individual reacts to the message. For example, individuals have been found to respond differently to a similar message that conveys feelings disgust versus sadness (Wagner, Brinol, & Petty, 2014). Because disgust is a more powerful, polarizing emotion it can have the potential to send a more negative signal about an action or person.

Empathy

Empathy, in its simplest definition, refers to the phenomena of an individual taking the perspective of another to greater understand the person's circumstances and emotions, which inspires a desire to help or to engage in supportive actions (Zillmann, 2006; Nathanson, 2003). Empathy has been historically used in place of better fitting terms, such as *sympathy* or *caring* in both academic discourse and everyday use (Nathanson, 2003). The dimensions of empathy have evolved greatly overtime; with one of the biggest transitions being the debate about whether empathy is a cognitive or an effective response (Nathanson, 2003; Shantz, 1975). Cognitive dimensions refer to an individual's ability to *perspective take* or to *role take*, which is an emphasis on skills that are learned and refined overtime. Emotional dimensions of empathy refer to an

individual's ability to experience the emotions of another and have been measured through an individual's unique emotional responsiveness and tendency to be affected by the emotional experiences of others (Mehrabian & Epstein, 1972). However, current perspectives of empathy consider both the cognitive and affective components of empathy and see these two components as interdependent of one another.

Beyond the cognitive and emotional dimensions of empathy, a wealth of research has looked at empathy as either a trait or a state. *Trait empathy*, also known as *dispositional empathy*, refers to an individual's emotional and cognitive abilities to experience empathy. On the other hand, *state empathy* (or *situational empathy*) is "conceptualized as a process where perception of [a character's] state automatically activates the recipient's vicarious experience of their state, situation, and object, which automatically primes and generates the associated automatic and somatic responses" (Shen, 2010a, p 398). State empathy is an isolated, temporary affectual response to message stimuli, whereas trait empathy is a more fixed personality characteristic.

Some research has illustrated that empathetic emotional responses to messages can have unique roles in the processing of messages under the ELM. One of the unique qualities of empathy is its ability to mitigate psychological reactance. An experiment by Shen (2010a) explored the role of message induced state empathy. The participants were put into high or low empathetic states and were then exposed to PSAs that addressed either smoking or drunk driving. The study found that state empathy had a positive impact on the persuasive effects of the PSAs, but that it also has a negative direct impact on the depth of message processing suggesting that state empathy could facilitate as a heuristic and encourage peripheral processing. Empathetic appeals can not only

overcome psychological reactance but can also work in place of fear-arousing appeals and be more effective because they do not activate psychological reactance. Shen (2011) found that empathy-arousing antismoking PSAs were more effective at generating persuasive outcomes.

Beyond the ability for empathetically arousing message to lead towards persuasive outcomes is the potential for trait empathy to serve as a role in the ELM. A study by Park, Turner, & Pastore (2008) began to address this question by seeing how empathetic tendency (i.e.: trait empathy) could motivate central processing of PSAs deigned to motivate people to volunteer with the Special Olympics. They conducted a 3-way design: 2 (empathetic tendency: high v low) x 2 (argument quality: strong v weak) x 2 (peripheral cue: celebrity v non-celebrity status). They found that the peripheral cue of the message played no significant role in message processing and noted that historically, peripheral cues in PSAs tend to not have as significant an effect in general in comparison to product and purchase intention driven ads. Further, low trait empathy and high trait empathy subjects were motivated to process the persuasive messages because of significant involvement among low empathy subjects. This makes it necessary in future studies to control for the role of involvement in message processing to identify and isolate trait empathy's unique role. Furthermore, Park et al. (2008) did not test for mediation of high/low state empathy induced through the message. This may be valuable to understand the interaction between trait/state empathy and being able to narrow in on what matters more in the message processing of PSAs--trait empathy or state empathy.

Emotional dimensions of empathy. The emotional dimensions of empathy, frequently referred to as *affective empathy,* are the emotional activation and reaction to

experiences and emotions of others (Shen, 2010b; Zillmann, 2006). The process involves both understanding and sharing the feelings of others. These affective reactions are initially roused by reflexive and learned components. While much research has focused on the sharing of negative emotions and experiences, such as when the observed individual is suffering or needs comfort, affective empathy can be sharing both negative and positive emotional experiences (Shen, 2010a; Jabbi, Swart, & Keysers, 2007).

Some scholars have stated the need for a clearer conceptualization and use of the term empathy (Nathanson, 2003; Zillmann 2006). Others have looked to see if empathy matters for eliciting positive emotional responses, or if other similar concepts such as sympathy are enough. In their article exploring this question, Writz, Sar, & Duff. (2016) tested the roles of empathy, sympathy, and message type on persuasive outcomes. Empathy in this instance was defined that a "vicarious experiencing of a range of emotions" and sympathy was defined as "feelings of sorrow for another's welfare" (p.112). Participants were shown either a narrative or non-narrative version of a sexual abuse ad while measuring sympathy and empathy. The findings suggest that narrative ad and feeling empathetic emotions are much stronger predictors of positive behavioral response than non-narrative ads and sympathetic emotions.

Two main characteristics of emotional dimensions of empathy have been identified by scholars: "the circumstances that produce the emotional reaction and the expressive elements of that reaction" (Zillmann, 2006, p. 153). From these characteristics come Hoffman's (1978) definition of empathy as a "largely involuntary, vicarious response to affective cues from another person or from his situation" (p. 227). Some scholars on the other hand, such as Aronfreed (1968) have argued that it is necessary to

keep these two sources of emotional responses conceptually separated. Empathy as a construct should be limited to an affective reaction induced by exposure to the emotional experiences of others. This witnessing of the conditions that produce emotional reactions in others, he suggested, should be termed *vicarious reactions*.

Cognitive dimensions of empathy. The cognitive elements of empathy have been consistently termed as *perspective taking* in communication literature, which refers to one's ability to correctly identify the feelings of another and look at the situation from the other's perspective. Smith (1971) and Stotland (1969) pioneered empirical, cognitive approaches to affect and empathy. Smith's theory of moral sentiments describes empathy as occurring "by the imagination, we place ourselves in his [i.e. the observed person's] situation, we conceive ourselves enduring all the same torment…we form some idea of his sensations, and even feel something which, through a weaker in degree, is not altogether unlike them" (Zillmann, 2003, pp. 161). Stotlands' approach, as Zillmann (2006) states, "firmly established that imagination indeed does produce and enhance empathy, both the subjective experience and its physiological accompaniments" (p. 161). Within this framework, "cognitive elaborations [are] the primary empathy-mediating process" and therefore act as the starting point for empathetic reactivity.

The ability to perspective take can be inhibited if the viewer has too much perceived similarity with an individual or character. An individual can project too much of their own experiences onto another and be understanding of or empathetic towards the unique situation of the individual. An example of this is a study done by Recuber (2015) who utilized a discourse analysis of two Tumblr communities that approached the Occupy movement from separate perspectives—one in support of and one not in support

of the movement. The objective of the analysis was to see if, and to what extent, the messages by either community connect with the idea that the current economic system generates unfair hardship and suffering. Recuber (2015) found three types of posts in relation to empathy in the anti-Occupy Tumblr page, which he categorized as superficial empathy, empathetic reversal, and denial of empathy. Superficial empathy was the most common type and refers to when authors would share their own life stories of overcoming hardship as proof that others could also overcome them, with no recognition of other barriers individuals may face that would make them unable to successfully make it out of these negative economic situations. The results suggest when the element of familiarity is present, other personality traits can limit an individual's ability and desire to understand the circumstances of another.

Trait empathy. Trait empathy, oftentimes also referred to as *dispositional empathy,* is a not as well studied within communication as it is in psychology. Trait empathy is conceptualized as a response-guiding mechanism and is typically measured as immediate skeletal-motor reactions that have not allowed for mediation by cognitive information processing (Zillmann, 2006). Trait empathy has been identified as a key mechanism for motivating long term, higher involvement, helping behaviors, such as monthly donating and volunteering. The Davis' Interpersonal Reactivity Index (IRI) is the only measurement scale for trait empathy that measures both the emotional and cognitive components. The four dimensions of the scale measure: perspective taking, empathetic concern, and personal distress. Unger and Thumuluri (1997) utilized the IRI to measure trait empathy's predictive ability of voluntarism. They found that the

dimensions of perspective taking, empathetic concern, and personal distress were vital antecedent variables in determining long term helping behavior.

Trait empathy has been shown to have direct relationship to how one interacts with and responds to others, in both offline and online environments. Stone and Potton (2014) looked at the unique role that trait empathy played when engaging with an individual with a disfigured face. Disfigurement is associated with stigma, and they wanted to see how trait empathy could navigate, or mediate, intense emotional reactions of disgust or other negative emotional reactions. Trait empathy was found to evoke more sensitive, sorrow based emotional responses and had a negative relationship to disgust based emotional responses. This finding suggests that trait empathy could be a potential way to reduce stigma and increase positive interpersonal reactions. Trait empathy's increase of positive interpersonal reactions has been shown to exist in the digital environment as well, where those who are high in trait empathy utilize unique linguistic patterns in social media environments designed to enhance mimicry (Otterbacher, Ang, Litvak, & Atkins, 2017) and speak more about their communication partner than themselves. Both findings would suggest that individuals high in trait empathy show a greater concern for the emotions of other during interactions.

Trait empathy has also been linked to the ability of and willingness to forgive, particularly the ability and willingness to forgive those who have committed violent actions. Ristovski and Wertheim (2005) investigated this relationship by looking at the reported levels of satisfaction with outcome and forgiveness of criminals. They found that individuals higher in trait empathy were more willing to forgive criminals who did not readily and autonomously volunteer financial compensation for their victims than

those low in trait empathy. This relationship between trait empathy and willingness to forgive was also studied by Schimel, Whol, & Williams (2006) who discovered that empathetic individuals are more willing to forgive an antagonistic, aggressive individual outside their social group. From both Ristovski and Wertheim (2005) and Schimel et al. (2016)'s findings, it would appear that individuals "with high (vs. low) trait empathy may be more forgiving of both ingroup and outgroup members who have committed a moral transgression" (Schimel et al., 2006, p. 217).

High trait empathy has a distinct connection to performing anonymous, prosocial behaviors. Empathy is considered a socially desirable trait in many societies, and individuals who are aware of this could behave or report empathetic concern out of being motivated by caring about how others perceive them rather than having genuine concern for others. White (2014) found that those who engaged in more public prosocial behavior and public altruism illustrated more psychopathic traits, such as ego centrism, insincerity, and callousness and had lower levels of trait empathy. Similarly, those high in trait empathy were more likely to pursue anonymous acts of altruism and prosocial behavior and scored very low on psychopathic trait measurements. A related finding by Balconi and Canavesio (2013) found that young people high in trait empathy were more likely to intervene in favor of others who were being treated poorly by others. From these findings, individuals higher in trait empathy would be more likely to engage in prosocial actions for the benefit of others when there is no direct, immediate benefit to themselves.

Individual differences with trait empathy. Some demographic factors may play a role in how high one rates in the amount of trait empathy. Because there are both cognitive and emotional components to empathy, some individuals can be unable to, or

discouraged from, developing strong emotional reactivity or cognitive skills. Much of the research on trait empathy has noted how there are unique gender and age effects on trait empathy (Cao, 2013; Cargile, 2016). Women often exhibit higher rates of trait empathy, which could be contributed to how boys and girls are socialized differently and develop a different self-construal. As Cao explains, "girls are often asked to do household tasks that accustom them to intimate relationships and concern for others' welfare (interdependent self-construal)…boys, on the other hand, are often asked to do tasks that take up more space and allow them more freedom and independence (independent self-construal)…hence, relationships with others are important components of the self-definition for individuals with an interdependent self-construal" (p. 164). Even further complicating the issue, women are more empowered to experience and show a wider range of emotions, therefore allowing them to better understand, experience, and share the emotional experiences of others.

Age also has a moderating impact on trait empathy, with younger individuals exhibiting less empathetic responses unless prompted to perspective take (Cargil, 2016; Nathanson, 2003). Nathanson and Cantor (2000) explored this possibility by having sixth graders watch a violent cartoon with one group receiving instructions to think about the feelings of the victim and the other group receiving no instructions. The findings showed that the children who were given instructions to take the perspective of the victim had less favorable evaluations of the violent perpetrator, had more favorable evaluations towards the victim, and perceived the violent actions in the cartoon to be less justified. These findings suggest that children acquire the capacity for empathy with development and experience, thereby reinforcing that trait empathy has cognitive dimensions.

State empathy. State empathy differs from trait empathy it refers to a temporary affect state, rather than a fixed personality trait. State empathy is considerably ore present in mass communication research than trait empathy because it can easily be measured as an outcome of media exposure or as a consideration in the design of messages. Empathetically framed messages, in particular narrative messages, have been shown to reduce stigma of individuals with mental illness and immigrants, increase support for social welfare programs in black communities, and to invest emotional energy in fictional characters (Igartua & Frutos, 2017; McKeever, 2015; Johnson et al., 2009; Nathanson, 2003). Concisely put by Shen (2010b), "state empathy during message processing can be conceptualized as a process through which the recipients comprehend, process, and are influenced by persuasive media messages" (p. 507).

Inducing an empathetic affect can be an effective persuasive tool to overcome psychological reactance or resistance. An article by Shen (2010a) explored the role of message-induced empathy in mitigating psychological reactance by looking at how empathetically framed PSAs that addressed either smoking or drunk driving impacted the reception of, processing of, and persuasive effect of the message versus PSAs that were not empathetically framed. The study did find that state empathy did have a positive, direct effect on persuasion. However, it also has negative, direct impact on the depth of message processing. A key point takeaway for future research on the persuasive implications of empaths is "the impact of state empathy on message processing suggests that its impact on persuasion might be flimsy and less predictive of behavior" (p. 413). Therefore, state empathy could be an effective way to motivate an individual to attend to a message but an ineffective way to measure lasting attitude change or behavior.

The influence of media form on state empathy. A significant amount of research has revealed that people "respond emotionally to what they see on their screens" (Konjin, Molen, & Nes, 2009, p. 313). These viewers can adopt the emotions portrayed on screen, have concern for characters, become immersed in the narrative, or experience other affective process (Cohen, 2001). The assumption is that by adopting the emotions and experiences that are portrayed on television, they are therefore engaging empathetically with characters (Konjin et al., 2009; Cohen, 2001). The amount of empathy experienced can be manipulated through media form characteristics, such as narrative devices and camera angles (Konijn et al., 2009).

Media form variables. The impact of media form variables on empathetic response was examined by Cao (2013), specifically how camera angels could impact experienced empathy and intention to assist others. Half of the participants watched videos that framed the victim in facial close-ups, and the other half saw the victim portrayed from a medium-framed perspective. They found that overall, facial close-ups had a positively impact on empathetic reactions among viewers and increased intentions to donate to particular social welfare non-profits related to the character in the video. This is largely because facial close ups allow for greater connection to the character's emotions and can better facilitate empathetic responses.

A study by Cargile (2016) investigated how the emotional reaction of viewing an emotionally engaging video designed to induce empathy toward a character can have a transfer effect on being empathetic towards unrelated individuals. Using experimental methods of exposure to an empathetic film about a boy with cancer, findings showed that participants exposed to this video reported greater empathy for an unrelated black man.

The findings suggest that designing media messages to induce empathy through a character could have a role to play in improving intergroup relations.

The influence of user characteristics on state empathy. When an individual is able to relate emotionally to a socially dissimilar character more, it impacts how they connect with that character and also how the perceive others who are similar to that character. Perceived similarity with a stigmatized fictional character has been shown to reduce prejudice and enhance attitudes (Igartua & Trutos, 2017; Shen, 2010b; McKeever, 2015; Wojcieszak & Kim, 2016). Mckeever (2015) tested this relationship by looking at how perceived similarity can increase empathy for media characters with severe depression, and thereby reduce stigma associated with mental illness. Participants read a narrative of a fellow undergraduate student at the university battling with severe depression or the same narrative without the similar descriptors. They found that those who had read the socially similar media character story reported higher levels of empathy and positive attitudes towards those with mental illness than those who had read the socially un-similar narrative.

Summary

Empathy is the experience of understanding and sharing the emotional experiences of another within the other person's frame of reference. This understanding can often lead to a desire to or the actual performance of supportive actions and helping behaviors. Empathy is comprised of cognitive and emotional elements that work in conjunction with one another. The cognitive elements, simply put, are the individual's ability to perspective take and to understand the experiences of others without imposing the experiences of the self. On the other hand, the emotional elements refer to the

individual's capacity to feel and identify the emotions of others. Further, empathy can be a temporary affectual state motivated referred to by scholars as state empathy, or a fixed personality trait commonly called trait empathy. This proposed study will seek to understand how the trait empathy of individuals can influence how they process persuasive messages. The Elaboration Likelihood Model seeks to anticipate how an individual will process a persuasive message and serves as the framework for the study. If an individual loads highly onto a trait, that trait typically plays a significant role in that individual's self-schema. Therefore, it seems plausible that those who are higher in trait empathy will be more likely to centrally process empathetically framed messages that contain strong arguments, which would indicated by stronger attitude change and behavioral intent. Based on the literature discussed above, the following hypotheses are offered:

H1: High trait empathy individuals will report higher levels of state empathy regardless of experimental condition.

H2a: There will be an interaction effect between trait empathy and experimental condition on reported social stigma.

H2b: There will be an interaction effect between trait empathy and experimental condition on reported stereotypical attitudes.

H3: There will be an interaction effect between trait empathy and experimental condition on prosocial policy support.

CHAPTER III

METHOD

Study Design

A 2 (high v low trait empathy) x 2 (high v low empathetic message) x 2 (strong v weak message) between participant experiment was conducted to investigate the unique role that trait empathy plays in the processing of persuasive Public Service Announcements addressing opioid addiction. A significant portion of mass communication research has focused on state empathy's ability change attitudes, which has led to a concentration on the emotional framing of messages or the power of narratives to induce empathetic responses. Little to no research has investigated the unique role individual trait empathy can play. The experimental design measured the trait empathy of participants by using Davis' Interpersonal Reactivity Index (indicating them as either high or low in trait empathy) and randomly assigned the participant to either to an empathetic frame, weak argument message; an empathetic frame, strong argument message; a non-empathetic frame, strong argument message; or a non-empathetic frame, weak argument message. Outcome measures included reported empathy, reported stigma and stereotypical attitudes, and support for prosocial policies addressing opioid addiction.

Issue involvement and familiarity were controlled for to better isolate and measure the role of trait empathy in message processing.

Stimulus Materials

All four experimental conditions displayed a public service announcement (PSA) on opioid addiction. The videos were identified via searches on google and YouTube. While all of the PSAs dealt with opioid use and addiction, each PSA differed in its approach to the issue, both in the framing of the message and the arguments presented.

Low Empathy, Weak Argument Quality. The low empathy, weak argument quality video (LEWA) was produced by Triniti Media. The video shows a student athlete's downward spiral after receiving prescription opioids from his doctor for a sport injury. The video is dark, with dramatic music and framing as they show him recklessly taking more and more pills. The final shot shows him at school being escorted by police while students look onwards. A link to the video can be found in Appendix D.

Low Empathy, Strong Argument Quality. The low empathy, strong argument quality video (LESA) was produced by the Maryland Department of Health and Mental Hygiene. The video shows a young adult woman (perhaps late high school/early college age) desperately looking for pills in her backpack. Her makeup is smeared, and she looks very disheveled. The video shows her overdosing and being revived by NARCAN and ends with her at the hospital. A narrator speaks over the video discussing the dangers of opioid use and discusses the uses for NARCAN. A link to the video can be found in Appendix D.

High Empathy, Weak Argument Quality. The high empathy, weak argument quality video (HEWA) was produced by the Ohio Attorney General. The emphasis of the

video is on Nicky Kelly, a former addict who tells her story of becoming addicted to opioids and how she needed to be revived several times by the drug naloxone. She eventually joined the Edna House, a long-term recovery home for women with addictions. She shows a variety of emotions while she tells her story and ends with emphasizing despite having to be revived many times, she eventually did get clean and is grateful for getting the help she did from medical personnel because it gave her the opportunity to live again. A link to the video can be found in Appendix D.

High Empathy, Strong Argument Quality. This video was originally a special produced by Vice News, and was edited to create a shorter, PSA style video. The video starts out by medical personnel talking about how all opioids are the same—whether it's a prescription painkiller or heroin. The reporter and narrator of the film starts providing facts about the crisis over b-roll of shots of a nurse showing how to administer NARCAN and a homeless man shooting heroin. The narrator continues talking about how many communities have moved from the abstinence only model to a newer, more forgiving way of combating the issue. It is here where she introduces Bobby, a former addict. He tells his story of struggling to stay clean. The video ends with him at a court hearing discussing his story and how long it has been since he last relapsed. The judge congratulates him and gives him the doing service work with other struggling addicts in lieu of time in prison. The narrator ends discussing how these new ways of combatting the issue are providing second chances to those who did not have these options decades ago, and that not everyone in every community is as lucky due to laws prohibiting NARCAN or rehabilitation style programs. A link to the video can be found in Appendix D.

Manipulation Tests

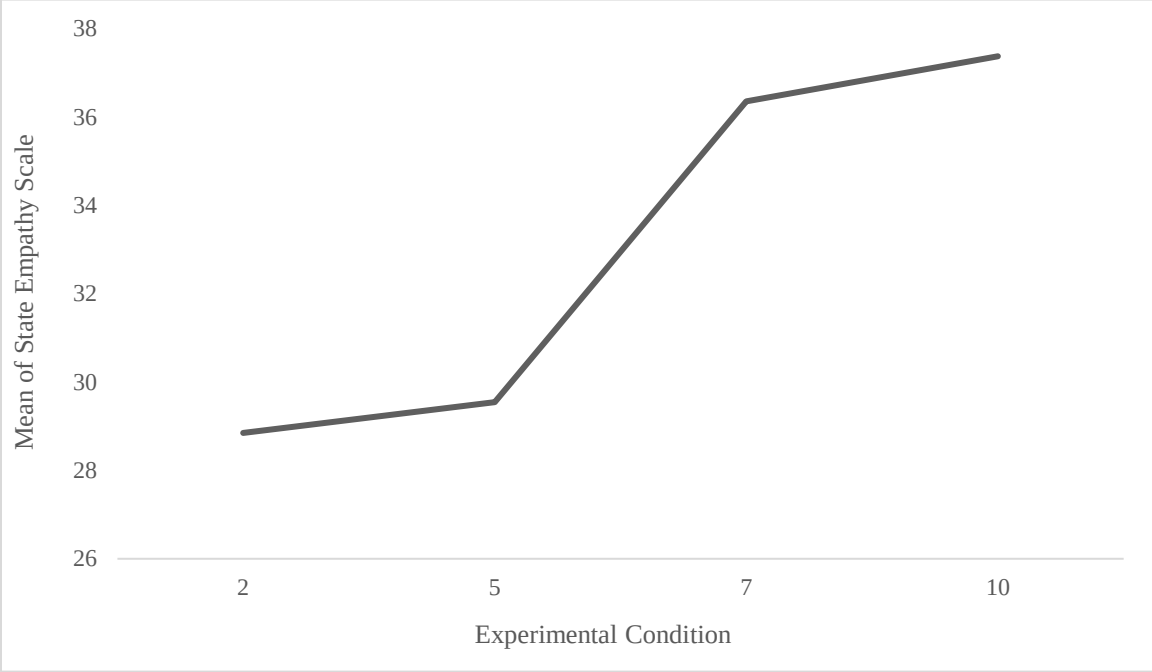
To assess the effectiveness of the experimental manipulation, a series of one-way analyses of variance (ANOVAs) were performed.

Testing Empathetic Frame. An initial test of the PSA videos was run with students in undergraduate communication courses during the fall semester to assess the perceived levels of empathy in the PSAs. There were 10 videos, half of which were empathetically framed PSAs and half of which were non-empathetically framed PSAs. Participants were randomly assigned to one of the ten videos and their empathetic reactions were measured using Shen's state empathy during message processing scale. An initial ANOVA of all 10 videos non-significant, which appeared to be due to some of the empathetic videos not eliciting the response the desired response. These videos had much higher mean scores, indicating less empathetic response. A second ANOVA was run with 5 videos which appeared to have more corresponding mean scores--this ANOVA was much closer (.069). A final ANOVA with 4 of the original 10 videos. Two that were high in empathy, and 2 that were low, and these differences were statistically significant (F=3.25, p=.03), high empathetic frame (*M*=36.36; *M*=37.38), low empathetic frame (*M*=28.85; *M*=29.55).

Table I: ***ANOVA of Empathetic Stimulus Response***

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	760.466	3	253.489	3.249	.030
Within Groups	3666.711	47	78.01		
Total	4427.176	50			

Figure 2: ANOVA of Empathetic Stimulus Response

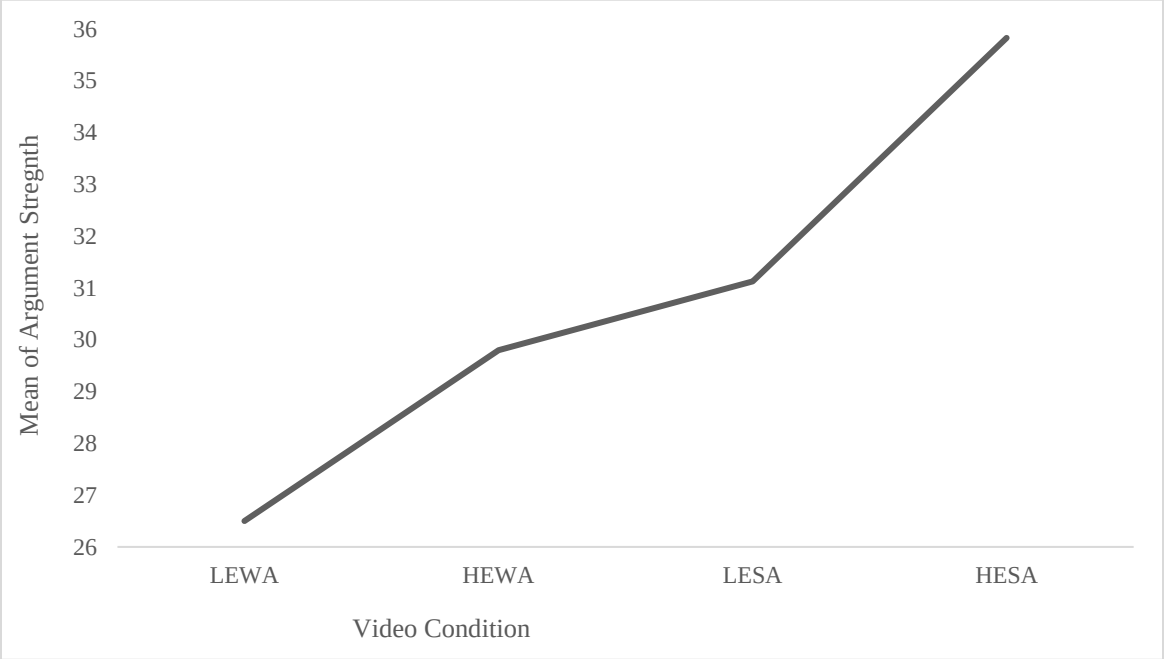


Testing Argument Quality. A second manipulation test of the PSA videos was conducted with students in an upper-level undergraduate communication course during the spring semester to assess the perceived levels of argument quality in the PSAs. The 4 videos from the original empathy test were used to test their argument strength. Participants were randomly assigned to one of the 4 videos and their perceptions of the argument quality were measured using a measure of perceived argument strength scale by Zhao, Strasser, Cappella, Lerman, and Fishbein (2011). A one-way ANOVA of the 4 videos showed the groups were statistically significant (F=4.96, p=.01): low empathetic frame, weak argument (*M*=26.50); low empathetic frame, strong argument (*M*=31.13); high empathetic frame, weak argument (*M*=29.80) ; high empathetic frame, strong argument (*M*=35.83).

Table II: ***ANOVA of Stimulus Perceived Argument Strength***

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	192.451	3	64.150	4.956	.014
Within Groups	194.154	15	12.944		
Total	386.605	18			

Figure 3: ANOVA of Argument Quality Stimulus Response



Manipulated Independent Variables

Empathetic Appeal. stimulus messages had either empathetic or non-empathetic message framing. Empathetic message qualities include the inclusion of previous opioid addicts discussing their experiences and how they eventually became clean. Non-empathetic message framing will not include these stories and will merely focus on how drug use is 'bad' and drug users are bad people.

Argument Strength. weak or strong arguments were also an element of the two message types. For instance, not only would an empathetically framed message with a strong argument tell the story of an addict, but experts in drug addiction would discuss how opioids effect the brain and why it is so challenging for addicts to 'just get clean'. However, non-empathetically framed messages with strong arguments would give statistics of overdoes, crime, or other negative effects of opioid addiction.

Measured Independent Variable

Trait Empathy. trait empathy was measured using Davis' (1980) Interpersonal Reactivity Index and measures 4 major dimensions of empathy: perspective taking, fantasy, empathetic concern, and personal distress. There are 7 items for each major dimension, and 28 items in the scale overall. Cognitive measures include the perspective taking and fantasy subscales, and emotional measures include the empathetic concern and personal distress subscales. It is measured on a 5-point Likert scale ranging from "1 = Does not describe me well" to "5 = Describes me very well". The scale was reliable (Chronbach's alpha = .81). See full questions in Appendix A.

Familiarity. familiarity was accounted for within the demographic questionnaire. Two questions were asked to gauge familiarity and involvement of the issue. The first was 'How familiar are you with the current opioid epidemic?' and was measured on a 7-point Likert scale ranging from "1=not familiar" to "7=extremely familiar". The second question was 'Have you ever had friends or family members who struggle with opioid addiction (including prescription pain killers such as Oxycontin and Fentanyl or using heroin) ?" and was measured by either a "yes" or "no/not that I know of" response.

Dependent Variables

State Empathy. reported empathy after the experimental stimulus was measured using Shen's state empathy during message processing scale. This 12 item scale measures 3 dimensions of empathy: cognitive, affective, and associative. It is measured on a 7-point Likert scale ranging from "1 = definitely not " to "7 = definitely yes ". The scale was reliable (Cronbach's alpha = .89).

Stigmatized Views. stigma towards addicts was be measured using the perceived stigma towards substance user scale (Luoma, 2011). All 8 items were answered using a 7-point Likert scale with the response options ranging from "1 = strongly disagree" to "7 = strongly agree". The scale was reliable (Cronbach's alpha = .88). See full questions in Appendix A.

Stereotypical Attitudes. stereotypical attitudes towards opioid addicts was measured using the substance misuser stereotype scale identified by Luoma, O'Hair, Kohlenberg, Hayes, & Fletcher (2010). All 10 items were answered using a 7-point Likert scale with the response options ranging from "1 = strongly disagree" to "7 = strongly agree". The scale was reliable (Cronbach's alpha = .89). See full questions in Appendix A.

Pro-social Policy Support. pro-social policy support was measured using items intended to gauge their support for Narcan (a new drug that reverses the effects of an overdose), their likelihood to vote in favor of public clinics for opioid users, and their overall feelings towards providing more public support. All 5 questions were answered using a 7-point Likert scale with the response options ranging from "1 = not at all" to "7 = completely". Scale reliability was run with all the items and were then added together

into a multidimensional scale. The scale was reliable (Chronbach's alpha = .83). See full questions in Appendix A.

Procedures

The entire experimental procedure was as follows: Participants were given a link via email that directed them to the online survey. They consented to participating and confirming they met the eligibility criteria of being 18 or older. After consenting, they responded to the items intended to gauge their trait empathy. Then, the survey randomly assigned each participant to one of four experimental conditions. Each experimental condition manipulated the empathetic frame of the message and the strength of the arguments presented in the message. The video was presented on a slide in Qualtrics that the participant could play. After viewing the video, participants responded to the same questionnaire that gauged their empathetic responses to the video content, their level of stigma towards opioid addicts, how stereotypical their attitudes were toward opioid addicts, and their level of support toward pro-social policy initiatives. The full questionnaire is presented in Appendix A. The average time for the study to be completed was 20 minutes.

CHAPTER IV

RESULTS

The data collected from this experiment were input into SPSS for analysis. The independent and dependent variables were tested using two-factor ANCOVAs.

Sample Description

A total of 117 respondents participated in the study. The sample was comprised of 28% (*n*=34) male and 69% (*n*=83) female. Participants' ages ranged from 18 to 56, with a mean of 24 (*SD*=7.66). In terms of education level, 48.8% had some college education (*n*=59), 30.6% had a college degree (*n*=37), 7.4% were high school graduates (*n*=9), and 9% had a graduate degree (*n*=11).

In terms of having a friend or family member who struggled with an opioid addiction, 62% of participants knew someone (*n*=75) and 35% did not know of a friend or family member with an opioid addiction (*n*=42). More descriptive statistics about all demographic variables can be found in Table C.1. in Appendix C.

Familiarity Variable

Participants were asked how familiar they were with the current opioid epidemic using a -point Likert scale. However, this question was asked after participants had been

exposed to the video condition, which was suspected could have an influence on the results. A one-way ANOVA was conducted to test if there was a relationship between video exposure and familiarity. This one-way ANOVA of the 4 videos showed the groups were statistically non-significant with their effect on familiarity (F=.311, p=.817): low empathetic frame, weak argument (*M*=3.28); low empathetic frame, strong argument (*M*=3.10); high empathetic frame, weak argument (*M*=2.96); high empathetic frame, strong argument (*M*=3.14).

Table III: ***ANOVA of Familiarity with Opioid Epidemic***

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.428	3	.476	.311	.817
Within Groups	172.897	113	1.530		
Total	174.325	116			

Hypothesis 1

Hypothesis 1 predicted a positive relationship between trait empathy and state empathy, regardless of experimental condition. The results of a two-factor ANCOVA predicting state empathy from trait empathy and experimental condition are shown in Table 4. The main effect of experimental condition was non-significant (F= 1.14, *p*=.338), as was the interaction effect between trait empathy and experimental condition (F=.31, *p*=.820). The main effect of trait empathy, however, was statistically significant (F=8 .12, *p*=.005). A correlation was run to confirm the relationship between trait and state empathy with an *r*=.423, which was statistically significant at the *p*=.000 level. Thus, hypothesis 1 was supported.

Table IV: ***Two-Factor ANCOVA Predicting State Empathy from Trait Empathy and Video Condition Controlling for Personal Connection***

	Mean	*sd*	*n*	Sum of Squares	*df*	Mean Square	F	Sig.	Partial eta*2
Covariate									
Personal Connection				7.42	1	7.42	.10	.758	.001
Trait Empathy				628.51	1	628.51	8.12	.005	.07
Low	35.79	8.62	62						
High	40.65	8.83	55						
Video Condition				263.98	3	87.99	1.14	.338	.031
LEWA	37.86	8.79	29						
LESA	35.58	10.28	31						
HEWA	40.14	6.54	29						
HESA	38.92	9.74	28						
Trait Empathy X Video Condition Interaction				71.36	3	23.79	.31	.820	.008
LowTE/LEWA	34.21	2.35	14						
LowTE/LESA	33.59	2.03	19						
LowTE/HEWA	38.60	2.20	16						
LowTE/HESA	37.28	2.44	13						
HighTE/LEWA	41.25	2.27	15						
HighTE/LESA	38.78	2.54	12						
HighTE/HEWA	42.01	2.442	13						
HighTE/HESA	40.36	2.27	15						
Error				8372.13	108	77.52			
Corrected Total				9430.31	116				

Note. The grand mean for this analysis was 38.08, with a *sd* of 9.01 and an *n* of 117

Hypothesis 2a

Hypothesis 2a predicted a negative interaction between trait empathy and video condition on social stigma. The results of a two-factor ANCOVA predicting social stigma from trait empathy and experimental condition are shown in Table 5. The main effect of experimental condition was statistically significant (F= 2.79, *p*=.044), with those

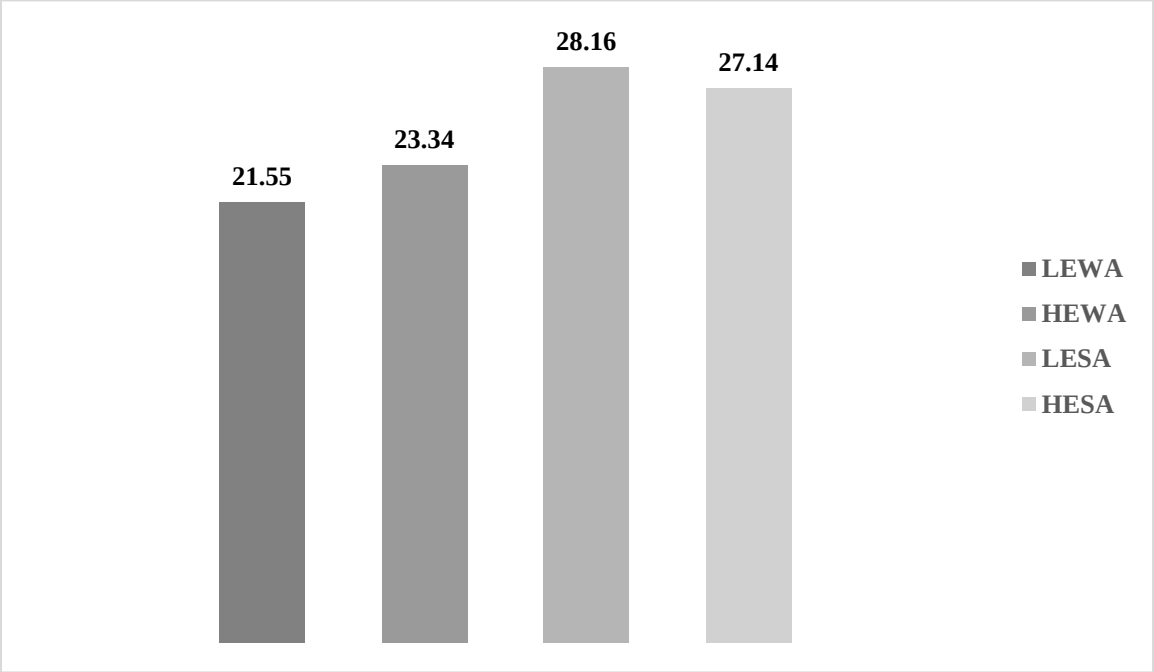
assigned to conditions with strong argument quality exhibiting lower levels of stigma, but the main effect of trait empathy was non-significant (F=1.29, *p*=258). The interaction effect between trait empathy and video condition was non-significant (F=1.13, *p*=.341). Thus, hypothesis 2a was not supported.

Table V: ***Two-Factor ANCOVA Predicting Stigma from Trait Empathy and Video Condition Controlling for Issue Familiarity & Personal Connection***

	Mean	*sd*	*n*	Sum of Squares	*df*	Mean Square	F	Sig.	Partial eta*2
Covariate									
Issue Familiarity				1156.89	1	1156.89	13.34	.000	.111
Personal Connection				21.68	1	21.68	.25	.618	.002
Trait Empathy				112.22	1	112.22	1.29	.258	.012
Low	25.66	11.18	62						
High	25.66	8.75	55						
Video Condition				726.67	3	242.22	2.79	.044	.073
LEWA	21.55	8.60	29						
LESA	28.16	9.62	31						
HEWA	23.34	10.25	29						
HESA	27.14	10.80	28						
Trait Empathy X Video Condition Interaction				293.74	3	97.91	1.13	.8341	.031
LowTE/LEWA	20.00	9.30	14						
LowTE/LESA	30.26	9.67	19						
LowTE/HEWA	23.44	10.87	16						
LowTE/HESA	27.77	13.09	13						
HighTE/LEWA	23.00	7.96	15						
HighTE/LESA	24.83	8.94	12						
HighTE/HEWA	23.23	9.87	13						
HighTE/HESA	26.60	8.78	15						
Error				9282.33	107	86.75			
Corrected Total				11805.15	116				

Note. The grand mean for this analysis was 25.09, with a *sd* of 10.09 and an *n* of 117

Figure 4. Difference in Reported Social Stigma Between Video Conditions



Hypothesis 2b

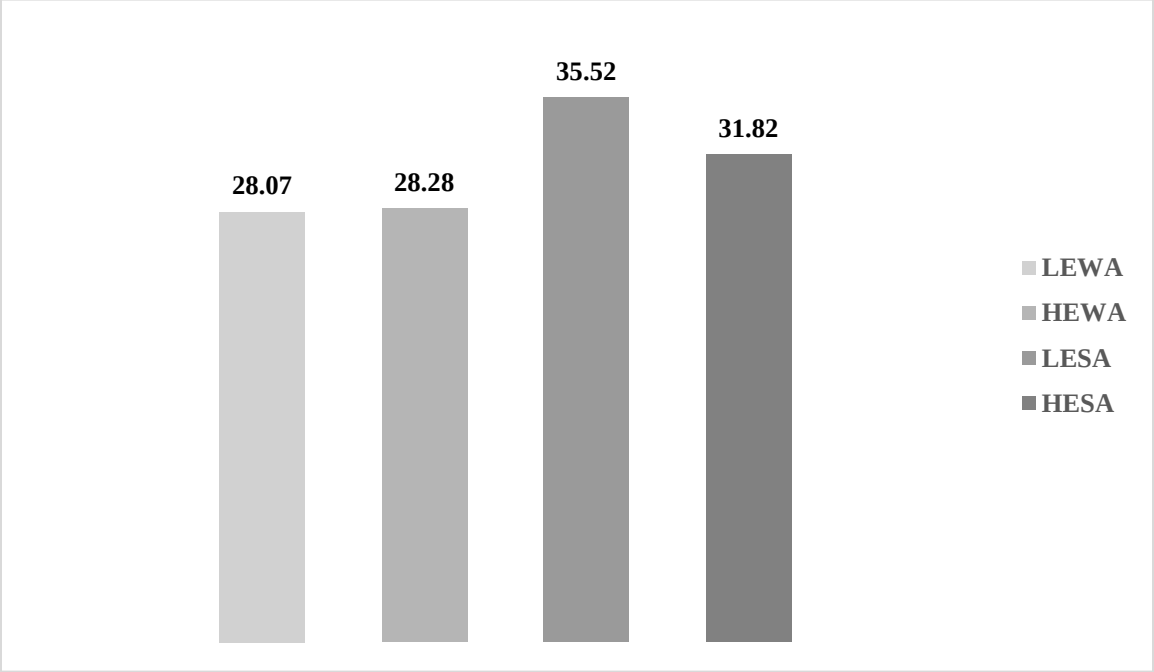
Hypothesis 2b predicted a negative interaction between trait empathy and video condition on stereotypical attitudes. The results of a two-factor ANCOVA predicting stereotypical attitudes from trait empathy and experimental condition are shown in Table 6. The main effect of experimental condition was statistically significant (F= 3.93, *p*=.011) with individuals assigned to experimental conditions with strong arguments exhibiting lower levels of stereotyping, but the main effect of trait empathy was non-significant (F=1.17, *p*=.282). The interaction effect between trait empathy and video condition was non-significant (F=.34, *p*=.136). Thus, hypothesis 2b was not supported.

Table VI: ***Two-Factor ANCOVA Predicting Stereotyping from Trait Empathy and Video Condition Controlling for Issue Familiarity & Personal Connection***

	Mean	*sd*	*n*	Sum of Squares	*df*	Mean Square	F	Sig.	Partial eta*2
Covariates:									
Issue Familiarity				202.85	1	202.85	1.74	.19	.016
Personal Connection				2.33	1	2.33	.02	.89	.020
Trait Empathy				135.91	1	135.91	1.17	.28	.011
Low	29.91	10.64	62						
High	30.27	8.80	55						
Video Condition				1370.84	3	456.95	3.93	.01	.10
LEWA	28.07	8.45	29						
LESA	35.52	14.40	31						
HEWA	28.28	8.99	29						
HESA	31.82	10.74	28						
Trait Empathy X Video Condition Interaction				658.87	3	219.62	1.19	.34	.136
LowTE/LEWA	24.86	6.49	14						
LowTE/LESA	32.37	11.74	19						
LowTE/HEWA	28.44	9.11	16						
LowTE/HESA	33.62	12.76	13						
HighTE/LEWA	31.07	9.15	15						
HighTE/LESA	40.50	17.20	12						
HighTE/HEWA	28.08	9.21	13						
HighTE/HESA	30.27	8.80	15						
Error				9282.33	107	86.75			
Corrected Total				11805.15	116				

Note. The grand mean for this analysis was 30.99, with a *sd* of 11.26 and a *n* of 117

Figure 5. Difference in Reported Stereotypical Attitudes Between Video Conditions



Hypothesis 3:

Hypothesis 3 predicted a positive interaction between trait empathy and video condition on prosocial policy support. The results of a two-factor ANCOVA predicting stereotypical attitudes from trait empathy and experimental condition are shown in Table 7. The main effect of experimental condition was non-significant (F= .785, *p*=.511), and the main effect of trait empathy was also non-significant (F=.682, *p*=.451). The interaction effect between trait empathy and video condition was non-significant (F=.45, *p*=.720). Thus, hypothesis 3 was not supported.

Table VII: ***Two-Factor ANCOVA Predicting Prosocial Policy Support from Trait Empathy and Video Condition Controlling for Personal Connection***

	Mean	*sd*	*n*	Sum of Squares	*df*	Mean Square	F	Sig.	Partial eta*2
Covariate:									
Personal Connection				2.42	1	2.42	.03	.86	.001
Trait Empathy				2.61	1	52.61	.68	.45	.021
Low	29.96	6.62	25						
High	26.31	10.56	16						
Video Condition				181.74	3	60.58	.79	.51	.069
LEWA	32.00	2.49	10						
LESA	25.75	12.71	12						
HEWA	28.40	6.99	10						
HESA	28.46	6.72	9						
Trait Empathy X Video Condition Interaction				103.77	3	34.59	.45	.72	.040
LowTE/LEWA	31.29	2.35	7						
LowTE/LESA	29.25	2.03	4						
LowTE/HEWA	28.63	2.20	8						
LowTE/HESA	30.67	2.44	6						
HighTE/LEWA	33.67	2.27	3						
HighTE/LESA	24.00	2.54	8						
HighTE/HEWA	27.50	2.44	2						
HighTE/HESA	34.33	2.27	3						
Error				2468.80	32	77.15			
Corrected Total				2852.20	40				

Note. The grand mean for this analysis was 28.54, with a *sd* of 8.44 and a *n* of 41

Table VIII: ***Hypotheses Results***

		Supported	Results
H1:	Individuals high in trait empathy will report higher levels of state empathy regardless of experimental condition.	Yes	Trait empathy is positively related to state empathy.
H2a:	There will be an interaction effect between trait empathy and experimental condition on reported social stigma.	No	No significant interaction effect of experimental condition and trait empathy on reported social stigma.
H2b:	There will be an interaction effect between trait empathy and experimental condition on reported stereotypical attitudes.	No	No significant interaction effect of experimental condition and trait empathy on stereotypical attitudes.
H3:	There will be an interaction effect between trait empathy and experimental condition on prosocial policy support.	No	No significant interaction effect of experimental condition and trait empathy on stereotypical attitudes.

Additional Analysis

An additional analysis was run to assess the effectiveness of the argument quality on reported stigma and stereotyping. To test this relationship, a series of one-way analyses of variance (ANOVAs) were performed. Half of the randomly assigned conditions had strong arguments and the other half had weak arguments. The differences between argument quality and reported stigma were statistically significant (F=7.365, p=.008), strong argument quality (*M*=27.8), weak argument quality (*M*=22.45). The differences between argument quality and reported stereotyping were also statistically significant (F=7.849, p=.006), strong argument quality (*M*=33.80), weak argument quality (*M*=28.17)

Table IX: ***ANOVA of Argument Quality Condition & Reported Stigma***

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	718.260	1	718.260	7.365	.008
Within Groups	11312.528	116	27.522		
Total	12030.788	117			

Figure 6: ANOVA of Argument Quality Condition & Reported Stigma

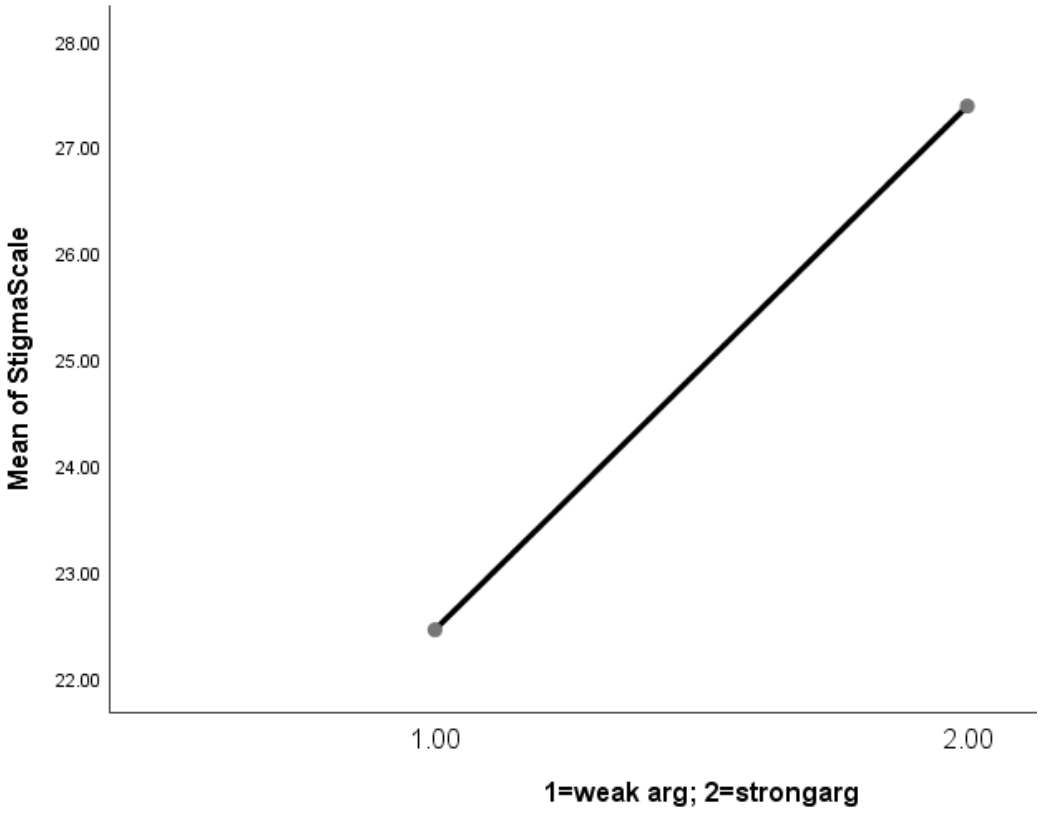
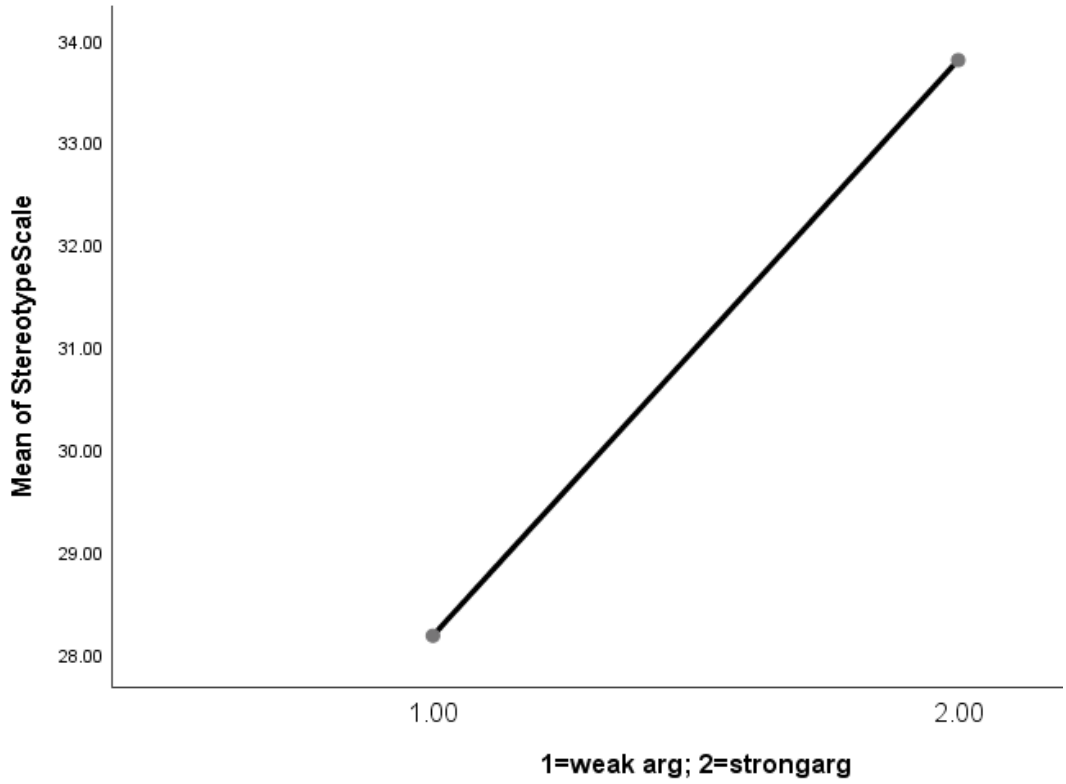


Table X: ANOVA of Argument Quality Condition & Reported Stereotyping

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	933.989	1	933.989	7.849	.006
Within Groups	13803.876	116	118.999		
Total	14737.864	117			

Figure 7: ANOVA of Argument Quality Condition & Reported Stereotyping



CHAPTER V

DISCUSSION

Summary of Results

The elaboration likelihood model seeks to anticipate the likelihood of an individual deeply processing a persuasive message, which has the potential to lead to long-term attitude change. Motivation and ability are the two driving forces of whether an individual will centrally process the persuasive message or not. Two individual level characteristics, need for cognition and issue involvement, have been typically explored within the ELM framework. This research investigated the potential for another individual level characteristic, trait empathy, to encourage central route processing.

Hypothesis 1 attempted to identify a relationship that has been consistently identified in past communication research, that individuals higher in trait empathy experience higher levels of state empathy (Shen, 2010b). Neither the experimental condition nor the interaction effect between experimental condition and trait empathy showed statistical significance. Because the main effect of trait empathy on state empathy was the only statistically significant finding, the results from this test confirmed the

hypothesis and remained consistent with prior research findings that there is a strong correlation between trait and state empathy (Shen, 2010).

Hypotheses 2a, 2b, and 3 attempted to explore new theoretical terrain by examining how trait empathy could impact the processing of persuasive messages. Based on the conceptual understanding of trait empathy and the more recent research exploring the role of affect in the Elaboration Likelihood Model, it seemed plausible that higher trait empathy could encourage the central processing of empathetically matched messages that contained strong arguments. Hypothesis 2a looked at this by positing that there would be an interaction effect between trait empathy and experimental condition on reported social stigma. Hypothesis 2b took a similar perspective by positing that there would be an interaction effect between trait empathy and experimental condition on reported stereotypical attitudes. However, both ANCOVAs used to test the respective hypothesis showed a non-significant interaction effect. The only statistically main effect in both analyses was video condition. It is important to note, however, that the statistically significant effect of argument strength in the experimental conditions is consistent with the ELM.

Hypothesis 3 also explored a new area within ELM research by seeing how trait empathy could impact message processing. This hypothesis proposed that there would be an interaction effect between trait empathy and experimental condition on prosocial policy support. An ANCOVA was run and showed no significance in any of the analysis—there were no statistically significant main effects, nor was there a statistically significant interaction effect. It is possible that this could be due to a very small *n* (=41)

which in turn led to very small group sizes, with a mean *n* of 5 individuals in each interaction group.

Overall this study has found a lack of support for trait empathy encouraging central route processing within the context of the elaboration likelihood model. The interaction effect of trait empathy and experimental condition on social stigma, stereotypical attitudes, and prosocial policy support were non-significant, which does not support the elaboration likelihood model. However, the experimental condition, which manipulated argument strength, did significantly predict social stigma and stereotypical attitudes, which is consistent with the elaboration likelihood model. If there were an interaction effect between trait empathy and experimental condition on social stigma, stereotypical attitudes, and prosocial policy support then there would have been support for high trait empathy encouraging central route processing.

Limitations and Future Research

There are several limitations within this study to consider. Participants were recruited from undergraduate communication within an urban, Midwestern university, naturally leading to a population bias. The sample size was relatively small (n=117), and the eligible sample size for H3 was considerably smaller (n=41) which could have impacted the statistical power of the analysis. The video lengths in the experimental conditions varied greatly, with the low empathetic videos averaging between 1-2 minutes and the high empathetic videos averaging between 3-4. Furthermore, these videos were not crafted with the theoretical perspective in mind. Oftentimes in experiments guided by the ELM, the mediated messages are crafted specifically for the experiment and the theoretical purpose (Park et al., 2008; Petty et al., 2000; Petty & Cacioppo, 1986).

Despite having measured for perceived argument strength and empathetic response, it is possible that this could have had an impact. It may be interesting to produce original opioid PSAs using the knowledge from the ELM and retesting the experiment.

Interestingly, weak argument quality videos elicited less stereotypical attitudes and social stigma, which the ELM would not predict. There are some plausible explanations for why this could be. When evaluating the content in the weak argument videos, both the empathetic and non-empathetic videos touch on how the individual became addicted to opioids, which the strong argument videos do not discuss. Because many still view addiction as a choice, explaining one's backstory and circumstances could have helped the message recipient understand it better. Further, the subject of opioid addiction is an extremely tough subject that illicit strong reactions. When an attitude toward an issue is strong, it can oftentimes create resistance to new information or other arguments. With 62% of respondents knowing of a close friend or family member who have struggled with an opioid addiction, it's likely these individuals are already familiar with the topic of NARCAN or the circumstances, and would be less swayed by these more surface level discussions of the epidemic.

The measurement scale for trait empathy was borrowed from psychology and was initially designed to measure empathic disposition in interpersonal situations. There are several limitations with this. This study was geared toward trait empathy in mediated contexts, rather than interpersonal. Furthermore, the four subscales were not originally intended to create an additive scale, or overall trait empathy score. It is, however, becoming more common for researchers to create an additive scale out of Davis' interpersonal reactivity index (Park et al., 2008). It would be useful to create and validate

a trait empathy scale that measures the emotional and cognitive dimensions of empathy regarding all interaction contexts, not merely interpersonal, that is designed to create an overall trait empathy score.

Communication research has not given much attention to the opioid epidemic, which this study began to address. There is a wealth of research potential within mass communication on the issues of opioid addiction and the connected crisis, with theoretical applications reaching far beyond the ELM. Some potential ideas include looking at how opioid addiction is portrayed in entertainment media, and understanding how to craft better, more effective awareness-driven messages. In Fall of 2016, the National Association of Broadcasters announced their 'Taking Action to End the Opioid Epidemic', an industry-wide campaign that includes running public service announcements with free airtime, providing in depth new coverage, airing investigative reports, and using social media platforms to provide audiences with information on the opioid epidemic and support (National Association of Broadcasters, 2016).

Conclusion

While the study did support the Elaboration Likelihood Model with the statistically significant effect of message type on reported social stigma and stereotypical attitudes, it failed to introduce a new variable that could affect message processing—trait empathy. However, understanding how individual-level characteristics effect message processing is very valuable, as is expanding on more current research testing the effect of emotions on cognitive processing (Petty & Brinol, 2015; See et al., 2008). Beyond including the understudied concept of trait empathy, this study also explored a timely issue, opioid addiction, that is largely unaddressed by communication research.

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APPENDIX A

Survey Items

Start of Block: Introduction/Consent

Q70
INFORMED CONSENT FORM
Dear Participant:

My name is Olivia Cohen. I am a graduate student at Cleveland State University working on a research project with Dr. Cheryl Bracken, a faculty member in the School of Communication. I am studying how individual differences effect message processing. If you have any questions about the study or procedures, you may contact me, Olivia Cohen, at 216-687-5090 or o.cohen11@vikes.csuohio.edu or Dr. Cheryl Bracken, at cbracken@csuohio.edu.

If you decide to participate in this study, you will be asked to do two things. You will be asked to watch a video, and complete a survey. The total time involved is about 30 minutes.
Participation is completely voluntary. You may exit the survey at any time. There are no direct benefits or known risks to your participation beyond the risk of daily living. However, one possible risk is that you may feel uncomfortable with the subject matter of drug addiction.

Risks associated with participation are minimal. Such risks are largely limited to compromised confidentiality. If you were offered credit for your participation in this study, you will be asked to list your name, the name of your professor, and the class number. To minimize any risk to your confidentiality, any personal data page will be separated from your submitted responses.

All research documents will be secured in a locked file cabinet in my CSU campus office. All link lists will be destroyed by shredding once the match has been made. You are free to skip any items you choose not to respond to. You may withdraw from this study at any time without any consequence whatsoever. Only summary results may be published, presented or used for instruction. No personal identifiers will be included in such data. There are no direct benefits available to you as a participant in this research.
Please read the following: “I understand that if I have any questions about my rights as a research subject, I can contact the Cleveland State University Institutional Review Board at (216) 687-3630.”
Your signature below means that you understand the contents of this document. You also are at least 18 years of age. Finally, you voluntarily consent to participate in this research study.

You may print a copy of this consent form for your records. By clicking ‘next’ you are giving your electronic consent indicating that:

• You have read the above information
• You voluntarily agree to participate
• You are 18 years of age or older

- ○ Yes (1)
- ○ No (2)

Trait Empathy Measures

Please read and respond to each question to the best of your ability. Each answer ranges from does not describe me---describes me extremely well.

FS1 I daydream and fantasize, with some regularity, about things that might happen to me.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

EC1 I often have tender, concerned feelings for people less fortunate than me.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PT1 I sometimes find it difficult to see things from the "other guy's" point of view.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

EC2 Sometimes I don't feel very sorry for other people when they are having problems.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

FS2 I really get involved with the feelings of characters in a novel.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

PD1 In emergency situations, I feel apprehensive and ill-at-ease.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

FS3 I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

PT2 I try to look at everybody's side of a disagreement before I make a decision.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

EC3 When I see someone being taken advantage of, I feel kind of protective towards them.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

PD2 I sometimes feel helpless when I am in the middle of a very emotional situation.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

PT3 I sometimes try to understand my friends better by imagining how things look from their perspective.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

FS4 Becoming extremely involved in a good book or movie is somewhat rare for me.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PD3 When I see someone get hurt, I tend to remain calm.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

EC4 Other people's misfortunes do not usually disturb me a great deal.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PT4 If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

FS5 After seeing a play or movie, I have felt as though I were one of the characters.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

PD4 Being in a tense emotional situation scares me.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

EC5 When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

PD5 I am usually pretty effective in dealing with emergencies.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

EC6 I am often quite touched by things that I see happen.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PT5 I believe there are two sides to every question and I try to look at them both.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

EC7 I would describe myself as a pretty soft-hearted person.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

FS6 When I watch a good movie, I can very easily put myself in the place of a leading character.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PD6 I tend to lose control during emergencies.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PT6 When I'm upset at someone, I usually try to 'put myself in his shoes' for a while.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

FS7 When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PD7 When I see someone who badly needs help in an emergency, I go to pieces.

- ○ Describes me extremely well (1)
- ○ Describes me very well (2)
- ○ Describes me moderately well (3)
- ○ Describes me slightly well (4)
- ○ Does not describe me (5)

PT7 Before criticizing somebody, I try to imagine how I would feel if I were in their place.

- Describes me extremely well (1)
- Describes me very well (2)
- Describes me moderately well (3)
- Describes me slightly well (4)
- Does not describe me (5)

End of Block: Trait Empathy Measures

Start of Block: Videos

HEWA

HESA

LEWA

LESA

End of Block: Videos

State Empathy Items

Q54 The questions are designed to understand your response to the video you just viewed. Please read each answer carefully and respond as honestly as possible.

Q31 The character's emotions are genuine.

- Completely genuine (1)
- Very genuine (2)
- Moderately genuine (3)
- Slightly genuine (4)
- Not at all genuine (5)

Q33 I experienced the same emotions as the character when watching this message.

- Definitely yes (1)
- Probably yes (2)
- Might or might not (3)
- Probably not (4)
- Definitely not (5)

Q35 I was in a similar emotional state as the character when watching this message.

- Completely similar (1)
- Very similar (2)
- Moderately similar (3)
- Slightly similar (4)
- Not at all similar (5)

Q37 I can feel the character's emotions.

- Definitely true (1)
- Probably true (2)
- Neither true nor false (3)
- Probably false (4)
- Definitely false (5)

Q39 I can see the character's point of view.

- Strongly agree (1)
- Somewhat agree (2)
- Neither agree nor disagree (3)
- Somewhat disagree (4)
- Strongly disagree (5)

Q41 I recognize the character's situation.

- Definitely yes (1)
- Probably yes (2)
- Might or might not (3)
- Probably not (4)
- Definitely not (5)

Q43 I can understand what the character was going through in the message.

- Definitely yes (1)
- Probably yes (2)
- Might or might not (3)
- Probably not (4)
- Definitely not (5)

Q45 The character's reactions to the situation are understandable.

- Completely understandable (1)
- Very understandable (2)
- Moderately understandable (3)
- Slightly understandable (4)
- Not at all understandable (5)

Q47 When watching the message, I was fully absorbed.

- Completely absorbed (1)
- Very absorbed (2)
- Moderately absorbed (3)
- Slightly absorbed (4)
- Not at all absorbed (5)

Q49 I can relate to what the character was going through in the message.

- ○ Completely relate (1)
- ○ Very relate (2)
- ○ Moderately relate (3)
- ○ Slightly relate (4)
- ○ Not at all relate (5)

Q51 I can identify with the situation described in the message.

- ○ Completely identify (1)
- ○ Somewhat identify (2)
- ○ Moderately identify (3)
- ○ Somewhat cannot identify (4)
- ○ Not at all (5)

Q53 I can identify with the characters in the message.

- ○ Completely identify (1)
- ○ Somewhat identify (2)
- ○ Moderately identify (3)
- ○ Somewhat cannot identify (4)
- ○ Not at all (5)

Opioid Stigma Items

The following questions are intended to understand attitudes towards individuals addicted to opioids. Please respond to the following questions as honestly as possible.

Q65 I would be willing to accept someone who has been treated for opioid use as a close friend.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q66 I believe that someone who has been treated for opioid use is just as trustworthy as the average citizen.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q67 I would accept someone who has been treated for opioid use as a teacher of young children in a public school.

- ○ Extremely likely (1)
- ○ Moderately likely (2)
- ○ Slightly likely (3)
- ○ Neither likely nor unlikely (4)
- ○ Slightly unlikely (5)
- ○ Moderately unlikely (6)
- ○ Extremely unlikely (7)

Q68 I would hire someone who has been treated for opioid use to take care of my children.

- ○ Extremely likely (1)
- ○ Moderately likely (2)
- ○ Slightly likely (3)
- ○ Neither likely nor unlikely (4)
- ○ Slightly unlikely (5)
- ○ Moderately unlikely (6)
- ○ Extremely unlikely (7)

Q69 I think less of a person who has been in treatment for opioid use.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q70 I would hire someone who has been treated for opioid use if he or she is qualified for the job.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q71 I would pass over the application of someone who has been treated for opioid use in favor of another applicant.

- Extremely likely (1)
- Moderately likely (2)
- Slightly likely (3)
- Neither likely nor unlikely (4)
- Slightly unlikely (5)
- Moderately unlikely (6)
- Extremely unlikely (7)

Q72 I would be willing to date someone who has been treated for opioid use.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Opioid Stereotype Items

Q56 Individuals addicted to drugs are losers, failures in life, disappointments, or generally inadequate as human beings.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q55 Individuals addicted to drugs are different, separated, set apart, strange, difficult to understand, or alien.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q57 Individuals addicted to drugs are indecent, sinners, immoral, dishonorable, have poor character, or are disreputable, morally weak, and lack virtue.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q58 Individuals addicted to drugs weak-willed, lack self-control, and are lazy.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q59 Individuals addicted to drugs are unlikely to recover and their future is bleak.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q60 Individuals addicted to drugs are incompetent, inept, and generally ineffective in their lives.

- Extremely competent (1)
- Moderately competent (2)
- Slightly competent (3)
- Neither competent nor incompetent (4)
- Slightly incompetent (5)
- Moderately incompetent (6)
- Extremely incompetent (7)

Q61 Individuals addicted to drugs are to blame for their difficulties and worthy of contempt.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q62 Individuals addicted to drugs are easy to anger, often violent, erratic in their behavior, and generally untrustworthy.

- ○ Strongly agree (1)
- ○ Agree (2)
- ○ Somewhat agree (3)
- ○ Neither agree nor disagree (4)
- ○ Somewhat disagree (5)
- ○ Disagree (6)
- ○ Strongly disagree (7)

Q63 Individuals addicted to drugs are bad and shameful people.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Q64 Individuals addicted to drugs often secretive and work hard to conceal their problematic behavior.

- Strongly agree (1)
- Agree (2)
- Somewhat agree (3)
- Neither agree nor disagree (4)
- Somewhat disagree (5)
- Disagree (6)
- Strongly disagree (7)

Demographic Items

Q62 What is your age?

_____

Q63 What gender do you identify with?

- Masculine/Trans-masculine/Male (1)
- Feminine/Trans-feminine/Female (2)
- Genderqueer/Genderfluid (3)
- Other (4)

Q64 What is your biological sex?

- Male (1)
- Female (2)
- Intersex (3)

Q65 What is the highest level of education you have achieved?

- Less than high school (1)
- High school graduate (2)
- Some college (3)
- 2 year degree (4)
- 4 year degree (5)
- Professional degree (6)
- Doctorate (7)

Q66 How would you define your political view point?

- Extremely conservative (1)
- Conservative (2)
- Neither liberal nor conservative (3)
- Liberal (4)
- Extremely liberal (5)

Q67 How familiar are you with the current opioid epidemic?

- Extremely familiar (1)
- Very familiar (2)
- Moderately familiar (3)
- Slightly familiar (4)
- Not familiar at all (5)

Q68 Have you ever had friends or family members who struggle with opioid addiction (including prescription pain killers such as Oxycontin and Fentanyl or using heroin) ?

- Yes (1)
- No/Not to my knowledge (2)

Q69 What device are you using to complete this study?

- ○ Smart phone (1)
- ○ Tablet (2)
- ○ Laptop/desktop computer (3)

Q71 Were you offered some type of extra credit from a professor, or another external incentive, for participating in this study?

- ○ Yes (1)
- ○ No (2)

Pro-social Policy Support Items

Q100 There should be more attention brought to the public on the issue of opioid addiction.

- ○ Strongly disagree (25)
- ○ Disagree (26)
- ○ Somewhat disagree (27)
- ○ Neither agree nor disagree (28)
- ○ Somewhat agree (29)
- ○ Agree (30)
- ○ Strongly agree (31)

Q101 More resources should be given to prevention, necessitation, and treatment programs for individuals addicted to opioids.

- Strongly disagree (23)
- Disagree (24)
- Somewhat disagree (25)
- Neither agree nor disagree (26)
- Somewhat agree (27)
- Agree (28)
- Strongly agree (29)

Q102 Medical professionals, law enforcement, and civilians should be able to carry and administer medication to reverse an overdose.

- Strongly disagree (11)
- Disagree (12)
- Somewhat disagree (13)
- Neither agree nor disagree (14)
- Somewhat agree (15)
- Agree (16)
- Strongly agree (17)

Q103 Society needs to adapt new ways of addressing drug addiction issues.

- ○ Strongly disagree (11)
- ○ Disagree (12)
- ○ Somewhat disagree (13)
- ○ Neither agree nor disagree (14)
- ○ Somewhat agree (15)
- ○ Agree (16)
- ○ Strongly agree (17)

Q104 Your city is thinking about opening a facility to provide clean needles and medical supervision to opioid addicts to try to prevent overdose, HIV, and other health risks associated with opioid use. The city hopes that this will help connect addicts to resources to help them get and stay clean. How likely are you to vote in support of this type of facility?

- Extremely unlikely (18)
- Moderately unlikely (19)
- Slightly unlikely (20)
- Neither likely nor unlikely (21)
- Slightly likely (22)
- Moderately likely (23)
- Extremely likely (24)

Participant Incentive Items

Q72 You selected that you were offered extra credit from a professor or another incentive. Please provide your first and last name. If you were offered a non-academic incentive, please also include a valid email.

_____

Q73 Please provide the name of your course instructor or write N/A.

_____

Q74 What course are you taking with this instructor?

_____

Q75 Thank you for your participation! If you have any questions or concerns with this study please send an email to o.cohen11@vikes.csuohio.edu or cbracken@csuohio.edu. You are free to close your browser at any time.

APPENDIX B

IRB Approval Letter

RE: IRB-FY2018-174
Master's Thesis: Trait Empathy's Impact on Message Processing

The IRB has reviewed and approved your application for the above named project, under the category noted below. Approval for use of human subjects in this research is for a one-year period as noted below. If your study extends beyond this approval period, *you must contact this office to initiate an annual review of this research.*

Approval Category: Expedited Category 7
Approval Date: February 28, 2018
Expiration Date: February 27, 2019

By accepting this decision, you agree to notify the IRB of: (1) any additions to or changes in procedures for your study that modify the subjects' risk in any way; and (2) any events that affect that safety or well-being of subjects. Notify the IRB of any revisions to the protocol, including the addition of researchers, prior to implementation.

Thank you for your efforts to maintain compliance with the federal regulations for the protection of human subjects. Please let me know if you have any questions.

DO NOT REPLY TO THIS EMAIL. IF YOU WISH TO CONTACT US, PLEASE SEND AN EMAIL MESSAGE TO cayuseirb@csuohio.edu.

Sincerely,

Mary Jane Karpinski
IRB Analyst
Cleveland State University
Sponsored Programs and Research Services
(216) 687-3624
m.karpinski2@csuohio.edu

APPENDIX C

Items Means Table

Table IX.
Item Means Table

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
I daydream and fantasize, with some regularity, about things that might happen to me.	121	1.00	5.00	3.4545	1.19024
I often have tender, concerned feelings for people less fortunate than me.	121	1.00	5.00	3.5455	1.11056
I sometimes find it difficult to see things from the "other guy's" point of view.	121	1.00	5.00	3.9339	1.03871
Sometimes I don't feel very sorry for other people when they are having problems.	121	1.00	5.00	4.0083	1.04480
I really get involved with the feelings of characters in a novel.	121	1.00	5.00	3.0826	1.32027

In emergency situations, I feel apprehensive and ill-at-ease.	121	1.00	5.00	2.5537	1.19687
I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.	121	1.00	5.00	3.7438	1.17281
I try to look at everybody's side of a disagreement before I make a decision.	121	1.00	5.00	3.5372	.98354
When I see someone being taken advantage of, I feel kind of protective towards them.	121	1.00	5.00	3.9008	1.02798
I sometimes feel helpless when I am in the middle of a very emotional situation.	121	1.00	5.00	3.0331	1.25123
I sometimes try to understand my friends better by imagining how things look from their perspective.	121	1.00	5.00	3.5950	.97961
Becoming extremely involved in a good book or movie is somewhat rare for me.	121	1.00	5.00	3.5950	1.43515
When I see someone get hurt, I tend to remain calm.	121	1.00	5.00	3.1901	1.20633
Other people's misfortunes do not usually disturb me a great deal.	121	1.00	5.00	3.9752	.99551
If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	121	1.00	5.00	2.6446	1.14644

After seeing a play or movie, I have felt as though I were one of the characters.	121	1.00	5.00	2.7603	1.42609
Being in a tense emotional situation scares me.	121	1.00	5.00	2.8843	1.23282
When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	121	1.00	5.00	1.7355	1.01463
I am usually pretty effective in dealing with emergencies.	121	1.00	5.00	2.5372	1.09576
I am often quite touched by things that I see happen.	121	1.00	5.00	3.4793	1.02550
I believe there are two sides to every question and I try to look at them both.	121	1.00	5.00	3.6942	.99031
I would describe myself as a pretty soft-hearted person.	121	1.00	5.00	3.4050	1.22187
When I watch a good movie, I can very easily put myself in the place of a leading character.	121	1.00	5.00	3.2893	1.31300
I tend to lose control during emergencies.	121	1.00	5.00	1.7686	.97263
When I'm upset at someone, I usually try to 'put myself in his shoes' for a while.	121	1.00	5.00	2.8760	1.09977
When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.	121	1.00	5.00	3.3058	1.19613

When I see someone who badly needs help in an emergency, I go to pieces.	121	1.00	5.00	2.0826	1.25557
Before criticizing somebody, I try to imagine how I would feel if I were in their place.	121	1.00	5.00	3.3967	1.12901
The character's emotions are genuine.	119	1.00	5.00	3.3613	.96314
I experienced the same emotions as the character when watching this message.	119	1.00	5.00	2.7395	1.22448
I was in a similar emotional state as the character when watching this message.	119	1.00	5.00	2.2353	1.18397
I can feel the character's emotions.	119	1.00	5.00	3.3109	1.05564
I can see the character's point of view.	119	1.00	5.00	3.8739	.97906
I recognize the character's situation.	119	1.00	5.00	3.9916	1.01260
I can understand what the character was going through in the message.	119	1.00	5.00	3.8151	.99120
The character's reactions to the situation are understandable.	119	1.00	5.00	3.5966	.97702
When watching the message, I was fully absorbed.	119	1.00	5.00	2.8992	1.16732
I can relate to what the character was going through in the message.	119	1.00	5.00	2.5210	1.26121

I can identify with the situation described in the message.	119	1.00	5.00	2.8487	1.35696
I can identify with the characters in the message.	119	1.00	5.00	2.7983	1.33137
I would be willing to accept someone who has been treated for opioid use as a close friend.	118	1.00	6.00	2.3475	1.30990
I believe that someone who has been treated for opioid use is just as trustworthy as the average citizen.	118	1.00	7.00	2.8051	1.50928
I would accept someone who has been treated for opioid use as a teacher of young children in a public school.	118	1.00	7.00	3.3983	1.84502
I would hire someone who has been treated for opioid use to take care of my children.	118	1.00	7.00	4.0424	1.99313
I think less of a person who has been in treatment for opioid use.	118	1.00	7.00	3.0678	1.76252
I would hire someone who has been treated for opioid use if he or she is qualified for the job.	118	1.00	7.00	2.5593	1.42950
I would pass over the application of someone who has been treated for opioid use in favor of another applicant.	118	1.00	7.00	3.3136	1.76722

I would be willing to date someone who has been treated for opioid use.	118	1.00	7.00	3.4237	1.93221
Individuals addicted to drugs are losers, failures in life, disappointments, or generally inadequate as human beings.	119	1.00	7.00	2.2605	1.61278
Individuals addicted to drugs are different, separated, set apart, strange, difficult to understand, or alien.	119	1.00	7.00	2.8403	1.70733
Individuals addicted to drugs are indecent, sinners, immoral, dishonorable, have poor character, or are disreputable, morally weak, and lack virtue.	119	1.00	7.00	2.3697	1.58844
Individuals addicted to drugs weak-willed, lack self-control, and are lazy.	119	1.00	7.00	2.7311	1.57683
Individuals addicted to drugs are unlikely to recover and their future is bleak.	118	1.00	7.00	2.8644	1.66367
Individuals addicted to drugs are incompetent, inept, and generally ineffective in their lives.	118	1.00	7.00	3.8644	1.69421
Individuals addicted to drugs are to blame for their difficulties and worthy of contempt.	118	1.00	7.00	3.1017	1.54361

Individuals addicted to drugs are easy to anger, often violent, erratic in their behavior, and generally untrustworthy.	118	1.00	7.00	4.0678	1.50059
Individuals addicted to drugs are bad and shameful people.	118	1.00	7.00	2.3220	1.49003
Individuals addicted to drugs often secretive and work hard to conceal their problematic behavior.	118	1.00	7.00	4.5593	1.56097
What is your age?	115	18.00	56.00	24.1478	7.66199
What gender do you identify with?	117	1.00	4.00	1.7863	.55443
What is your biological sex?	117	1.00	2.00	1.7094	.45599
What is the highest level of education you have achieved?	117	1.00	7.00	3.6496	1.15457
How would you define your political view point?	117	1.00	5.00	3.4359	.90387
How familiar are you with the current opioid epidemic?	117	1.00	5.00	3.1197	1.22589
Have you ever had friends or family members who struggle with opioid addiction (including prescription pain killers such as Oxycontin and Fentanyl or using heroin) ?	117	1.00	2.00	1.3590	.48176
What device are you using to complete this study?	117	1.00	3.00	2.3761	.91658

There should be more attention brought to the public on the issue of opioid addiction.	41	1	7	5.61	1.909
More resources should be given to prevention, necessitation, and treatment programs for individuals addicted to opioids.	41	1	7	5.78	1.768
Medical professionals, law enforcement, and civilians should be able to carry and administer medication to reverse an overdose.	41	1	17	5.78	3.054
Society needs to adapt new ways of addressing drug addiction issues.	41	1	7	5.85	1.851
Your city is thinking about opening a facility to provide clean needles and medical supervision to opioid addicts to try to prevent overdose, HIV, and other health risks associated with opioid use. The city hopes that this will help connect addicts to res	41	1	7	5.51	2.111
I prefer complex to simple problems.	117	1.00	5.00	3.1368	1.10567
I like to have the responsibility of handling a situation that requires a lot of thinking.	117	1.00	5.00	3.5641	1.10160
Thinking is not my idea of fun.	117	1.00	5.00	2.2991	1.21956

I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	117	-99.00	5.00	1.6496	9.45070
I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.	117	1.00	5.00	2.4017	1.15266
I find satisfaction in deliberating hard and for hours.	117	1.00	5.00	3.2308	1.14760
I only think as hard as I have to.	117	1.00	5.00	2.6410	1.19958
I prefer to think about small daily projects to long term ones.	116	1.00	5.00	3.1983	1.21024
I like tasks that require little thought once I've learned them.	116	1.00	5.00	3.2414	1.13153
The idea of relying on thought to make my way to the top appeals to me.	116	1.00	5.00	3.5862	1.04731
I really enjoy a task that involves coming up with new solutions to problems.	116	1.00	5.00	3.8793	1.05629
Learning new ways to think doesn't excited me very much.	116	-99.00	5.00	1.3276	9.46736
I prefer my life to be filled with puzzles I must solve.	116	1.00	5.00	3.2069	1.12302
The notion of thinking abstractly is appealing to me.	116	1.00	5.00	3.5948	1.06304

I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	116	1.00	5.00	3.4052	1.06304
I feel relief rather than satisfaction after completing a task that requires a lot of mental effort.	116	1.00	5.00	3.2241	1.25861
It's enough for me that something gets the job done, I don't care how or why it works.	116	1.00	5.00	2.6552	1.17291
I usually end up deliberating about issues even when they do not affect me personally.	116	1.00	5.00	3.4569	1.07455
PerspectiveTaking	121	11.00	34.00	23.6777	4.35548
EmpatheticConcern	121	15.00	35.00	24.0496	3.82938
FantasySeeking	121	8.00	35.00	23.2314	6.28856
PersonalDistress	121	8.00	30.00	18.0496	4.99475
TraitEmpathy	121	48.00	124.00	89.0083	13.05469
This was a mean split of trait empathy 1=low trait emp 2=high trait emp	121	1.00	2.00	1.4711	.50124
StateEmpathy	119	12.00	60.00	37.9916	9.37134
PolicySupport	41	8.00	45.00	28.5366	8.44422
StereotypeScale	118	10.00	70.00	31.0339	11.22340
StigmaScale	118	8.00	52.00	24.9576	10.14038
Valid N (listwise)	39				

APPENDIX D

Video Stimulus links:

Low Empathy, Weak Argument Quality video:
https://www.youtube.com/watch?v=ND0eJar3nTU

Low Empathy, Strong Argument Quality video:
https://www.youtube.com/watch?v=NVqQ7B-SwwY

High Empathy, Weak Argument Quality video:
https://www.youtube.com/watch?v=bMGPyp0Wql0

High Empathy, Strong Argument Quality video:
https://www.youtube.com/watch?v=-1w-FJMsZh8