2019

“I WANT TO FEEL WHAT THEY FEEL”: EVALUATING THE EFFECTIVENESS OF EMOTIONAL FLOW IN NARRATIVE HEALTH BLOGS

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Digital Object Identifier: https://doi.org/10.13023/etd.2019.267

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“I WANT TO FEEL WHAT THEY FEEL”: EVALUATING THE EFFECTIVENESS OF EMOTIONAL FLOW IN NARRATIVE HEALTH BLOGS

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Communication and Information
at the University of Kentucky

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2019

ABSTRACT OF DISSERTATION

"I WANT TO FEEL WHAT THEY FEEL": EVALUATING THE EFFECTIVENESS OF EMOTIONAL FLOW IN NARRATIVE HEALTH BLOGS

Emotion has long been implemented in persuasive messages and campaigns to influence attitudes and health behavior. Research demonstrates that messages often evoke more than one emotion during and after exposure, and this was previously viewed as an undesirable outcome; however, the literature suggests that the intentional inclusion of multiple emotions, or emotional flow, could positively impact persuasive outcomes, such as attitudes and behavioral intention.

The proposed study employs the concept of emotional flow, the intentional inclusion of more than one discrete emotion, in the context of narrative health blogs addressing mental health topics relevant to college students. The study specifically examines how the inclusion of a second discrete emotion influences transportation, identification, and attitudes.

Participants were randomly assigned to one of six conditions and read a narrative health blog designed to evoke either one or two discrete emotions. After message exposure, they responded a brief survey to assess discrete emotions, transportation, identification, attitudes, and demographics. Data were analyzed using ANOVAs and ANCOVAs.

The findings revealed that although the narratives elicited moderate levels of transportation and identification, there were not significant difference between conditions. Theoretical and practical implications for the study of narratives and emotional flow are discussed, in addition to practical implications for studying mental health.

KEYWORDS: emotion, emotional flow, narratives, transportation, identification, mental health

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ACKNOWLEDGMENTS

I would like to thank all of the individuals who helped and encouraged me throughout graduate school and the dissertation process. First and foremost, thank you to my advisor, Dr. Nancy Grant Harrington. You are always willing to offer feedback, encouragement, and advice, and I couldn't have asked for a better advisor. I would also like to thank my committee members: Drs. Marko Dragojevic, Chike Anyaegbunam, and Christina Studts, for your valuable feedback and insights throughout this process. Thank you to Dr. Warren Christian for serving as my outside examiner.

Thank you to my friends in the graduate program who became my second family over the past four years. In no particular order, I would like to give a special thank you to Audrey Bachman, Micki Olson, Chelsea Woods, Jake Matig, Kody Frey, and Nick Tatum. I would not have gotten through graduate school without any of you, and I feel so fortunate to call you my friends. I would also like to thank the friends I've made across the communication discipline over the years, particularly Daniel Totzkay, Dave Keating, and Lindsay Hahn.

Finally, I would like to thank my family for their support over the years. From the day you dropped me off at Snyder Hall at Michigan State, you have been the best support system a college student and graduate student could ask for. To my brother, thank you for your optimism and always encouraging me to aim higher. To my sister, thank you for all of your support and friendship. To my mom, thank you for answering all of my phone calls and always reminding me that everything would work out. To my dad, thank you for your constant encouragement and for always showing interest in my studies. Your support and positivity kept me on track, and I will always be grateful.

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Chapter 1: Introduction

Emotion as a message element is complex, yet promising, given recent developments in understanding how individuals experience emotions when viewing a message. These developments have resulted in a consequent call to further investigate and intentionally harness that process (Nabi, 2015). Emotions are characterized as short-term, reactive states typically brought on by some form of stimulus, such as viewing a message (Lazarus, 1991; Nabi, 2002). Despite the tendency for researchers to use the words interchangeably, emotions are distinctly different from moods, which are typically long-lasting and unprompted. Like many constructs studied in persuasive messaging, emotional components are present in many messages, particularly those that use images, gain-loss framing, or, in the context of the present study, written narratives.

Unfortunately, the majority of discrete emotions have been overlooked in the persuasion and health communication literature (Nabi, 2002). Although some attention has been paid to emotions such as guilt and humor, fear has been the most widely studied emotion in message design and persuasion literature (Nabi, 2002). The EPPM (Witte, 1992) provides a clear framework for the incorporation of fear into messages, and researchers attempt to evoke fear in a variety of contexts, including cigarette use and alcohol use (Kees, Burton, Andrews, & Kozup, 2006; Slater, Karan, Rouner, & Walters, 2002). Other discrete emotions of interest, however, include guilt, shame, anger, and humor. Outside of humor, though, many positive emotions, such as relief, hope, or happiness, are relatively understudied in the message design and persuasion literature (Nabi, 2015).

The concept of emotional flow presents an opportunity to re-conceptualize how emotions function in a message and indicates a need for more research evaluating not only positive emotions but also multiple emotions within one message (Nabi, 2015). This concept captures the complexities of an individual's emotional experience during and following exposure to a health message. For example, messages may evoke both positive and negative emotions. Similarly, as a message unfolds, an individual may experience varying levels of the same emotion. By understanding and applying how different positive and negative emotions are related and their associated outcomes (see Lazarus, 1991), message design scholars can strategically introduce multiple emotions within a persuasive message and evaluate how emotions impact persuasive outcomes, including attitudes and behavioral intentions. Nabi and Green (2015) presented a convincing argument for the inclusion of multiple discrete emotions within narrative persuasive messaging. Indeed, the affective nature of narratives provides an opportunity to experimentally explore the impact of multiple emotions on persuasive outcomes, such as attitudes toward positive health behaviors.

Guided by appraisal theories of emotion, which provide a framework for the use of negative emotions in messages, and theories of narrative persuasion, including transportation theory, which informs narrative messages in order to ensure participants are actively involved with the story (Hinyard & Kreuter, 2007; Green & Brock, 2000), this dissertation examines how the strategic inclusion of two discrete emotions in a narrative health blog posts influences traditional narrative persuasive outcomes, including transportation, identification, and attitudes. This first chapter provides a brief overview of the main concepts discussed throughout this dissertation, including emotional flow and

narrative persuasion. Chapter 2 provides an extensive literature review of narrative message design and emotion as a component of persuasive messages. More specifically, it discusses the features of narrative messages, including transportation and identification, and persuasive outcomes often associated with narrative persuasive message design, including attitudes. The chapter continues to define emotions and illustrates how emotions play an important role in narrative message design, ultimately leading to a discussion of emotional flow and its potential to influence outcomes. Finally, the chapter provides a brief overview of narrative blog posts and the health topics chosen for this specific study. It concludes by introducing six hypotheses. Chapter 3 provides a description of the formative research process used to develop the messages used in the final study and presents the results of formative research, including a description of the final messages. Chapter 4 provides an explanation of the experimental design, an overview of the selected measures, and the final analysis plan. Chapter 5 presents the results of ANOVA and ANCOVA analyses to test the hypotheses. Chapter 6 provides a discussion of results and concludes by addressing study limitations and theoretical, practical, and methodological consideration for future research.

Overall, the goal of this dissertation is to provide an extensive overview of the current body of literature about narrative persuasion and emotion to illustrate the gap in the field's understanding of the role played by multiple emotions, or emotional flow, within a persuasive message. Specifically, the present study aims to evaluate the concept of emotional flow within the context of narrative health blog posts to determine if messages designed to elicit more than one emotion will result in higher levels of

transportation and identification, in addition to more positive attitudes towards the desired health behavior.

Chapter 2: Literature Review

In order to advance understanding of both narrative persuasion and emotional flow as a persuasive mechanism, this literature review provides an extensive overview of both concepts. Specifically, this chapter defines narrative persuasion and the varying formats narratives can take, including narrative health blog posts, the specific narrative format of interest in the present study. The chapter continues to discuss narrative persuasion and its defining mechanisms, including transportation and identification. Next the literature review provides an overview of emotion, starting by separating emotion from related constructs and briefly describing appraisal theories. Then the chapter moves to discuss the two specific emotions of interest in this study, sadness and hope, and subsequently moves toward a discussion of emotional flow. After defining and describing narratives, emotions, and emotional flow separately, the chapter discusses the body of work that has explicitly studied both narratives and emotions in order to further demonstrate the need for additional studies assessing the use of emotional flow within persuasive narrative messaging. Next mental health is identified and discussed as the specific health context of interest in this study. Finally, six directional hypotheses about the relationships between emotional flow, transportation, identification, and attitudes are proposed.

Narrative Persuasion

Researchers have yet to agree on a single definition for the concept of a narrative. In the past, narratives have been defined as “representations of a sequence of connected events and characters that has an identifiable structure, is bound in space and time, and contains implicit or explicit messages about the topic being addressed” (Kreuter et al.,

2007, p. 22). In addition to this definition, the literature reflects an array of definitions for narratives and narrative persuasion. For example, narratives have previously been defined as "accounts of individual's experiences conveyed in either first or third person" (Winterbottom, Bekker, Conner, & Mooney, 2008, p. 2008). Slater and Rouner (2002) defined narratives as "accounts of social information, the unfolding of human relations and events" (p. 179). Other scholars define narratives more broadly, describing a narrative as "a story, that is, a depiction of a sequence of related events" (O'Keefe, 2016, p. 216).

Despite these differences in conceptual definitions, narrative communication appeals to the notion that people tend to communicate and learn through stories (Kreuter et al., 2007). Indeed, scholars recognize that we often take a narrative-based approach when interacting with others because, "it is a comfortable and familiar way of giving and receiving information" (Hinyard & Krueter, 2007, p. 788). Although narrative and nonnarrative messages may include the same information, a narrative will present the information in the form of an interesting, engaging, and entertaining story through events and characters. Thus, when creating a persuasive message using a narrative format, the design uses "a story as the vehicle for persuasive information" (O'Keefe, 2016, p. 216), opposed to making specific arguments. Petraglia (2009) argued that narrative-based messages increase the authenticity of a message, which could significantly impact public health communication and education.

As noted by O'Keefe (2016), studying narratives can be complex due to the many forms a narrative can take. Utilizing the aforementioned definitions as a simple framework of a narrative, existing literature discusses narratives as both stories written by

researchers and also a variety of forms of entertainment-education sources, including television shows and movies (Dillard, Fagerlin, Cin, Zikmund-Fischer, & Ubel, 2010; Moyer-Guse & Nabi, 2010). Additionally, narratives could be either fictional or factual and written in either first or third person (O'Keefe, 2016). The expansive variety of formats for narratives presents a challenge for a creating a cohesive body of work within the literature that illustrates the persuasive effectiveness of such narratives. Despite this challenge, communication researchers have studied narratives in a variety of formats, including story arcs from popular television shows, personal stories, and news story formats (Moyer-Guse & Nabi, 2011; Niederdeppe, Shapiro, & Porticella, 2011; Oliver, Dillard, Bae, & Tamul, 2012). The present study expands on this research by examining the effectiveness of a relatively new format for narratives by studying narrative blog posts.

Narrative Health Blogs

In addition to more traditional types of narratives, technology and social media have provided the tools for new types of narratives, specifically, narrative health blog posts. Blogs are defined as websites "containing dated entries, or posts, presented in chronological order" (Miller & Pole, 2010, p. 1514). Since the early 2000s, blogging has grown from a seemingly American pasttime to a popular source of information about health or other topics for close to 94 million blog readers in the United States (Guadagno, Okdie, & Edno, 2008; Miller & Pole, 2010). Stavrositu and Kim (2014) recognized narratives present within the context of health blogs. Narrative blog posts are "centered around the blogger's personal universe – personal thoughts, feelings, and experiences – relayed in narrative style" (Stavrositu & Kim, 2014, p. 2). Notably, blogs have become a

popular source of health information and an avenue for individuals to tell personal stories about their experiences with illness and health overall (Scanfeld, Scanfeld, & Larson, 2010). For example, “The Mighty” is a digital health community that publishes user-generated blog posts about chronic illness and mental health. The Mighty’s content is viewed and shared more than 90 million times per month, and more than 2 million users have registered as members of their community (The Mighty, 2019). Considering the wide reach of these messages, it is beneficial to continue to study the impact of narrative blog posts and the particular features of blog posts, such as emotional content, that may result in persuasive outcomes.

To date, much of the literature about blogging consists of studies that examine blogger characteristics, the social dimension of blogging, or the features of specific blogging communities (Guadagno, Okdie, & Eno, 2008; Lynch, 2010; Rains & Keating, 2011). For example, studies show that individuals who are high in certain “Big Five” personality traits, such as openness and neuroticism, are more likely to be bloggers (Guadagno et al., 2008). From a more communication-based perspective, research on the social dimension of blogging reveals that bloggers receive social support from readers, with bloggers perceiving higher levels of social support when users actively comment on blog posts (Rains & Keating, 2011).

Additionally, communication scholars have started to study narrative blogs as potential vehicles for persuasive information. Similar to the body of research about traditional narratives, much of the existing literature regarding narrative blogs examines the differences between narrative and non-narrative blog posts on an array of outcomes. In a study that evaluated the difference between narrative and non-narrative blog posts on

optimism bias and behavioral intention to practice skin cancer prevention, Stavorsitu and Kim (2014) found that narrative blog posts can reduce optimism bias and increase behavioral intentions, likely due to the narrative blog post's ability to transport the reader into the story. These findings illuminate the possibility to use narrative blog posts to achieve similar desired outcomes as traditional narratives, including identification, transportation, attitudes, and behavioral intentions. The goal of the present study is to examine specific message content within fictional narrative blog posts to determine whether the message content influences identification, transportation, and attitudes. More specifically, this study aims to examine emotional appeals within a single narrative blog post.

Despite the complexities of studying narratives, existing research supports the notion that narrative persuasive messages can result in positive health outcomes in a variety of contexts such as cancer communication, organ donation, smoking cessation, and sexual health (Kim, Bigman, Leader, Lerman, & Capella, 2012; Morgan, Movius, & Cody, 2009; Moyer-Guse & Nabi, 2011; Murphy, Frank, Chatterjee, & Baezconde-Garbanati, 2013). The present study evaluates narratives within the context of mental health. Existing research regarding narratives and mental health has examined how narrative-based messages can increase mental health literacy and increase participants' willingness to seek help for mental health concerns. Chang (2008) conducted an experiment to test the difference between a narrative advertisement and a traditional advertisement on participants' sympathy toward individuals with depression and willingness to seek help. Participants exposed to the narrative advertisement reported higher levels of sympathy and more willingness to seek help for mental health concerns

than participants in the traditional advertisement condition. These findings show promise for the use of narrative messaging to address a growing mental health crisis on college campuses and touched on the idea of addressing emotion as a component of narrative messages. However, the present study extends this work by focusing explicitly on the nature of the emotional content of the message in order to determine the role emotions play in determining transportation, identification, and attitudes.

Transportation and Identification

Regardless of the form the narrative takes, scholars agree that narrative persuasion involves two key features. *Transportation* is one important feature of narratives (Green & Brock, 2000). It refers to "the process in which an individual becomes immersed into a story, losing track of the real world as he or she experiences the unfolding events in the story" (Moyer-Guse & Nabi, 2010, p. 29). In lay terms, transportation refers to the familiar sensation of being lost in the story or message (Nell, 1988). When an individual is truly transported into a story, the outside world becomes somewhat inaccessible. For example, if an individual is transported into a narrative, they may not notice potentially distracting behaviors around them, such as someone entering a room (Green & Brock, 2000). In the same way that transportation eliminates physical distractions, it can minimize the effects of psychological reactions as well. According to transportation theory, audience members are transported into a story, resulting in a connection to the story's characters and an emotional experience, which in turn results in persuasion (Green & Brock, 2000). This process has been defined as a "convergent" process, during which audience members focus on the story as a whole, rather than individual arguments

within the story, allowing for an emotional response to the narrative (Green & Brock, 2000).

Green, Brock, and Kaufman (2004) describe transportation as "the process of temporarily leaving one's reality behind and emerging from the experience somehow different from the person one was before entering the milieu of the narrative" (p. 315). In their seminal work on transportation theory, Green and Brock (2000) discuss three mechanisms through which transportation leads to persuasion. First, transportation may reduce participants' development of counterarguments, thus increasing the likelihood that their attitudes or beliefs could be influenced (Green & Brock, 2000; Slater & Rouner, 2002). Notably, this claim has been disputed in the literature. Moyer-Guse and Nabi (2010) found that contrary to expectations, participants who reported higher levels of transportation into a persuasive narrative message about teen pregnancy were more likely to engage in counterarguing. Thus, the exact relationship between transportation and likelihood of counterarguing remains unclear. Next, transportation may result in the individual feeling like the narrative is a real experience. Real or direct experiences can greatly influence attitudes. Thus, immersion into a narrative may mimic the sensation of a real experience and increase the potential for persuasive effects. Lastly, individuals transported into a narrative are likely to develop feelings or a sense of familiarity with the character. As a result, the character's experiences, emotions, and beliefs may influence the individual's attitudes, beliefs, or behavioral intentions.

The second important feature of narratives, *identification*, refers to the process by which an individual can see themselves as one of the characters in the story. When this occurs, "a person imagines him or herself to be that character, a process that involves

feeling empathy and affinity towards that character (affective empathy component) and adopting the character's goals and point of view within the narrative (cognitive empathy component" (Tal-Or & Cohen, 2010, p. 404). Moyer-Guse (2008) identified four distinct dimensions of identification: wishful identification, similarity, parasocial interaction, and liking. Wishful identification refers to the degree to which an individual reading a narrative wants to be like the featured character. Similarity refers to the extent to which an individual reading a narrative perceives the character to be like him or herself. Parasocial interaction refers to an individual's pseudo-interpersonal relationship with the character in the narrative. Finally, liking refers to the degree to which an individual positively evaluates a character. Through the process of wishful identification, individuals take on the role and emotions of the character in a narrative, whereas similarity, parasocial interaction, and liking refer to an individual's evaluation of the character.

Prior research on narrative persuasion demonstrates that identification with one or more characters in a narrative strengthens effects on attitudes. De Graaf, Hoeken, Sanders, and Beentjes (2009, 2012) conducted two experiments to provide evidence that identification acts as a persuasive mechanism. The goal of the first study was to determine how engagement with the narrative influenced persuasive effects. Although the initial analyses indicated that higher or lower levels of engagement did not influence attitudes, the results indicated that participants in the narrative condition reported attitudes more consistent with those described in the message than those in the control group. Subsequent regression analyses indicated that this was due to the readers' identifications with the specific characters, opposed to their engagement with the story as

a whole. During the second study, participants read stories that were told from the perspective with one character or another, with each character demonstrating opposite goals. The findings showed that identification with the characters mediated the relationship between story perspective and attitudes. The findings from both experiments confirmed that identification with a character in a narrative led to posttest attitudes consistent with the attitudes of the character featured in the narrative. Findings also support the idea that identification with characters in a narrative will influence behavioral intentions as well. In a study about sexual health, Moyer-Guse, Chung, and Jain (2011) reported that identification with a character in a narrative motivated individuals to engage in conversations about safe sex with potential partners. These findings show promise that narratives are an effective vehicle for delivering persuasive content aimed at changing both attitudes and behavioral intentions in a variety of contexts.

Emotions

In the process of creating persuasive messages, it is imperative to understand what motivates human attitude and subsequent behavior change. Many scholars suggest that emotions serve as the primary motivational factor that drives human behavior (Izard, 1977; Nabi, 2015). Emotion is a psychological construct, best conceptualized as reactions that result from the evaluation of or reaction to an event or stimulus, leading to a physiological response and motor expression, resulting in the motivation to perform an action (Lazarus, 1991; Nabi, 2002).

As noted in Chapter 1, health communication and message design scholars have studied the role of emotional appeals within a variety of contexts. However, the vast majority of the emotion and persuasion literature focuses explicitly on one discrete

emotion or overall affect. Fear is perhaps the most thoroughly studied emotion in the literature, and scholars largely agree that fear influences attitude and behavioral intention (Nabi, 2015). The literature also includes a small body of work on guilt appeals. A recent meta-analysis of eight guilt appeals demonstrated a strong positive effect of guilt on both attitudes and behavioral intentions (Xu & Guo, 2018). The study also found that the effect of the message was not significantly moderated by whether the message was focused on the self or others. Despite early research indicating the potential effectiveness of positive emotions (see Dillard et al., 1996), positive emotions such as happiness and hope have been relatively understudied throughout the literature. In contrast, humor has been the most frequently studied positive emotion, with mixed results for persuasive effectiveness (Nabi, 2015). Additional health communication studies that have investigated emotion often discuss emotion in terms of affective (positive vs. negative) responses (see Kopfman, Smith, Yun, & Hodges, 1998) instead of in terms of discrete emotions. Thus, it is important to clarify how emotions have been conceptualized and operationalized within the existing research.

Before delving into the specific emotions of interest for this study, it is important to differentiate between emotions and related constructs. Despite the tendency to use the terms interchangeably and their relation to one another, emotion and mood are separate constructs. Beedie, Terry, and Lane (2005) demonstrated the differences between emotion and mood, stating that emotions are typically short-lived reactions to a specific stimulus, whereas moods are more long-term and not necessarily brought on by a specific event. Despite the difference between the constructs, researchers often misinterpret and misuse moods as emotions, particularly in information processing research. Nabi (1999)

noted that research attempting to exam fear as an emotion in the context of the elaboration likelihood model (ELM; Petty & Cacioppo, 1986) measured a construct closer to mood than emotion.

Similarly, positive and negative affect are closely related to emotion but are still separate constructs. Research demonstrates how discrete emotions can shape overall affect through cognition (Clore & Ortoney, 2008). However, despite their strong relationship, emotion and affect are two separate constructs that should be evaluated in different ways. Affect is often evaluated in a dichotomous manner (e.g., positive and negative) regardless of the actual discrete emotion felt (e.g., guilt, fear, or humor). Studies that claim to measure emotions should utilize measures that evaluate the specific discrete emotion, such as the Discrete Emotion Questionnaire (DEQ; Harmon-Jones, Bastian, & Harmon-Jones, 2016) discussed in Chapter 4.

Finally, arousal is another construct closely related to emotions. Arousal is a more general term applied to the occurrence of any emotion, and it is often used in the emotion literature as an indicator of the level to which an individual experiences an emotion (see Nabi, 2002). Overall, the characteristics of emotions that distinguish them from similar constructs are distinctions between discrete emotions, physiological responses, motivational components, and the tendency for emotions to be a reactive response to a specific stimulus.

From a methodological perspective, it is important to understand the differences between these constructs. As previously mentioned, researchers tend to use the terms interchangeably, which may result in inaccurate conceptualization and operationalization of emotion. Unfortunately, these inconsistencies create confusion within the literature. As

the study of emotion in persuasive narrative advances, it is crucial that researchers clearly indicate whether they are evaluating emotions, moods, affect, or arousal and measure those constructs appropriately.

Eliciting Emotions in Messages

When developing messages with the hope of eliciting a particular emotion, it is imperative for scholars to understand what creates emotion and in turn, how those emotions influence behavior. The understanding and application of emotion within persuasive messaging is largely rooted in appraisal theories, which posit that "emotions arise from assessing the implications of events and situations relative to ones' *[sic]* goals" (Dillard & Nabi, 2006, p. S124). Notably, it is important that the individual appraising the object or event experiences a personal connection. Arnold (1960) illuminated this idea by writing, "To arouse an emotion, the object must be appraised as affecting me in some way, affecting me personally as an individual with my particular experience and my particular aims" (p. 171). With that in mind, researchers hoping to test emotional appeals must be sure that the topic addressed in the message is personally relevant to the participants in some way. The present study examines narrative blog posts about mental health concerns, an issue salient to many college students.

Nabi (1999) expanded on the classic work of emotion theorists to create a model that attempts to explain how the experience of discrete emotions impacts message processing and message acceptance or rejection. The cognitive functional model (CFM) is based on the idea that when a message induces emotion, the depth and direction of an individual's processing would be determined by the type and intensity of the emotion experienced. According to the CFM, an individual views message content and

experiences an emotional reaction if the message content is personally relevant. The audience is then motivated to attend to or process the message on the basis of the message's emotional focus (i.e., guilt, anger, or fear). Notably, the initial test of the CFM (Nabi, 2002), demonstrated support for some, but not all, of the propositions included in the model. Additionally, this initial test only evaluated two discrete emotions, anger and fear. However, the model still provides insight into how discrete emotions influence message processing and persuasive outcomes. Importantly, the CFM was not developed to provide insight into the strategic use of multiple emotions. Thus, although it provides valuable insight into how emotion impacts message processing and persuasive outcomes, it is not the guiding theoretical framework for the current study.

When one's environment or situation is congruent or incongruent with one's goals, positive or negative emotions arise. Prior research has determined that specific appraisals, often referred to as molar appraisals or core relational themes, result in an associated emotion (Lazarus, 1991; Smith & Lazarus, 1993). For example, the emotion of surprise is evoked when someone perceives something that is novel. Similarly, fear arises when an individual appraises a situation and perceives danger. Additional research recognizes other emotions as discrete emotions, including envy, pride, love, relief, hope, compassion, and anticipation (Ekman & Friesen, 1975; Frijda, 1986; Izard, 1977; Lazarus, 1991). The literature on appraisal theories and emotion also posits that particular action tendencies are associated with each discrete emotion. For example, anger is often associated with retaliation, and guilt is often associated with reparation (Nabi, 2010). Hope, one of the discrete emotions discussed in the present study, is associated with a desire to overcome perceived obstacles (Ellsworth & Smith, 1988). In contrast, sadness is

associated with uncertainty and avoidance, perhaps due to the cognitive appraisals associated with the emotion, which are discussed in detail below (Ellsworth & Smith, 1985).

Smith and Ellsworth (1985) conducted a study on the existing patterns of cognitive appraisal and emotion. Participants were asked to think of scenarios that evoked certain emotions, including challenge, shame, fear, frustration, anger, guilt, contempt, disgust, sadness, hope, interest, pride, surprise, happiness, and boredom. Then, the participants were instructed to rate the experiences and emotions across dimensions. The researchers found that the dimensions, which included attention, pleasantness, anticipated effort, certainty, self-other responsibility/control, and situational control can help distinguish 13 separate emotions. In this framework, attention referred to how much attention is given to the stimuli causing the emotion; pleasantness refers to whether or not the emotional experience is pleasant; effort refers to the amount of cognitive effort involved in dealing with the emotion; and control refers to determining who or what is causing the emotion, and whether the emotion-causing situation was caused by human agency or situational circumstances. The authors shared the findings for each specific emotion. The findings most relevant to this study are discussed next, in addition to a general discussion of each emotion of interest.

According to Smith and Ellsworth (1985), participants described hope as a less pleasant state than one would expect, and they also shared that hope is often accompanied by greater levels of uncertainty. Perhaps due to the uncertainty, hope often leads individuals with a desire to attend to the situation to experience resolution. Regarding control, participants viewed situations that elicited hope as controlled by situational

circumstances, opposed to the self or others. On the basis of these findings, narrative messages are more likely to elicit hope if they share a situation that is somewhat unpleasant, where the outcome is uncertain, and if hope is elicited, an individual should be motivated to attend to the message or approach the emotional experience.

Participants categorized sadness as an extremely unpleasant emotion and associated the emotion with higher levels of anticipated effort. They felt uncertain about situations that evoked sadness, and they were more likely to avoid thinking about the situation or the emotional experience. Finally, the study determined that sadness was largely viewed as an emotion caused by situational circumstances and that nothing could be done to control or resolve the situation. From these findings, narrative messages are more likely to elicit sadness if they feature the story of someone who is feeling out of control of a situation that is personally relevant to the reader. Importantly, these findings also suggest that eliciting sadness alone may result in an individual choosing to avoid the emotion or situation, which could diminish potential persuasive effectiveness. With that in mind, the newer concept of emotional flow provides an opportunity to continue evaluating how these appraisals and persuasive outcomes may change if multiple emotions are experienced throughout a message or situation. This particular study aims to evaluate the effectiveness of intentionally coupling sadness and hope within the same message.

The goal of the present study was to create messages that elicit either hope, sadness, or both emotions through a narrative blog message. With the limited research on hope within health communication and persuasion literature, it is beneficial to return to the seminal works on emotion to gain an understanding of how hope might function

within a persuasive message. As they do with many discrete emotions, emotion theorists debate the exact nature and definition of hope. Lazarus (1991), for example, defined hope as "wishing and yearning for relief from a negative situation, or for the realization of a positive outcome when the odds do not greatly favor it" (p. 282). Other emotion theorists emphasized the duality of the emotion by writing that hope "includes a belief that one knows how to reach one's goals and a belief that one has the motivation to use those pathways to reach one's goals" (Snyder, Rand, & Sigmon, 2005, p. 258). Despite definitional differences, emotion theorists agree that hope provides motivation to take action, particularly when facing difficulty (Lazarus, 1991; Nabi & Myrick, 2018; Snyder et al., 2005). Like many positive emotions, hope is understudied. However, Nabi and Myrick (2018) discussed the role of hope within the context of a fear appeal, claiming that messages that elicit hope within a fear appeal would result in the greater persuasive success, likely due to the relationship between hope and self-efficacy and response efficacy.

The second discrete emotion of interest in this study is sadness. Sadness is a response to loss, separation, or failure and results in problem-solving behavior (Nabi, 2002). Like many discrete emotions, sadness has been overlooked in the literature. However, early research indicates that sadness has been positively correlated with attitude change in several contexts (Dillard et al., 1996; Nabi, 1998). Notably, Dillard and Peck (2000) found that sadness was positively correlated with persuasive effectiveness in a test of PSAs that covered a variety of topics. However, studies also indicate that sadness is less likely to induce motivation to engage in the behavior recommended in the persuasive message, perhaps due to the cognitive slow-down that simultaneously occurs

when experiencing sadness (Smith et al., 2011). On the basis of these findings, sadness may have some persuasive power, but it could be that the effects on certain outcomes, specifically behavioral intention to engage in the recommended behavior, do not occur until long after message exposure. The present study provides insight into how sadness affects attitudes toward the desired health behavioral, opposed to actual behavioral intentions.

This discussion provided an overview of the specific emotions of interest and their action tendencies and how these emotions have been evaluated in the literature. As noted, health communication and persuasion scholarship has largely examined emotional appeals by examining the influence of a single discrete emotion, such as fear, guilt, or hope, on the desired outcome. The goal of this study is to add to the emotion literature by testing a relatively new concept, emotional flow, which goes beyond the inclusion and testing of a single discrete emotion.

Emotional Flow

Nabi (2015) introduced the concept of emotional flow, which is defined as "the evolution of the emotional experience during exposure to a health message, marked by one or more emotional shifts" (p. 117). This concept introduces the idea of intentionally including multiple emotions and, importantly, emotional shifts within a persuasive message rather than viewing the experience of multiple emotions as an unanticipated and undesirable outcome. Notably, the concept of emotional flow differs from simply experiencing multiple emotions after exposure to a message. As the next section will discuss, messages often evoke more than one emotion, and this is typically viewed as an undesirable or negative outcome. However, messages that feature emotional flow are

strategically designed so that individuals exposed to the message will experience a particular sequence of emotions. Nabi argues that understanding this sequence or "flow" of emotions throughout messages is central to strategically applying emotions to achieve desired persuasive outcomes.

Although Nabi (2015) has only recently introduced the concept of emotional flow, as such, the idea that messages may evoke more than one emotion is not a novel concept. Indeed, an array of research findings recognizes that messages often arouse more than one emotion (Dillard & Nabi, 2006). Decades before the term emotional flow was introduced to the literature, Dillard and his colleagues (1996) recognized that traditional fear appeals may evoke more than just fear and that these subsequent emotion reactions might have implications for message acceptance. In a series of studies, participants were exposed to AIDS PSAs, and the findings revealed that fear appeals influenced multiple emotions in addition to fear, including surprise, anger, sadness, and happiness. In fact, one of the findings from the first study found that 30 out of 31 fear appeal PSAs evoked changes in more than one emotion. The second study focused on the impact of emotion and revealed that whereas fear, sadness, and surprise were positively associated with message acceptance, anger inhibited the effectiveness of the PSAs, suggesting that scholars and those interested in message design should avoid messages that may unintentionally evoke anger. Indeed, these findings confirmed earlier assumptions that an inverse relationship exists between anger and message acceptance (Dabbs & Leventhal, 1966; Leventhal & Singer, 1966).

Additional work over the past two decades has further confirmed that messages often elicit more than one emotion. For example, existing research demonstrates that

messages designed to evoke guilt can also evoke anger and shame (Bennett, 1998). A separate study revealed that after viewing a PSA about lung cancer, participants reported significantly higher levels of surprise, fear, anger, sadness, and happiness, suggesting not only that health messages may evoke more than one emotion but also that those emotions may differ in valence (Dillard & Nabi, 2006). Although only a limited amount of research on emotional flow exists (Carrera, Caballero, & Munoz, 2008; Nabi & Myrick, 2018), there is some evidence that the intentional inclusion of more than one emotion can enhance persuasive outcomes. Notably, research has demonstrated that a shift from a positive to negative emotion or negative to positive emotion resulted in a more effective message in the context of binge drinking, potentially due to a decrease in defensive processing and increase in self-efficacy (Carrera et al., 2008; Carrera, Munoz, & Cabellero, 2010).

Notably, effective fear appeals include elements of fear through emphasizing elements of severity and susceptibility within a message but ultimately providing hope through self-efficacy and response-efficacy. In this sense, many fear appeals, if created correctly, really encompass the idea of emotional flow. However, they are typically not studied as such. Nabi and Myrick (2018) suggested that if severity and susceptibility generate fear, self-efficacy and response efficacy may evoke hope as an additional emotional response. They investigated this question through two studies that analyzed two different existing data sets from prior fear appeal messages about sun safety. The first study revealed that both self-efficacy and response-efficacy were correlated with hope and that fear and hope were correlated with one another. Notably, hope also positively correlated with behavioral intentions. Findings from the second study were

complex: Results indicated that hope interacted with self-efficacy to influence behavioral intentions, suggesting that hope experienced after the initial "fear" from a fear appeal may contribute to persuasive outcomes.

Although emotional shifts may be present in many types of persuasive messaging (e.g., gain-and loss-framed messages, social norms-based messages), Nabi and Green (2015) presented a strong argument to acknowledge the role played by emotional shifts specifically in narrative persuasion. The authors suggested that emotional shifts may influence the relationships between defining characteristics of narratives and belief and attitude change. The following section delves into the concept of narrative persuasion and illustrates how emotional shifts may play a role.

Emotion in Narratives

The present study evaluates the extent to which the strategic inclusion of emotional content within a message can heighten transportation and identification more so than a narrative that features a single emotion. Appel and Richter (2010) determined that need for affect, defined as the desire to engage with emotion-inducing situations, determines whether an individual experiences transportation, and thus, is persuaded by the message. Although their study focused on individual differences, the findings imply that intentional inclusion of discrete emotions in a narrative may enhance the experiences of identification and transportation, thus increasing the likelihood of persuasive outcomes. Other studies argue that transportation, identification, and emotion are three separate constructs and act independently of one another within the process of narrative persuasion (Murphy, Frank, Moran, & Patnoe-Woodley, 2011; Murphy et al., 2013). The present study employs emotion as a component of the narrative message, rather than an

outcome experienced from reading the narrative, and tests whether the emotional content enhances transportation and identification.

Notably, many studies that evaluate emotions within the context of narrative persuasion often conceptualize emotion broadly in terms of positive or negative affect (Murphy et al., 2013; Tal-Or & Cohen, 2009). In recent years, though, narrative and emotion research has expanded to explore emotion as discrete emotions, as suggested by Nabi (2002). Unfortunately, studies that initially aim to measure and analyze discrete emotion as variables often resort to grouping the variables into valence categories for subsequent analysis. For example, in a recent study that sought to use narrative persuasive messages to reduce health disparities in knowledge, attitudes, and behavioral intentions regarding cervical cancer among African American and Mexican American women, researchers initially measured six discrete emotions, including anger, sadness, disgust, fear, happiness, and surprise, but for the final analyses, the researchers ultimately analyzed the data by separating the emotions into positive and negative emotion variables (Murphy et al., 2013). In this particular study, results demonstrated that heightened levels of both positive and negative emotions were related to significantly more negative attitudes toward the desired health outcome, cervical cancer screenings. Results, however, could not speak to the impact of discrete emotions.

Larkey and Hecht (2010) suggested that stories may be more emotionally appealing than a typical health promotion message. Existing research also suggests that the affective nature of narratives influences persuasive outcomes by stimulating and evoking memories associated with emotion (Oatley, 2002). In a conceptual paper that focused specifically on negative emotion, researchers argued that narrative formats were

particularly effective for eliciting emotional responses that could lead to behavior change (Dunlop et al., 2008).

Additionally, studies have provided more clarity on the mediating role played by emotion. Hoeken and Sinkeldam (2014) reported that emotion mediated the relationship between identification and attitudes, implying that participants' identification with a character featured in a narrative can evoke emotions that in turn influence attitude change. As previously discussed, Nabi and Green (2015) proposed that strategically including multiple emotions in narrative persuasive messages could be useful in obtaining persuasive outcomes. Although persuasive narratives may feature a variety of discrete emotions, the proposed study will use sadness and hope based on the findings of the formative research discussed in Chapter 3. The proposed study addresses the call for research to explore how the inclusion of more than one discrete emotion in a narrative will impact narrative persuasive outcomes, including transportation, identification, and attitudes.

Health Context: Mental Health

As previously discussed, narratives and emotional appeals certainly apply to any number of health-related topics relevant to college students, including skin cancer, sexual health, and tobacco use. The present study explores narratives and emotional appeals within the context of mental health, which is a growing area of concern for many universities. Seventy-five percent of all lifetime cases of mental illness begin developing between the ages of 18 and 25, when most young adults are attending college (National Alliance on Mental Illness, 2018). Additionally, mental illness, particularly anxiety and depression, often goes unnoticed among college students (Centers for Disease Control

and Prevention, 2016). This can lead to tragic outcomes, including suicide, the second leading cause of death among individuals between the ages of 10 and 24 (Centers for Disease Control and Prevention, 2016).

A recent study evaluated trends in college students' mental health diagnoses. This wide-scale, longitudinal study pulled data from nearly 500,000 undergraduate students through the use of the national American College Health Association dataset. Results indicated that from 2009 to 2015, treatment and diagnosis of more than 12 mental health disorders, including anxiety, depression, and eating disorders, significantly increased (Oswalt, Lederer, Chestnut-Steich, Day, Halbritter, & Ortiz, 2018). These findings are further supported by a recent global study from the World Health Organization, which reported that nearly 19% of college freshmen struggle with generalized anxiety disorder (Auerbach et al., 2018). Although some data indicate that this rise in mental illness is coupled with an increase in the use of mental health services among college students, other studies still acknowledge negative attitudes toward mental health help-seeking, particularly related to stigma and efficacy, as significant barriers to seeking professional treatment for mental health concerns (Oswalt et al., 2018). For these reasons, and based on findings from the formative research reported in Chapter 3, this study tests the concepts of narrative persuasion and emotional flow within the context of mental illness, specifically anxiety disorders and eating disorders. Specifically, the study evaluates sadness, hope, and the combination of those two emotions within the context of narrative health blog posts, written in first-person, that describe a college student's experience with either anxiety or eating disorders. Based on formative research findings that will be discussed in Chapter 3, this study specifically focuses on college-aged women.

Thus, the goal of the present study is to determine whether a message that strategically employs emotional flow, flowing from sadness to hope, will be more impactful than messages that emphasize either sadness only or hope only on transportation, identification, and attitudes toward seeking help for mental health concerns. The following chapter will discuss the formative research that informed the decision to use both sadness and hope as the featured emotions in the messages. However, these particular emotions were also chosen because of their association with message acceptance and action tendencies. Sadness was chosen as the key negative emotion due to past research (e.g. Dillard et al., 1996) that indicates that sadness, unlike anger, is associated with message acceptance. Hope was chosen as the key positive emotion due to existing research that shows promise for hope appeals within persuasion literature (e.g. Nabi & Myrick, 2018). Specifically, hope is associated with the desire to take a specific action to overcome an obstacle (Lazarus, 1991; Nabi & Myrick, 2018). Thus, the emotional flow conditions strategically included sadness as a negative emotion that would lead to message acceptance and hope as a positive emotion that would serve as an impetus for action.

As previously mentioned, the research on emotions, transportation, and identification presents mixed results about the potential interrelationships between constructs. The present study was based on the premise that transportation, identification, and emotion are three separate constructs that act independently from one another throughout the persuasion process (Murphy et al, 2011; Murphy et al., 2013). Thus, the following hypotheses were proposed:

H1: For the eating disorder narratives, participants in the emotional flow condition will report higher levels of *transportation* than participants in the sadness-only or hope-only condition.

H2: For the eating disorder narratives, participants in the emotional flow condition will report higher levels of *identification* than participants in the sadness-only or hope-only condition.

H3: For the eating disorder narratives, participants in the emotional flow condition will report more *positive attitudes* toward help-seeking than participants in the sadness-only or hope-only condition.

H4: For the anxiety narratives, participants in the emotional flow condition will report higher levels of *transportation* than participants in the sadness-only or hope-only condition.

H5: For the anxiety narratives, participants in the emotional flow condition will report higher levels of *identification* than participants in the sadness-only or hope-only condition.

H6: For the anxiety narratives, participants in the emotional flow condition will report more *positive attitudes* toward help-seeking than participants in the sadness-only or hope-only condition.

Chapter Three: Formative Research and Message Development

This study used a multiple-message approach, which involved the creation and testing of messages for two topics instead of just one. This approach was developed as a response to the number of communication effects research studies that used a single message for testing, resulting in limited external validity. Using a multiple-message approach increases generalizability, making the findings more replicable and applicable for other researchers (Jackson & Jacobs, 1985; O'Keefe, 2015). In order to determine the two topics and develop the messages, the researcher conducted two phases of formative research, which included focus groups and a small pilot test.

Focus Groups

To begin the formative research process, the researcher conducted four focus groups with female and male college students ages 18-25 to discuss health topics relevant to college students and health blogs. Participants (N = 32) were recruited from the University of Kentucky SONA system and received course credit for participating, in addition to light refreshments. Both men (n = 10) and women (n = 22) participated in the focus groups. The vast majority of participants identified as non-Hispanic White (81.3%). The remaining participants identified as Black/African American (9.3%), Asian/Asian American (6.3%), and Hispanic/Latino (3.1%). The age of the participants ranged from 18 to 25 (M = 19.5, SD = 1.48).

After entering the focus group room, participants completed consent forms, and the researcher conducted a semi-structured group interview using a scripted protocol. The focus group interviews lasted between 30 and 40 minutes. During the conversation, the researcher asked the participants to list and discuss health topics they felt were relevant to

the college student population. After the initial brainstorming session, participants were asked to choose and rank order the five health issues they perceived as most relevant. Additionally, the researcher asked the participants questions about reading blog posts in general and the features of blog posts that they find appealing.

Focus Group Findings

Relevant health topics. The researcher first asked the participants to brainstorm health topics that they perceived as relevant to college students. Students brought up a variety of health topics, including STDs, binge drinking, smoking tobacco, "JUULing," physical activity, nutrition, stress management, hygiene, drugs, and mental health. Through this discussion, students shared opinions on whether or not they would be interested in reading messages about each of the topics. Ultimately, nearly half of the focus group participants said that mental health was the most important and most salient issue for college students, followed by sexual health and nutrition. Specifically, students brought up depression, anxiety, STI testing, and body image/eating disorders.

Participants expressed that both general mental health and a variety of mental health issues were the most relevant health issue by sharing, "I think mental health is the most relevant and just like, just the different branches of that…like stress, anxiety, eating disorders and stuff." Other participants pointed out that mental health is a salient topic due to the existing stigma surrounding mental illnesses and stated that universities need to specifically address mental illness among college students. One participant shared, "There's a certain stigma in our society with mental disorders, but I think it's much more prevalent than people realize." This comment was followed by a participant saying,

"Anxiety and depression are really, really big in college students. It's something that needs to be addressed."

Notably, students shared that although certain topics are relevant to them, they would not want to read a story about them, largely due to the existing amount of information available on those topics. For example, participants strongly stated that they would not want to read messages about diet plans or weight loss:

> "It's just so common that people discuss it, and how often it is discussed makes me not want to read about it anymore. I feel like I'm well-informed, and even though I continue to not eat as well as I should, I won't read about it just because it pops up frequently, and I don't want to read something multiple times."

Another participant shared:

> "Another subset of nutrition is specific diet plans and weight loss…I hate seeing those, whether it's an actual reputable article or a garbage advertisement. It's never just a diet plan. I do not want to read a story about how someone lost 20 pounds and this is how they did it."

Additionally, students also shared that some topics might be relevant to college students, but they may not be interested in reading about them. For example, one participant shared that even though binge drinking and drug use were relevant topics to college students, he felt that participants would not be interested in reading the messages because students do not consider their behavior to be problematic:

> "For drugs or alcohol, that's something that most people experiment with here. A lot of people see them as going away as soon as you're done with college. So, it's

not considered like a real…I mean it is for some people who have like, problems, but that's not a possibility that enters the realm of people's heads."

Overall, participants shared that stories about various forms of mental illness, including anxiety, depression, and eating disorders, would be both salient and interesting to read about. One participant pointed out that these topics are particularly salient, because even if an individual has not experienced that specific situation, it is still possible to connect with the emotions associated with mental illness:

"I feel like it would be relatable because even if you don't have a mental illness, you've felt a lot of the same things. Like even if you don't have depression…we've all been sad, and just imagining that helps us know what people are experiencing."

Emotions and health topics. The second question asked students to brainstorm emotions associated with each of the health topics. This discussion helped illuminate which topics would bring up certain emotions and also helped eliminate topics associated with emotions, such as anger, that may result in reactance or resistance to persuasion. For example, when participants discussed the emotions they might feel when reading a narrative about sexual health, one participant shared that he would feel angry.

"It would make me angry. With all the tips and advising people have given over the years and years, like have safe sex, use protection, or stay abstinent…you should be at least some type of knowledgeable in the situation to do it safely."

Another participant shared that the STDs most common among college students, such as chlamydia, gonorrhea, or syphilis, may not elicit emotions because they are treatable:

> "I wouldn't take a story seriously if it's about something like chlamydia. Anybody who has multiple friends who have chlamydia…like if a friend comes up and says they have an STD and say it's chlamydia, like, get the hell out of here. You take one pill and it's gone…Chlamydia elicits way less emotion."

When participants discussed the emotions that would be evoked by a story about mental health, they shared that they would experience both positive and negative emotions. Participants shared that they would feel hopeful if the narratives ended with the character in the story getting help and overcoming or managing their mental health concerns. One participant shared, "I would feel hope, comfort, and relief if the story ended with them getting help. I would feel proud that they overcame something." Another participant shared that reading a narrative about someone who sought help for mental health concerns would give them hope and inspiration that they could also seek help for mental health concerns, saying, "It would make me feel like happy for them if they got help and got better, and hopeful that maybe I could do the same thing if that's what I was looking for."

In addition to the positive emotions discussed by participants, they pointed out that stories about mental illness would make them feel an array of negative emotions, including sadness, guilt, and shame. Of these, participants brought up sadness most frequently. One participant shared, "I know a lot of girls with body image issues, like borderline anorexic, and it's just like, sad, really." Another participant shared, "It would be sad because it's a such a huge problem on campus, and it's like, sad when people don't get help." Notably, participants shared that if the character in the story was experiencing a particular negative emotion, such as sadness, they would also experience

that emotion. One participant shared, “Sometimes you tend to mirror the emotions of the narrator, so I think I would feel helpless and sad.”

Similarly, the participants explicitly expressed a desire for the narratives to contain emotional content. Specifically, they expressed a desire for narratives about mental health to include vulnerable, emotional content so that they can experience the emotions through the character. One participant shared, “When I’m reading a story like that, I want to know exactly what they’re going through. I want to know about the highs and the lows. I want to feel what they feel.”

Blog structure. In addition to the questions about health topics and emotions, participants also shared valuable information about the desired length and format of blog posts. The participants indicated that a desirable blog post length is between 500 and 800 words. They also said that they enjoy reading blog posts that include a short “about me” blurb to help them better relate to the blogger.

Topic Selection

As discussed, focus group participants agreed that mental health is the most relevant health topic for college students. Specifically, participants discussed the relevance and prevalence of anxiety and eating disorders. Despite the relevance of sexual health and alcohol use, participants expressed reluctance to read messages about these topics and indicated that these topics might evoke undesired emotions, such as anger. For these reasons, two forms of mental illness, anxiety and eating disorders, were chosen as the final topics.

These findings are further supported by public health records and the literature. A recent survey of nearly 400 college counseling center directors revealed that anxiety is

the most common concern among college students (American Psychological Association, 2013). Notably, young women are more likely to experience anxiety and be diagnosed with an anxiety disorder or experience more severe psychological symptoms than their male counterparts (McLean, Asnaani, Litz, & Hofmann, 2011; Komiya, Good, & Sherrod, 2000). Eating disorders, the second highest rated health issue by participants, has not been discussed in the research as thoroughly as anxiety. However, a recent survey of more than 3,000 college students revealed that 20.5% screened positive for disordered eating behaviors, and women were nearly 3 times more likely to screen positive for disordered eating than male students (Tavolacci et al., 2015). Due to the focus group findings and the higher prevalence of both anxiety and eating disorders among women than men, the following pilot study and main experiment included only female college students.

Message Creation

After the completing the focus groups, the researcher created six blog posts written in first-person narrative style. The blog posts were relatively consistent in length, ranging from 549 to 607 words. Each blog post shared the first-person story of a college student struggling with symptoms of either generalized anxiety disorder or an eating disorder. Each blog started with the blogger discussing the difficulties of college and recalling receiving information about campus resources for mental health, followed by a description of the symptoms and emotions the blogger experienced. Finally, the blogs ended with the blogger deciding whether or not to seek help for her mental health concerns.

Pilot Test

After completing the focus groups and developing the initial test messages, the researcher conducted a pilot test of the six messages to ensure they elicited the desired emotions and to test research protocol. Participants (N = 37) for the pilot were recruited from the University of Kentucky SONA system and received course credit for participating. The age of the participants ranged from 18 to 22 (M = 19.64, SD = 1.29). Among these women, 37.8% (n = 14) were freshman, 37.8% (n = 14) were sophomores, 8.1% (n = 3) were juniors, and 16.2% (n = 6) were seniors. The majority of the participants identified as non-Hispanic White (78.4%); 4 participants (10.8%) identified as Black/African American; 2 participants identified as Asian/Asian American (5.4%); 1 participant identified as Hispanic/Latina (2.7%); and 1 participant identified as American Indian (2.7%).

The study was held in the Communication Research Lab. When participants entered the lab, they completed consent forms. Participants were randomly assigned to one of the six conditions: 6 were assigned to the eating disorders/sadness condition, 6 were assigned to the eating disorders/hope condition, 6 were assigned to the eating disorders/flow condition, 7 were assigned to the anxiety/sadness condition, 6 were assigned to the anxiety/hope condition, and 6 were assigned to the anxiety/flow condition. After reading the randomly assigned message, participants completed a brief survey on Qualtrics. The survey included the Discrete Emotion Questionnaire (DEQ; Harmon-Jones et al., 2016; scale described in detail in Chapter 4) and open-ended questions that asked participants how the message could be improved to elicit higher levels of hope and sadness.

Pilot Test Findings

The results from the pilot test indicated that although participants were experiencing both hope and sadness at low levels, the messages needed further editing to ensure that the desired emotion was more prominently featured in the message. For example, in one of the conditions designed to primarily evoke sadness, participants reported near identical levels of sadness (M = 2.08, SD = 0.61) and hope (M = 2.06, SD = 0.65). Additionally, participants in the anxiety/hope condition reported higher levels of sadness (M = 3.36, SD = 2.16) than hope (M = 2.78, SD = 1.12). Table 3.1 provides means and standard deviations for both sadness and hope across conditions for the pilot test.

In addition to completing the DEQ, participants also responded to open-ended questions. The first open-ended question asked the participants to list any emotions they experienced while reading the blog post. Participants across conditions listed negative emotions, including dread, embarrassment, sadness, frustration, guilt, grief, and worry. Participants also listed positive emotions, including hopefulness, compassion, and relief. Participants in the conditions with hope listed more positive emotions than participants in sadness alone conditions. However, participants predominantly listed negative emotions across all conditions, suggesting that the hope and emotional flow messages needed to be altered to elicit higher levels of hope.

The second open-ended questions asked, “How could this blog post be altered to elicit a higher level of hope or encouragement?” This question was asked to participants in all conditions except those in the sadness only conditions. Overall, participants shared that including more of a resolution or decision to see a therapist would have provided

more hope or encouragement. For example, one participant shared, “Maybe more of a conclusion about going to therapy and getting the help needed.” Another participant shared, “It would elicit more hope if the blog ended with her deciding to call and make an appointment.” Another participant assigned to one of the emotional flow conditions pointed out that the emotions needed to be more balanced by saying, “Maybe focus more on the positive side of things. There is hope in the blog, but it is a lot of negative. They should focus on the positives too. It is important for all students to feel safe and encouraged using the resources.”

The third open-ended question asked participants, “How could this blog post be altered to elicit a higher level of sadness?” This question was asked to participants in all conditions except those in the hope only conditions. In general, participants shared that the blogs would have elicited higher levels of sadness if they shared a more detailed and, at times, extreme depiction of what an individual struggling with mental health experiences. For example, “…by going into even greater detail about how she felt, and the extremeness of her symptoms and sadness.” Several participants indicated that sadness did not need to be enhanced saying, “This blog post was honestly pretty sad as is. I think it was pretty relatable, which makes people feel strong emotions, even more so than if they haven’t gone through something like that” and “Is a higher level of sadness necessary? That’s the last thing this post and the rest of the world needs.”

After completing the pilot study, the researcher altered the messages based on the feedback from participants. In order to elicit higher levels of hope, the messages in the hope and emotional flow conditions were altered to include an ending that shared the blogger’s decision to call and make an appointment with the counseling center. In order

to elicit higher levels of sadness, the messages were altered to include more detail about the blogger's loneliness and sadness. Although many participants said that they would have experienced a higher level of sadness if the blogger experienced suicidal ideation or attempted to commit suicide, the final messages were not changed to include these due to ethical concerns.

Specific to the anxiety condition, all three messages described the blogger's experience with an anxiety attack:

> "But then yesterday something happened to me that has never happened before. I was sitting in class looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – *back to my tiny dorm room, sat on the cold floor, and cried while gasping for air*. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I broke down. *I'm not a doctor, but I'm pretty sure I had an anxiety attack*."

For the eating disorder condition, all three messages described the blogger's experience with symptoms of an eating disorder:

> "But then yesterday, I realized that maybe I've been kind of weird about diet and exercise. I was sitting in class, looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – *to the campus gym, hopped on the treadmill, and ran until I knew I burned off the calories from breakfast and practically passed out*. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and *I've been so nervous the stress will make me gain the dreaded Freshman*

15. I'm not a doctor, but I wonder if I might have a problem with an eating disorder."

For the blogs designed to elicit sadness, the narrator expressed hopelessness when discussing the potential to visit the counseling center and a decision to handle the problem alone:

"I'm lonely, *and I wonder if I'm the only one who feels this way. I just don't know if I can take it anymore*. I know the people at orientation said that the counseling center is for anyone, but still, I don't feel like they could help…*even though I'm a mess, I think I can just handle it on my own*."

Comparatively, the messages designed to elicit hope featured the blogger expressing a more optimistic outlook on visiting the counseling center, coupled with a distinct decision to call and make an appointment:

"I'm lonely, and I can't be the only one who feels this way, and I don't want to feel like this anymore, so I know I need to do something about it. I know that the people at orientation said that the counseling center is for anyone, so maybe they really could help me…*I refuse to keep feeling this way, so I'm going to call and make an appointment today*."

The emotional flow condition used a combination of the phrasing above to elicit both sadness and hope by saying, "I'm lonely, and I wonder if I'm the only one who feels this way. I don't know if I can take it anymore, so I know I need to do something about it."

As demonstrated above, the researcher used strategic word choice and differing punctuation throughout the blog post to alter the tone of the message in order to

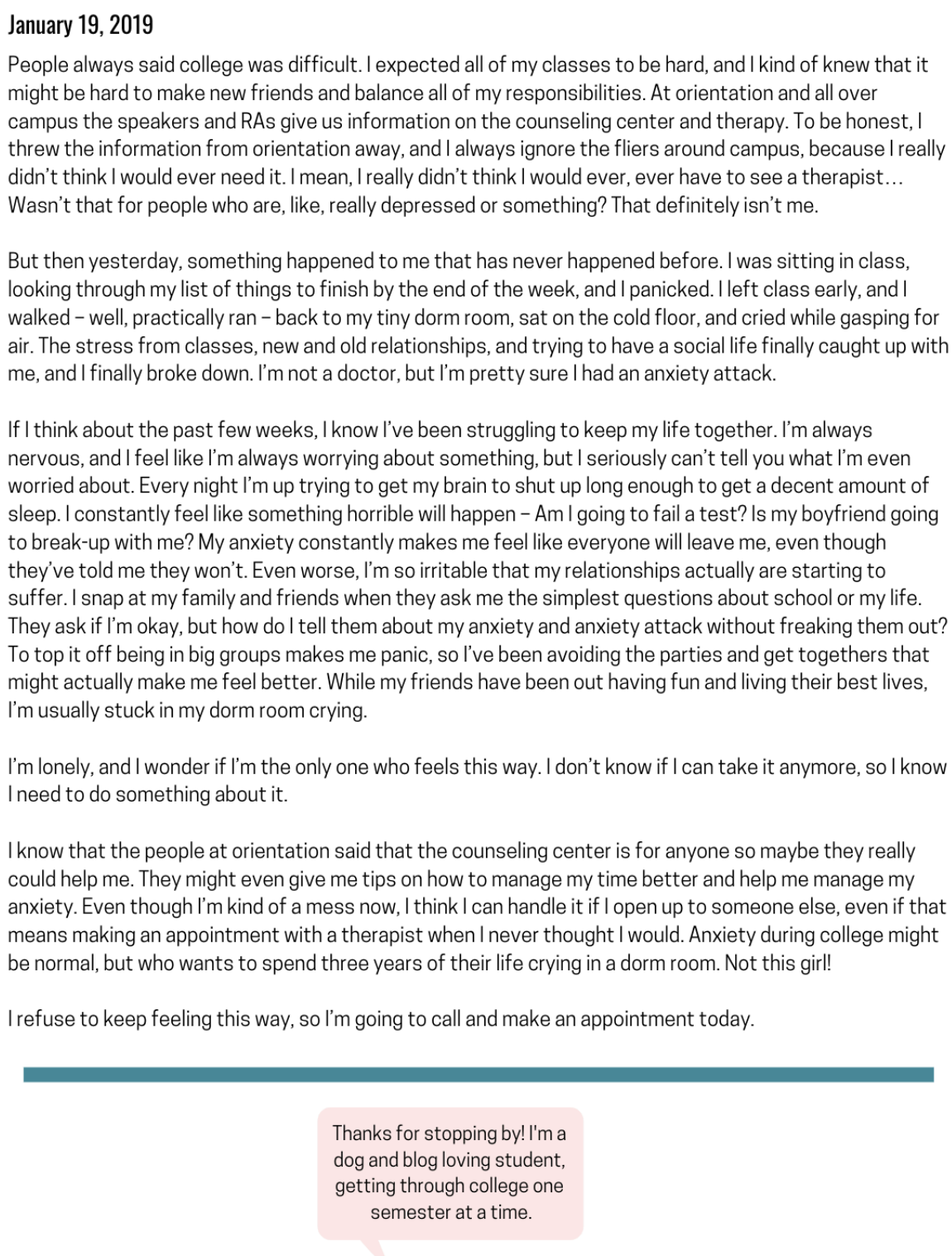
emphasize and elicit the different desired emotions. Finally, the researcher designed the narrative blog posts to look like real blog posts by including a date at the top of the narrative and the "about me" blurb at the bottom. These additions were consistent across all six conditions. The complete blog posts can be seen in Appendices A-F. A screen shot of one of the message conditions in the final blog post format, which includes the "about me" section, can be seen in the appendices as Figure 1.

Table 3.1. *Means and Standard Deviations of Emotions across Conditions for Pilot Test*

Condition	Emotion	Mean (*M*)	Std. Deviation (*SD*)
Eating Disorder Flow	Sadness	1.67	0.63
	Hope	2.00	1.01
Eating Disorder Hope	Sadness	2.54	1.65
	Hope	3.72	2.23
Eating Disorder Sad	Sadness	2.08	0.61
	Hope	2.06	0.65
Anxiety Flow	Sadness	2.42	1.83
	Hope	1.83	1.01
Anxiety Hope	Sadness	3.36	2.16
	Hope	2.78	1.12
Anxiety Sad	Sadness	3.21	2.04
	Hope	2.10	1.12

Note. Emotions were measured on a scale from 1 (*not at all*) to 7 (*an extreme amount*).

Figure 3.1 *Screenshot of Blog Post Format*



January 19, 2019

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew that it might be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and RAs give us information on the counseling center and therapy. To be honest, I threw the information from orientation away, and I always ignore the fliers around campus, because I really didn't think I would ever need it. I mean, I really didn't think I would ever, ever have to see a therapist… Wasn't that for people who are, like, really depressed or something? That definitely isn't me.

But then yesterday, something happened to me that has never happened before. I was sitting in class, looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – back to my tiny dorm room, sat on the cold floor, and cried while gasping for air. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I finally broke down. I'm not a doctor, but I'm pretty sure I had an anxiety attack.

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous, and I feel like I'm always worrying about something, but I seriously can't tell you what I'm even worried about. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep. I constantly feel like something horrible will happen – Am I going to fail a test? Is my boyfriend going to break-up with me? My anxiety constantly makes me feel like everyone will leave me, even though they've told me they won't. Even worse, I'm so irritable that my relationships actually are starting to suffer. I snap at my family and friends when they ask me the simplest questions about school or my life. They ask if I'm okay, but how do I tell them about my anxiety and anxiety attack without freaking them out? To top it off being in big groups makes me panic, so I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in my dorm room crying.

I'm lonely, and I wonder if I'm the only one who feels this way. I don't know if I can take it anymore, so I know I need to do something about it.

I know that the people at orientation said that the counseling center is for anyone so maybe they really could help me. They might even give me tips on how to manage my time better and help me manage my anxiety. Even though I'm kind of a mess now, I think I can handle it if I open up to someone else, even if that means making an appointment with a therapist when I never thought I would. Anxiety during college might be normal, but who wants to spend three years of their life crying in a dorm room. Not this girl!

I refuse to keep feeling this way, so I'm going to call and make an appointment today.

Thanks for stopping by! I'm a dog and blog loving student, getting through college one semester at a time.

Chapter 4: Experimental Design

This study employed a posttest-only, between subjects design. The explanatory variable was condition/message type, and the outcome variables were transportation, identification, and attitudes towards mental health help-seeking. An experimental design was chosen to explore the hypotheses in order to assess differences between conditions that included messages designed to evoke multiple emotions (emotional flow) or a single discrete emotion.

Participant Characteristics

The final sample (N = 256) consisted of women enrolled in undergraduate communication courses at the University of Kentucky. The age of the participants ranged from 18 to 25 (M = 19.75, SD = 1.41). Among these women, 33.6% (n = 86) were freshman, 28.1% (n = 72) were sophomores, 21.9% (n = 56) were juniors, and 16.4% (n = 42) were seniors. The majority of the participants identified as non-Hispanic White (72.7%); 43 participants (16.8%) identified as Black/African American; 7 participants identified as Asian/Asian American (2.7%); 5 participants identified as Hispanic/Latina (2%); 3 participants identified as American Indian (1.2%); and 11 participants identified as multi-racial (4.3%).

The majority of participants reported reading blog posts between 1 and 5 times per week: 27 (10.5%) participants indicated reading blog posts once per week; 78 (30.5%) indicated reading blog posts 2-3 times per week; 16 (6.3%) indicated reading blog posts 4-5 times per week; and 15 (5.9%) indicated reading blog posts more than five times per week. The remaining participants indicated reading blog posts less than 1 time per week (n = 66, 25.85%) or never reading blog posts (n = 54, 21.1%).

Notably, an overwhelming majority of participants screened positive for generalized anxiety, with 34.8% (n = 89) screening positive for mild anxiety, 23.4% (n = 60) screening positive for moderate anxiety, and 17.6% (n = 45) screening positive for severe anxiety. The remaining 23.8% (n = 61) did not screen positive for an anxiety disorder. Additionally, 30% (n = 77) of participants screened positive for disordered eating.

Experimental Protocol

Participants enrolled in the study through the SONA system and selected an available timeslot. Each session had between 1 and 15 participants. When they arrived at the Communication Research Lab, the researcher provided an informed consent form and instructions for participating in the study. After consenting, participants moved to one of the computers in the lab and read the following instructions:

> "Please read the following blog post carefully. After reading the blog post, you will answer a series of questions. After completing all of the questions, a screen will indicate that your survey is complete. When this screen comes up, please remain seated quietly while all participants finish the study."

After reading the assigned blog post, participants completed a survey in Qualtrics that included the outcome measures and demographics. After all of the participants in the scheduled time slot completed the survey, the researcher provided an overview of the study and information about the University of Kentucky Counseling Center.

Measures

Table 4.1 reports reliabilities, mean scores, standard deviations, and skewness and kurtosis statistics for each variable.

Transportation. Transportation was assessed with an adapted version of the widely-used scale introduced by Green and Brock (2000). Participants indicated their agreement to each statement on a scale from 1 (*not at all*) to 7 (*very much*). The scale included statements such as, "While I was reading the blog post, I could easily picture the events in it taking place," "I was mentally involved in the blog post while reading it," and "While I was reading the blog post, activity going on in the room around me was on my mind." The scale demonstrated good reliability ($\alpha = .80$).

Identification. Identification was measured using an adapted version of a scale designed by Cohen (2001). The researcher adapted the scale, which was originally designed to measure visual narratives, to measure identification for text-only narratives. Participants indicated their agreement with each statement on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale included statements such as, "While reading the story, I could feel the emotions the character portrayed," "While reading the story, I felt as if I was a part of the situation," and "At key moments in the story, I felt I knew exactly what the character was going through." The scale demonstrated excellent reliability ($\alpha = .90$).

Attitudes toward mental health. Attitudes toward seeking help for mental health was measured using an adapted version of the Mental Help Seeking Attitude Scale (MHSAS; Hammer, Parent, & Spiker, 2018). Participants were instructed to respond to the prompt, "If I had a mental health concern, seeking help from a mental health professional would be…" The semantic differential scale consists of nine items that produce a single mean score and include *useful, important, healthy, effective, good,*

healing, *empowering*, *satisfying*, and *desirable*. This scale demonstrated good reliability (α = .85).

Emotions. Emotions were assessed using the Discrete Emotions Questionnaire (DEQ; Harmon-Jones et al., 2016), which was developed to measure discrete emotions as opposed to positive or negative affect. Participants indicated the extent to which they experienced each of eight emotions on a Likert-type scale from 1 (*not at all*) to 7 (*an extreme amount*). The DEQ is composed of eight sub-scales for discrete emotions: sadness, anger, desire, anxiety, relaxation, disgust, happiness, and fear. Each subscale consists of four words that relate to the discrete emotion of interest. For example, the emotions that indicate sadness are *lonely, grief, sad,* and *empty*. These eight subscales from the DEQ demonstrated acceptable reliability (α = .71-.86). Notably, in the present study, the subscale for sadness demonstrated good reliability (α = .80). For the purposes of this study, the researcher created a subscale for hope. The subscale consisted of three words that relate to hope as an emotion, including *hopeful, encouraged,* and *optimistic*. This new subscale demonstrated good reliability (α = .80). Table 4.3 provides means and standard deviations for all discrete emotions measured across conditions.

Disordered eating. Presence of an eating disorder or disordered eating behaviors was measured using a slightly adapted version of the widely used SCOFF questionnaire (Morgan, Reid, & Lacey, 1999). The questionnaire consists of five items, and participants indicated whether or not they experienced the symptom described in each item. The questionnaire was scored by giving one point for each *yes*; a score greater than two indicates the presence of disordered eating. The items include “Do you make yourself sick because you feel uncomfortably full?” “Do you worry you have lost control over

how much you eat?" "Do you believe yourself to be fat when others say you are too thin?" "Would you say that food dominates your life?" and "Have you recently lost more than approximately fifteen pounds in a 3-month period?" This last item was altered slightly from the original version, which uses the term "one stone" instead of "fifteen pounds" to account for cultural differences in terminology about weight.

Anxiety. Presence of an anxiety disorder was measured using the Generalized Anxiety Disorder 7-Item scale (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006). Participants responded to seven items following the stem, "Over the last two weeks, how often have you been bothered by the following problem?" Participants indicated how often they experienced the problem on a scale from 0 (*not at all*) to 4 (*nearly every day*). Items included *feeling nervous, anxious, or on edge*, *worrying too much about different things*, and *becoming easily annoyed or irritable*. The scale is scored by summing the response for each item, and scores of 5, 10, and 15 indicate the presence of a mild, moderate, or severe anxiety, respectively.

Table 4.1. *Reliability Scores, Means, and Standard Deviations (N = 256)*

Variable Name	Reliability	*M*	*SD*	Skewness	SE	Kurtosis	SE
Transportation	.80	4.67	0.91	0.01	0.15	-0.57	0.30
Identification	.90	4.82	1.12	-0.30	0.15	-0.27	0.30
Attitudes	.85	6.27	0.87	-1.77	0.15	4.35	0.30
Hope	.80	2.32	1.22	0.95	0.15	0.61	0.30
Sadness	.80	1.49	1.18	1.00	0.15	0.49	0.30

Table 4.2. *Means and Standard Deviations for Sadness and Hope across Conditions*

Condition	Emotion	Mean (*M*)	Std. Deviation (*SD*)
Eating Disorder Flow	Sadness	2.41	1.23
	Hope	2.56	1.21
Eating Disorder Hope	Sadness	2.33	0.84
	Hope	2.64	1.28
Eating Disorder Sad	Sadness	2.64	1.28
	Hope	1.62	0.90
Anxiety Flow	Sadness	2.53	1.21
	Hope	2.55	1.25
Anxiety Hope	Sadness	2.50	1.33
	Hope	2.66	1.04
Anxiety Sad	Sadness	2.54	1.17
	Hope	1.90	1.25

Note. Emotions were measured on a scale from 1 (*not at all*) to 7 (*an extreme amount*).

Table 4.3. *Means and Standard Deviations for All Discrete Emotions across Conditions*

Condition	Sadness *M (SD)*	Hope *M, (SD)*	Anger *M, (SD)*	Desire *M, (SD)*	Anxiety *M, (SD)*	Relaxation *M, (SD)*	Disgust *M, (SD)*	Happiness *M, (SD)*	Fear *M, (SD)*
Eating Disorder Flow	2.41 (1.23)	2.56 (1.21)	1.29 (0.53)	1.36 (0.53)	2.44 (1.08)	2.39 (1.50)	1.34 (0.64)	1.49 (0.66)	1.61 (0.96)
Eating Disorder Hope	2.33 (0.84)	2.64 (1.28)	1.20 (0.39)	1.41 (0.59)	2.29 (1.02)	1.65 (0.74)	1.28 (0.40)	1.41 (0.63)	1.67 (0.77)
Eating Disorder Sadness	2.64 (1.29)	1.62 (0.90)	1.70 (1.25)	1.54 (0.84)	2.64 (1.35)	1.68 (1.00)	1.67 (1.00)	1.14 (0.39)	2.20 (1.30)
Anxiety Flow	2.53 (1.21)	2.55 (1.25)	1.16 (0.36)	1.44 (0.76)	2.70 (1.36)	1.95 (1.00)	1.17 (0.38)	1.49 (0.69)	1.80 (1.06)
Anxiety Hope	2.50 (1.33)	2.66 (1.04)	1.14 (0.30)	1.54 (0.79)	2.31 (1.14)	2.05 (0.87)	1.21 (0.33)	1.30 (0.52)	1.60 (0.91)
Anxiety Sadness	2.54 (1.17)	1.90 (1.25)	1.24 (0.49)	1.44 (0.88)	2.64 (1.28)	1.64 (0.79)	1.21 (0.37)	1.24 (0.93)	1.74 (0.92)

Note. Emotions were measured on a scale from 1 (*not at all*) to 7 (*an extreme amount*).

Chapter 5: Results

Participant Flow

A total of 257 participants enrolled in the study. One participant did not complete more than 50% of the survey and was excluded from the analysis. Participants (N = 256) were randomly assigned to the six conditions: 43 were assigned to the eating disorders/sadness condition, 42 were assigned to the eating disorders/hope condition, 45 were assigned to the eating disorders/flow condition, 42 were assigned to the anxiety/sadness condition, 40 were assigned to the anxiety/hope condition, and 44 were assigned to the anxiety/flow condition.

The researcher inspected descriptive statistics to check for plausible means and missing data points. As mentioned above, only one participant's responses were removed from the data set due to a high percentage of missing data. Despite the dataset having very minimal missing values, multiple imputation was used to account for all other missing data (Kang, 2013). Finally, the data were analyzed for normality by checking skewness and kurtosis scores, and the scores demonstrated that the data were normal, with the exception of the kurtosis score of 4.35 (SE = 0.30) for attitudes toward seeking help for mental health. Potential explanations for this high score are addressed in Chapter 6.

Given the nascent stage of emotional flow research, the goal of the present study was to test how emotional flow could impact traditional narrative messaging outcomes (transportation and identification) and persuasive outcomes (attitudes) separately. Thus, analysis of the variance (ANOVA) was used to test all six hypotheses in order to look at the mean difference among groups. Analysis of covariance (ANCOVA) was used in post-

hoc analyses to test hypotheses 4 and 5 to account for potential confounding variables. (See Tables 5.1 to 5.6 for additional information from analyses.)

Results for Eating Disorder Messages

Hypothesis 1

Hypothesis 1 predicted that participants in the eating disorders emotional flow condition would report higher levels of transportation than participants in the hope or sadness alone conditions. The initial one-way ANOVA revealed a Levene's test that indicated unequal variances (F = 3.19, p = .044). Thus, Welch's ANOVA was used. This test revealed no significant differences between conditions $F(2, 127) = 2.55$, $p = .08$, $\eta^2 = .04$. Therefore, hypothesis 1 was not supported (see Table 5.1).

Hypothesis 2

Hypothesis 2 predicted that participants in the eating disorders emotional flow condition would report higher levels of identification than participants in the hope or sadness alone conditions. A univariate ANOVA revealed no significant differences between conditions, $F(2, 127) = 1.20$, $p = .31$, $\eta^2 = .02$. Therefore, hypothesis 2 was not supported (see Table 5.2).

Hypothesis 3

Hypothesis 3 predicted that participants in the eating disorders emotional flow condition would report more positive attitudes toward mental health help seeking than participants in the hope or sadness alone conditions. A univariate ANOVA revealed no significant differences for attitudes toward seeking help for mental health concerns, $F(2, 127) = 1.19$, $p = .31$, $\eta^2 = .02$. Therefore, hypothesis 3 was not supported (see Table 5.3).

Results for Anxiety Messages

Hypothesis 4

Hypothesis 4 predicted that participants in the anxiety emotional flow condition would report higher levels of transportation than participants in the hope or sadness alone conditions. A univariate ANOVA indicated significant differences for level of transportation among conditions, $F(2, 123) = 3.62$, $p = .03$, partial $\eta^2 = 0.06$. LSD post-hoc tests revealed that reported levels of transportation for the sadness alone condition ($M = 4.95$, $SD = .74$) were significantly higher than the hope alone condition ($M = 4.42$, $SD = .90$). There were no significant differences between the emotional flow conditions and the single emotion conditions. Participants in the sadness alone condition reported the highest levels of transportation. Therefore, hypothesis 4 was not supported (see Table 5.4).

Hypothesis 5

Hypothesis 5 predicted that participants in the anxiety emotional flow condition would report higher levels of identification than participants in the hope or sadness alone conditions. A univariate ANOVA indicated significant differences for reported levels of identification among conditions, $F(2, 123) = 3.12$, $p = 0.05$, partial $\eta^2 = 0.05$. LSD post-hoc tests revealed that reported levels of identification for the sadness alone condition ($M = 5.27$, $SD = .96$) were significantly higher than the hope alone condition ($M = 4.68$, $SD = 1.15$). There were no significant differences between the emotional flow conditions and the single emotion conditions. Participants in the sadness alone condition reported the highest levels of identification. Therefore, hypothesis 5 was not supported (see Table 5.5).

Hypothesis 6

Hypothesis 6 predicted that participants in the anxiety emotional flow condition would report more positive attitudes toward mental health help seeking than participants in the hope or sadness alone conditions. A univariate ANOVA indicated no significant differences between conditions, F (2, 123) = 0.85, p = .43, partial η^2 = .01. Therefore, hypothesis 6 was not supported (see Table 5.6).

ANCOVA

Although none of the hypotheses were supported, the ANOVA analyses indicated significant differences between the sadness alone condition and hope alone condition for both transportation and identification related to the anxiety narratives, hypotheses 4 and 5 respectively. As discussed in Chapter 3, the vast majority of participants screened positive for a mild, moderate, or severe anxiety disorder. As such, the researcher conducted additional analyses to control for this variable. A one-way ANCOVA was conducted to test for a statistically significant difference between conditions on transportation, controlling for anxiety. Anxiety was significantly related to transportation, F(3, 122) = 37.47, p = 0.00, partial η^2 = .24. Condition, however, no longer showed a significant difference in terms of transportation, F (3, 122) = 2.28, p = 0.12, partial η^2 = 0.04, after eliminating the effect of anxiety. An additional one-way ANCOVA was conducted to test for a statistically significant difference between conditions on identification, controlling for anxiety. Anxiety was significantly related to identification, F(3, 122) = 21.90, p = 0.00, partial η^2 = 0.15. Condition, however, did not show a statistically significant difference for identification, F (3, 122) = 2.32, p = 0.10, partial η^2 = 0.04.

Table 5.1. *ANOVA Results – Transportation for Eating Disorder Messages*

				95% Confidence Interval	
Condition	*N*	*Mean*	*SD*	Lower Bound	Upper Bound
Flow	45	4.42	0.85	4.16	4.67
Hope	42	4.69	0.78	4.45	4.93
Sadness	43	4.85	1.07	4.52	5.18

Table 5.2. *ANOVA Results – Identification for Eating Disorder Messages*

				95% Confidence Interval	
Condition	*N*	*Mean*	*SD*	Lower Bound	Upper Bound
Flow	45	4.50	1.11	4.16	4.83
Hope	42	4.77	1.12	4.42	5.12
Sadness	43	4.89	1.41	4.45	5.32

Table 5.3. *ANOVA Results – Attitudes for Eating Disorder Messages*

				95% Confidence Interval	
Condition	*N*	*Mean*	*SD*	Lower Bound	Upper Bound
Flow	45	4.42	0.85	6.02	6.50
Hope	42	4.69	0.78	6.26	6.68
Sadness	43	4.85	1.07	6.00	6.50

Table 5.4. *ANOVA Results – Transportation for Anxiety Messages*

				95% Confidence Interval	
Condition	*N*	*Mean*	*SD*	Lower Bound	Upper Bound
Flow	44	4.69	0.98	4.39	4.99
Hope	40	4.43	0.90	4.14	4.72
Sadness	42	4.95	0.74	4.72	5.19

Table 5.5. *ANOVA Results – Identification for Anxiety Messages*

				95% Confidence Interval	
Condition	*N*	*Mean*	*SD*	Lower Bound	Upper Bound
Flow	44	4.86	1.12	4.49	5.22
Hope	40	4.68	1.15	4.32	5.05
Sadness	42	5.27	0.96	4.97	5.57

Table 5.6. *ANOVA Results – Attitudes for Anxiety Messages*

				95% Confidence Interval	
Condition	*N*	*Mean*	*SD*	Lower Bound	Upper Bound
Flow	44	6.37	0.70	6.16	6.59
Hope	40	6.18	0.97	5.87	6.49
Sadness	42	6.12	1.20	5.73	6.49

Chapter Six: Discussion

The purpose of this study was to examine how the strategic inclusion of two discrete emotions, or emotional flow, within narrative health blog posts would impact traditional narrative outcomes, including transportation, identification, and attitudes toward a desired health behavior. This study utilized a multiple message approach in order to potentially increase generalizability. Due to the significant increase in mental health illnesses among college students and formative research findings, the messages featured the story of a college-aged female experiencing initial symptoms of either anxiety or an eating disorder. A series of hypotheses proposed that participants who viewed messages that included two discrete emotions would report higher levels of transportation and identification, as well as more positive attitudes toward seeking help for mental health concerns, than participants in the single discrete emotion conditions.

Transportation and Identification

Contrary to expectations, there were no significant differences between the emotional flow conditions and the single discrete emotion conditions regarding transportation and identification for either topic. Notably, participants across conditions reported moderate levels of both transportation (M = 4.67, SD = 0.91) and identification (M = 4.82, SD = 1.21). These findings suggest that the narrative blog posts in general succeeded in transporting participants into the narrative, and participants identified with the main character, regardless of the emotions featured in the message. Additionally, although the present findings do not provide clear support for the idea that narratives that feature emotional flow will result in higher levels of transportation and identification, the

results were likely influenced by the strength of the emotions experienced by the participants and the unintentional evocation of specific emotions across conditions.

One possible explanation for these findings is that the messages did not elicit strong enough emotions to influence differences in transportation and identification. Ultimately, as illustrated in Table 4.2, the messages elicited slight to moderate levels of the desired emotions for each condition. Notably, this is consistent with past research that has measured emotional responses to a message (Banerjee & Greene, 2012; Dillard & Peck, 2000). However, there were no statistically significant differences between any of the conditions on transportation and identification. Similarly, another explanation for these findings is that the messages designed to elicit stronger levels of a particular emotion were not successful. For example, all six messages tested in the study elicited similar levels of sadness. Thus, not only did the messages designed to instill strong levels of sadness either as a single emotion or as part of emotional flow instill only moderate levels of sadness, the messages designed to instill only hope as a single emotion also instilled sadness. Although these findings do not immediately suggest that emotional flow causes individuals to respond to a narrative differently, it could be that the unsuccessful manipulation of emotion impacted the intended emotional experience.

Additionally, although the intention behind emotional flow as a persuasive mechanism is to take advantage of the widely accepted claim (see Dillard & Nabi, 2006) that messages often unintentionally evoke more than one type of emotion, it could be that by attempting to elicit more than one emotion, messages evoke even more unintended emotions than they would with a single discrete emotion. Thus, although the emotional flow messages were designed to evoke both hope and sadness, they could have elicited

additional emotional responses that negated any differences in transportation and identification. The results from the DEQ (see Table 4.3) showed that in addition to varying levels of sadness and hope, participants also experienced anxiety at almost the same level as both sadness and hope across all six conditions. Unfortunately, anxiety as an emotion has not been studied in the health communication and persuasion literature. Thus, assumptions cannot be made about the effects of anxiety on any of the outcome measures. The eating disorder condition that featured sadness only also elicited higher levels of fear than the other conditions and emotions. Traditionally, a theoretically based fear appeal would lend itself to message acceptance and behavior change (Witte, 1992). However, the narratives tested in this study did not contain the traditional components of a fear appeal, and thus, these message effects assumptions cannot be made. Finally, the eating disorder condition designed to feature both sadness and hope elicited relaxation, in addition to anxiety, sadness, and hope. It could be that the participants experienced relaxation after viewing the messages because of the flow from negative to positive emotions within the narrative.

Ironically, these findings capture the foundational idea behind emotional flow, that is, messages often evoke unintentional emotional responses (Dillard et al., 1996; Nabi, 2015). Initially, the call to study emotional flow within persuasive message research included strategically evoking multiple emotions in order to produce desired persuasive outcomes. However, the findings from this study strongly imply that strategically harnessing specific emotions within a health message without evoking unintentional emotions could prove quite difficult. Thus, perhaps future emotion research should focus on how to manage the complexities of emotional responses to a health

message, opposed to figuring out how to evoke a specific emotional flow response. To date, very few studies have attempted to manipulate emotional flow within a health message (e.g., Nabi & Myrick, 2018). As illustrated, emotions and emotional flow are complex features of any persuasive message, but that complexity should not deter researchers from continuing to examine how emotions shape responses to persuasive messaging.

Although this study did include two phases of formative research and ultimately elicited low levels of the desired emotions, future studies aiming to evaluate the role of emotional flow would benefit from a series of pilot tests that ensures higher levels of each desired emotion. In order to do so, researchers should consider utilizing more detailed narrative messages that include images or video. For the purposes of this study, including images or video was not feasible, but future research should consider including those elements in order to potentially elicit higher levels of emotion.

Another explanation for these findings is that the participants perceived the blogger as experiencing adversity, regardless of the emotions expressed in the blog post. Prior research suggests that individuals often feel more strongly for people or characters who experience hardships, and thus, are more likely to identify with those characters (Nabi & Green, 2015; Royzman & Rozin, 2006). The blog posts in this study featured a blogger sharing her struggle with one of two mental health concerns, either anxiety or eating disorders. Despite the inclusion of hopefulness in some messages, the inclusion of the positive emotion does not negate the blogger's troubling experiences with mental health concerns, and participants may have experienced higher levels of identification simply in response to the blogger's adverse experiences.

Additionally, an alarming number of participants from this study screened positive for either an anxiety disorder, eating disorder, or both. Indeed, the participants in this sample demonstrated higher rates of both anxiety and eating disorders than participants responding to recent large-scale surveys (Auerbach et al., 2018). These similarities could certainly impact participants' identification with the character, regardless of any emotions evoked by the narrative. Existing research on narrative persuasion and, even more specifically, narrative blog posts, confirms that health-related source similarity positively impacts both identification and persuasive outcomes (Lu, 2013). Future research about narrative persuasion and emotions, particularly in the context of mental health, would benefit from experiments that test the differences in identification, transportation, and any desired persuasive outcomes between individuals who experience significant mental health concerns and those who do not.

Attitudes

There were no significant differences between conditions in terms of attitudes toward seeking help for mental health concerns. However, it should be noted that across all six conditions, attitudes toward help-seeking help were highly positive. Participants indicated overwhelmingly positive attitudes toward seeking help for mental health concerns ($M = 6.27$, $SD = .87$). This study utilized a posttest only design and, thus, did not measure attitude change. Importantly, mental health is an issue that many undergraduate students find important, as indicated in prior research and in the formative research for this study. By selecting a topic that the students would find interesting and salient, the researcher also selected a topic about which students likely held strong pre-existing attitudes.

Additionally, it is important to note that for this specific study and university, students were exposed to an increase in information about mental health, mental health services, and suicide prevention in the week before the study and throughout the study following two publicly recognized student suicides on campus. Unfortunately, suicide is the second leading cause of death among college students, but universities do not always track or specifically acknowledge when a suicide occurs within their campus community (Suicide Prevention Resource Center, 2016). Following the students' deaths, the university sent e-mails to students, faculty, and staff discussing mental health on campus and acknowledged suicide as the cause of death. Unfortunately, this study did not measure prior exposure or general knowledge about mental health or counseling services. Similarly, it should also be noted that the overall topic of mental health is often associated with emotions, which is why it was chosen for the study. Thus, the messages may have evoked unintentional emotions among participants due to their personal experiences with mental health. Future research hoping to examine emotion-based persuasive messages about mental health needs to consider the influence from campus campaigns, emails, advertisements, and personal experience with mental illness. This study did determine whether or not participants screened positive for the specific mental health concerns the blogs addressed, but future studies should also measure students' experiences with friends and family members with mental illness as well.

Existing research may help to further explain these findings. Overall, research seems to indicate that women are more likely to hold positive help-seeking attitudes than their male counterparts (Mackenzie, Gekoski, and Knox, 2006; ten Have et al., 2010). Only including female undergraduate students in the sample was a methodological

decision made to ensure identification with the character. However, excluding male undergraduates from participating in the study could have potentially eliminated variability in attitudes toward seeking help for mental health concerns. Although it was beyond the scope of this study, future studies that hope to evaluate attitudes toward mental health and seeking help for mental health concerns should include both males and females in the sample if possible. Additionally, research demonstrates that young adult males, regardless of race or ethnicity, often have the most negative attitudes toward seeking help for mental health, so it may be beneficial for future research to specifically target college-aged males (Gonzalez, Algeria, & Prihoda, 2005; Komiya, Good, & Sherrod, 2000).

Similarly, this study's sample was primarily composed of women who identified as non-Hispanic White. Research indicates that in comparison to non-Hispanic White students, racial minority students are less likely to report mental health diagnoses, but the likelihood of experiencing suicidal thoughts remains consistent across the two groups, suggesting a gap in care (Liu, Stevens, Wong, Yasui, & Chen, 2018). Earlier research confirms that stigma surrounding seeking psychological help may disproportionately impact racial minority students, including students who identify as African American, Asian American, and Latino American (Cheng, Kwan, & Sevig, 2013). Thus, the lack of racial and ethnic diversity within the sample could have eliminated variability in attitudes towards seeking help for mental health issues.

Finally, and perhaps most importantly, as with all persuasion research, it is important to differentiate between attitudes, behavioral intentions, and actual behaviors. The goal of the present study was to determine the effectiveness of narrative health blog

posts containing different emotional appeals on attitudes. As demonstrated by O'Keefe (2013), the relative persuasiveness of messages is largely invariant across attitudes, behavioral intention, and behavioral outcomes. Thus, if a message is relatively more persuasive concerning attitudes, it is highly likely that the message would be persuasive concerning behavioral intention and behavioral change. Furthermore, persuasion and health communication scholars largely agree that attitudes are a sound predictor of behavioral intention (O'Keefe, 2002). Indeed, existing research demonstrates that in the context of mental health and seeking help for mental health issues, attitudes toward seeking help for mental health often predict behavioral intention. One study revealed that attitudes towards seeking help from mental health professionals mediated the relationship between psychological factors and help-seeking intentions (Vogel, Wester, Wei, & Boysen, 2005). Specifically related to the college student population, a large study that included more than 8,000 participants studied four separately measured attitudes toward mental health, including beliefs to seek help if struggling with mental health, feeling comfortable talking with a mental health professional, feeling embarrassed if friends knew, and perceived effectiveness of mental health treatment. In that study, all four attitudes were positively related to use of services (ten Have et al., 2010). Importantly, the aforementioned longitudinal study that examined trends in college students' mental health diagnoses and use of services from 2009-2015 indicated an increase in use of campus mental health services (Oswalt et al., 2018).

Even so, suicide remains the second leading cause of death for college students (Suicide Prevention Resource Center, 2016). In a recent survey of more than 67,000 college students across over 100 American universities, more than 20% indicated that

they experienced stress so severe that they experienced suicidal ideation (Liu et al., 2014). It could be that current studies evaluating attitudes toward seeking mental health and behavioral intentions are not truly tapping into the experience of an individual in crisis. Future studies are needed to assess how attitudes and behavioral intentions change throughout college students' experiences with varying levels of severity of mental health issues. Additionally, future studies may consider assessing behavioral intentions or ideally, actual behavior, that result from viewing persuasive messages with emotional flow, particularly within the context of mental health among college students.

Theoretical Implications

Unfortunately, this study did not provide clear support for emotional flow as an impactful mechanism within narrative blog posts. However, because the messages did not consistently evoke the desired levels of intended emotions, specifically sadness, these findings do not confirm that emotional flow cannot be useful in persuasive narrative messages. Although participants reported feeling sad or hopeful, the written format of a single narrative blog post may not provide enough length, context, or detail in order to produce strong enough emotions to impact transportation, identification, or attitudes. Future studies that aim to test emotional flow within a persuasive narrative message should include multiple phases of pilot testing to ensure the messages are eliciting the desired emotion.

Importantly, these findings do not imply that emotional flow will not be useful in other persuasive message types. Nabi, Gustafson, and Jensen (2018) recently published a study that evaluated emotional flow within the context of gain- vs. loss-framed messages about climate change and revealed that emotion, specifically fear and hope, acted as a

mediator between messages and attitudes. These findings indicate that despite complexities, it is important to continue studying emotions and emotional flow within the context of persuasive communication. As stated by Nabi (2010), "Given the complexity of communication-related processes and outcomes, the more complex orientation to the study of emotion – the discrete emotion perspective – is most useful as what little might be lost in parsimony is more than offset by the precision gained in prediction" (p. 153).

Although the goal of the study was not to evaluate narrative persuasive messages as a whole, the study certainly illuminated some of the existing issues and complexities regarding narrative persuasion research. Notably, as the forms of narratives continue to evolve and shift, particularly within computer-mediated contexts, it may be fruitful to reconsider how scholars measure transportation and identification. The results of this study and prior research largely indicate that transportation and identification will occur if a participant is exposed to an engaging message. However, if scholars hope to determine what specific message components, such as emotion or emotional flow, lead to identification and transportation, it may be best to return to the individual components of both identification and transportation. It could be that emotional content more strongly influences one or two dimensions of identification and transportation. This knowledge would be useful for message design researchers and health communication specialists hoping to use emotions in narrative messages.

Practical Implications

Although the results of this study did not immediately support the concept of emotional flow within narrative health blog posts, they did indicate that narrative health blog posts could potentially act as persuasive tools through transportation and

identification. As previously discussed, research indicates that both transportation and identification can predict attitudes and behavioral intention. Although this study did not establish a relationship between those variables, the results did indicate that participants were transported into the story and identified with the blogger. These findings show promise for future research hoping to study the relationship between transportation, identification, and attitudes. Unfortunately, the ceiling effects for attitudes in this study prevent additional reliable post-hoc analyses that could provide additional insight into this potential relationship.

Additionally, future research should continue to study the impact of narrative blog posts but perhaps focus on a series of blog posts as opposed to a single post. Recent research on social network sites (SNSs) revealed that individuals often form parasocial relationships with bloggers, and these relationships are developed as a reader follows a blogger over time (Baek, Bae, & Jang, 2013; Colliander & Dahlen, 2011). By evaluating a series of blog posts as opposed to a single post, researchers could potentially tap into that parasocial relationship, perhaps resulting in higher levels of identification and desired persuasive outcomes. Finally, emotion and narrative blog research would benefit from looking at blogs more holistically. Traditionally, blogs have been defined as websites "containing dated entries, or posts, presented in chronological order" (Miller & Pole, 2010, p. 1514). Over the past decade, the concept of a blog has shifted and often includes a multi-media approach that includes written, audio, and video content. Narratives shared in these formats may produce more significant persuasive effects. Indeed, a recent meta-analysis of the impact of narratives on persuasive outcomes revealed that overall, narratives have a small impact on persuasion, and furthermore, that

narratives delivered in audio or video formats had significant effects, whereas written narratives did not (Shen, Sheer, & Li, 2015).

Limitations

This study was not without limitations. First, the results of this study were likely influenced by the unsuccessful control of sadness across message conditions. As previously discussed, the goal of the study was to create six messages, with two of the messages designed to feature hope without sadness. Unfortunately, participants across message conditions reported similar levels of sadness. Future studies would benefit from extensive pilot testing to ensure that the emotional manipulations are successful.

Second, there may be issues with ecological validity due to the creation of the messages and lab-based study design. Narrative blog posts written by academic researchers may not be as powerful as existing narratives written by professional bloggers or writers (Lu, 2013). Although efforts were taken through formative research to create realistic blog posts, the test messages were ultimately created by a researcher and were fictitious. Additionally, participants came to a controlled environment to read the blog and complete the survey. Therefore, participants were not in an environment with the usual distractions that would be present when reading online material, and the participants were instructed to take their time and pay attention while reading the assigned blog post. Although this could have contributed to the transportation and identification scores, it is important to note that when individuals read online material in a natural setting, they are self-selecting that material, and thus, would likely pay more attention to it.

Third, this study design did not contain a true control condition. The goal of the present study was to compare narratives containing emotional flow with narratives emphasizing a single discrete emotion. With that goal in mind, and also due to the scope of the study resources, the study design did not include a true control condition that featured messages with no emotional content. However, the inclusion of a control condition could have provided additional clarity throughout the analyses and discussion that would illuminate the role, if any, played by emotions in participants' transportation into the narrative and identification with the character.

Finally, as previously discussed, the results of this study were potentially influenced by additional confounding variables. In addition to screening participants for the mental health illnesses featured in the blog post, it would have been helpful to measure basic knowledge about mental health and mental health services and prior experience with mental health and mental health services, whether the prior experience is rooted in personal experience or the experience of a friend or family member.

Conclusion

This study attempted to determine the difference between including a single emotion or multiple emotions within a narrative persuasive message. Unfortunately, the findings did not indicate that strategically adding multiple emotions to a message, or utilizing emotional flow, results in higher levels of transportation or identification or more positive attitudes. Although from a theoretical standpoint, this study adds to the complexities within the emotion and health communication literature, it does provide valuable lessons for the practical and methodological implications for testing narrative health blog posts, specifically those with emotional content

Appendix A. Eating Disorder Emotional Flow Blog Post

January 19, 2019

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew it would be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and the RAs give us information on the counseling center and therapy. *To be honest, I threw the information from orientation away, and I always ignore the fliers around campus, because I really didn't think I would ever need it. I mean, I really didn't think I would ever, ever have to see a therapist…Wasn't that for people who are like, really depressed or something? That definitely isn't me.*

But then yesterday I realized that maybe I've been kind of weird about diet and exercise. I was sitting in class, looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – to the campus gym, hopped on a treadmill, and ran until I knew I burned off the calories from breakfast and practically passed out. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I've been so nervous the stress will make me gain the dreaded Freshman 15. I'm not a doctor, but I wonder if I might have a problem with an eating disorder.

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous about what I'm eating, and I feel like I'm always worrying about the calories in my meals, like I could seriously tell you the number of calories I ate yesterday because I track it on my phone. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep instead of worrying about when I'll fit my next workout in. I constantly feel like my body just isn't good enough – Am I gaining too much weight? Will my family think I gained weight when I go home for break? Even worse, I'm so focused on losing weight that my relationships actually are starting to suffer. I snap at my family and friends when they ask me the simplest questions about school or my life. They ask if I'm okay, but how do I tell them about me potentially having an eating disorder without freaking them out? To top it off being in big groups makes me feel like my body doesn't look as good as other girls'. So I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in the gym trying to burn off more calories.

I wonder if I'm the only one who feels this way. I don't know if I can take it anymore, so I know I need to do something about it.

I know that the people at orientation said that the counseling center is for anyone so maybe they really could help me. They might even give me tips on how to manage my eating and exercise more normally and help me manage my anxiety about gaining weight. Even though I'm kind of a mess now, I think I can handle it if I open up to

someone else, even if that means making an appointment with a therapist when I never thought I would. Eating disorders during college might happen to a lot of people, but who wants to spend three years of their life constantly dieting and in the gym to burn off extra calories? Not this girl!

I refuse to keep feeling this way, so I'm going to call and make an appointment today.

(Note: Condition relevant differences between the blogs are indicated in italics.)

Appendix B. Eating Disorder Hope Only Blog Post

January 19, 2019

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew it would be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and the RAs give us information on the counseling center and therapy. *I knew I might need the information one day, so I tucked it away, just in case I would need it. I mean, I really didn't think I would ever need to see a therapist. But after all, therapy isn't just for like, really depressed people.*

Yesterday I realized that maybe I've been kind of weird about diet and exercise. I was sitting in class, looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – to the campus gym, hopped on a treadmill, and ran until I knew I burned off the calories from breakfast and practically passed out. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I've been so nervous the stress will make me gain the dreaded Freshman 15. I'm not a doctor, but I wonder if I might have a problem with an eating disorder. *What a wake-up call. I might have a problem, but I know I can get help.*

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous about what I'm eating, and I feel like I'm always worrying about the calories in my meals, like I could seriously tell you the number of calories I ate yesterday because I track it on my phone. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep instead of worrying about when I'll fit my next workout in. I constantly feel like my body just isn't good enough – Am I gaining too much weight? Will my family think I gained weight when I go home for break? Even worse, I'm so focused on losing weight that my relationships actually are starting to suffer. I snap at my family and friends when they ask me the simplest questions about school or my life. They ask if I'm okay, *and I think I need to tell them that I might have an eating disorder*. To top it off being in big groups makes me feel like my body doesn't look as good as other girls'. So I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in the gym trying to burn off more calories. *Who has time for that? I want to enjoy my time in college!*

I can't be the only one who feels this way, and I don't want to feel like this anymore. I know that the people at orientation said that the counseling center is for anyone so maybe they really could help me. They might even give me tips on how to manage my eating and exercise more normally and help me manage my anxiety about gaining weight. Even though I'm kind of a mess now, I think I can handle it if I open up to someone else, even if that means making an appointment with a therapist when I never thought I would. Eating disorders during college might happen to a lot of people, but who wants to spend three years of their life constantly dieting and in the gym to burn off extra calories? Not this girl!

I refuse to keep feeling this way, so I'm going to call and make an appointment today.

(Note: Condition relevant differences between the blogs are indicated in italics.)

Appendix C. Eating Disorder Sadness Only Blog Post

January 19, 2019

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew it would be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and the RAs give us information on the counseling center and therapy. *To be honest, I threw the information from orientation away, and I always ignore the fliers around campus, because I really didn't think I would ever need it. I mean, I really didn't think I would ever, ever have to see a therapist…Wasn't that for people who are like, really depressed or something? That definitely isn't me.*

But then yesterday I realized that maybe I've been kind of weird about diet and exercise. I was sitting in class, looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – to the campus gym, hopped on a treadmill, and ran until I knew I burned off the calories from breakfast and practically passed out. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I've been so nervous the stress will make me gain the dreaded Freshman 15. I'm not a doctor, but I wonder if I might have a problem with an eating disorder.

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous about what I'm eating, and I feel like I'm always worrying about the calories in my meals, like I could seriously tell you the number of calories I ate yesterday because I track it on my phone. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep instead of worrying about when I'll fit my next workout in. I constantly feel like my body just isn't good enough – Am I gaining too much weight? Will my family think I gained weight when I go home for break? Even worse, I'm so focused on losing weight that my relationships actually are starting to suffer. I snap at my family and friends when they ask me the simplest questions about school or my life. They ask if I'm okay, but how do I tell them about me potentially having an eating disorder without freaking them out? To top it off being in big groups makes me feel like my body doesn't look as good as other girls'. So I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in the gym trying to burn off more calories.

I wonder if I'm the only one who feels this way, but I don't know if I can take it anymore. I know that the people at orientation said that the counseling center is for anyone, but still, I don't feel like they could help. Focusing on my weight is normal right? They would probably just tell me to use a meal tracker to help with managing my eating or something stupid like that. I might have an eating disorder, but I mean, who could actually help me?

Even though I'm kind of a mess, I think I can just handle it on my own, even if that means spending the next three years dieting and in the gym.

(Note: Condition relevant differences between the blogs are indicated in italics.)

Appendix D. Anxiety Emotional Flow Blog Post

January 19, 2019

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew it would be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and the RAs give us information on the counseling center and therapy. *I knew I might need the information one day, so I tucked it away, just in case I would need it. I mean, I really didn't think I would ever need to see a therapist. But after all, therapy isn't just for like, really depressed people.*

Yesterday I realized that my anxiety might be kind of out of control. I was sitting in class looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – back to my tiny dorm room, sat on the cold floor, and cried while gasping for air. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I finally broke down. I'm not a doctor, but I'm pretty sure I had an anxiety attack.

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous, and I feel like I'm always worrying about something, but I seriously can't tell you what I'm even worried about. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep. I constantly feel like something horrible will happen – Am I going to fail a test? Is my boyfriend going to break-up with me? My anxiety constantly makes me feel like everyone will leave me, even though they've told me they won't. even worse, I'm so irritable that I snap at my family and friends when they ask the simplest questions about school or my life. *They ask if I'm okay, but how do I tell them about my anxiety and anxiety attack without freaking them out?* To top it off being in big groups makes me panic, so I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in my dorm room crying.

I'm lonely, and I wonder if I'm the only one who feels this way. I don't know if I can take it anymore, so I know I need to do something about it.

I know the people at orientation said that the counseling center is for anyone, so maybe they really could help me. They might even give me tips on how to manage my time better and help me manage my anxiety. Even though I'm kind of a mess now, I think I can handle it if I open up to someone else, even if that means making an appointment with a therapist when I never thought I would. Anxiety during college might be normal, but who wants to spend three years of their life crying in a dorm room? Not this girl!
I refuse to keep feeling this way, so I'm going to call and make an appointment today.

(Note: Condition relevant differences between the blogs are indicated in italics.)

Appendix E. Anxiety Hope Only Blog Post

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew it would be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and the RAs give us information on the counseling center and therapy. *To be honest, I threw the information from orientation away, and I always ignore the fliers around campus, because I really didn't think I would ever need it. I mean, I really didn't think I would ever, ever have to see a therapist…Wasn't that for people who are like, really depressed or something? That definitely isn't me.*

But then yesterday, something happened to me that has never happened before. I was sitting in class looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – back to my tiny dorm room, sat on the cold floor, and cried while gasping for air. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I finally broke down. I'm not a doctor, but I'm pretty sure I had an anxiety attack.

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous, and I feel like I'm always worrying about something, but I seriously can't tell you what I'm even worried about. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep. I constantly feel like something horrible will happen – Am I going to fail a test? Is my boyfriend going to break-up with me? My anxiety constantly makes me feel like everyone will leave me, even though they've told me they won't. even worse, I'm so irritable that I snap at my family and friends when they ask the simplest questions about school or my life. *They ask if I'm okay, and I think I need to find a way to tell them I might have a problem with anxiety.* To top it off being in big groups makes me panic, so I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in my dorm room crying. *Who has time for that? I want to enjoy my time in college?*

I can't be the only one who feels this way, and I don't want to feel this way anymore. I know the people at orientation said that the counseling center is for anyone, so maybe they really could help me. They might even give me tips on how to manage my time better and help me manage my anxiety. Even though I'm kind of a mess now, I think I can handle it if I open up to someone else, even if that means making an appointment with a therapist when I never thought I would. Anxiety during college might be normal, but who wants to spend three years of their life crying in a dorm room? Not this girl!

I refuse to keep feeling this way, so I'm going to call and make an appointment today.

(Note: Condition relevant differences between the blogs are indicated in italics.)

Appendix F. Anxiety Sadness Only Blog Post

January 19, 2019

People always said college was difficult. I expected all of my classes to be hard, and I kind of knew it would be hard to make new friends and balance all of my responsibilities. At orientation and all over campus the speakers and the RAs give us information on the counseling center and therapy. *To be honest, I threw the information from orientation away, and I always ignore the fliers around campus, because I really didn't think I would ever need it. I mean, I really didn't think I would ever, ever have to see a therapist… Wasn't that for people who are like, really depressed or something? That definitely isn't me.*

But then yesterday, something happened to me that has never happened before. I was sitting in class looking through my list of things to finish by the end of the week, and I panicked. I left class early, and I walked – well, practically ran – back to my tiny dorm room, sat on the cold floor, and cried while gasping for air. The stress from classes, new and old relationships, and trying to have a social life finally caught up with me, and I finally broke down. I'm not a doctor, but I'm pretty sure I had an anxiety attack.

If I think about the past few weeks, I know I've been struggling to keep my life together. I'm always nervous, and I feel like I'm always worrying about something, but I seriously can't tell you what I'm even worried about. Every night I'm up trying to get my brain to shut up long enough to get a decent amount of sleep. I constantly feel like something horrible will happen – Am I going to fail a test? Is my boyfriend going to break-up with me? My anxiety constantly makes me feel like everyone will leave me, even though they've told me they won't. even worse, I'm so irritable that I snap at my family and friends when they ask the simplest questions about school or my life. *They ask if I'm okay, but how do I tell them about my anxiety and anxiety attack without freaking them out?* To top it off being in big groups makes me panic, so I've been avoiding the parties and get togethers that might actually make me feel better. While my friends have been out having fun and living their best lives, I'm usually stuck in my dorm room crying.

I'm lonely, and I wonder if I'm the only one who feels this way. I don't know if I can take it anymore.

I know the people at orientation said that the counseling center is for anyone, but still, I don't feel like they could help. Having anxiety in college is normal, right? They would probably just tell me to use a planner or something to help manage my time or something stupid like that. I might have anxiety, but I mean, who could actually help? Even though I'm kind of a mess, I think I can just handle it on my own, even if that means spending the next three years alone, crying in my dorm room.

(Note: Condition relevant differences between the blogs are indicated in italics.)

Appendix G. Survey

Please indicate your response using the scale provided.
While reading the blog post, to what extent did you experience these emotions?

1 Not at all 2 Slightly 3 Somewhat 4 Moderately 5 Quite a bit 6 Very Much 7 An extreme amount

Anger	Scared
Wanting	Mad
Dread	Satisfaction
Sad	Hopeful
Easygoing	Sickened
Grossed out	Craving
Happy	Panic
Terror	Longing
Rage	Calm
Grief	Encouraged
Nausea	Fear
Anxiety	Relaxation
Chilled out	Revulsion
Desire	Worry
Nervous	Enjoyment
Lonely	Pissed Off
Optimistic	Liking
Empty	

Circle the number under each question that best represents your opinion about the blog you just read:

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

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

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

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

3. I could picture myself in the scene of the events described in the blog.

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

4. I was mentally involved in the blog while reading it.

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

5. After the blog ended, I found it easy to put out of my mind.

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

6. I wanted to learn how the blog ended.

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

7. The blog affected me emotionally.

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

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

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

9. I found my mind wandering while reading the blog.

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

10. The events in the blog are relevant to my everyday life.

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

11. The events in the blog have changed my life.

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

12. I had a vivid mental image of the character.

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

Circle the number under each question that best represents your opinion about the blog you just read:

1. While reading the blog post, I felt as if I was part of the action.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

2. While I was reading the blog post, I forgot myself and was fully absorbed.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

3. I was able to understand the events in the blog in a manner similar to that in which the blogger understood them.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

4. I think I have a good understanding of the blogger.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

5. I tend to understand the reasons why the blogger does what she does.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

6. While reading the blog I could feel the emotions the blogger portrayed.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

7. While reading, I felt I could really get into the blogger's head.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

8. At key moments in the blog, I felt I knew exactly what the blogger was going through.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

9. While reading the blog, I wanted the blogger to succeed in achieving her goals.

   Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

10. When the blogger succeeded I felt joy, but when she failed, I was sad.

Strongly Disagree	1	2	3	4	5	6	7 Strongly Agree

For the purposes of this survey, "mental health professionals" include psychologists, psychiatrists, and counselors. Please circle the number that best represents your opinion. For example, if you feel that seeking help would be useless, you would circle the number closest to "useless." If you are undecided, you would circle the "0" circle. If you feel that seeking help would be slightly useful, you would mark the "1" circle that is closer to "useful."

If a had a mental health concern, seeking help from a mental health professional would be…

1.	Useless	3	2	1	0	1	2	3 Useful
2.	Important	3	2	1	0	1	2	3 Unimportant
3.	Unhealthy	3	2	1	0	1	2	3 Healthy
4.	Ineffective	3	2	1	0	1	2	3 Effective
5.	Good	3	2	1	0	1	2	3 Bad
6.	Healing	3	2	1	0	1	2	3 Hurting
7.	Disempowering	3	2	1	0	1	2	3 Empowering
8.	Satisfying	3	2	1	0	1	2	3 Unsatisfying
9.	Desirable	3	2	1	0	1	2	3 Undesirable

Over the last two weeks, how often have you been bothered by the following problems?

1. Feeling nervous, anxious, or on edge.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

2. Not being able to stop or control worrying.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

3. Worrying too much about different things.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

4. Trouble relaxing.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

5. Being so restless it's hard to sit still.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

6. Becoming easily annoyed or irritable.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

7. Feeling afraid as if something awful might happen.

1	2	3	4
Not at all	Several days	Over half the days	Nearly every day

Please circle "Yes" or "No" to indicate your response to the following questions:

1. Do you make yourself sick (induce vomiting) because you feel uncomfortable full?

   Yes No

2. Do you worry that you have lost control over how much you eat?

   Yes No

3. Have you recently lost more than 14 pounds in a three-month period?

   Yes No

4. Do you think you are too fat, even though others say you are too thin?

   Yes No

5. Would you say that food dominates your life?

   Yes No

Demographics

1. What is your age? _____

2. What is your ethnicity? (Mark all that apply)
American Indian or Native Alaskan _____
Hawaiian or Other Pacific Islander _____
Asian or Asian American _____
Black or African American _____
Hispanic or Latino _____
Non-Hispanic White _____

3. What is your year in school?
Freshman _____
Sophomore _____
Junior _____
Senior _____
Other _____

4. Do you belong to a Greek Organization?
Yes _____
No _____

5. Where do you live?
On-Campus _____
Off-Campus _____
Greek House _____

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